MINISTRY OF EDUCATION

CURRICULUM GUIDELINES

HEALTH SCIENCE

GRADES – 7, 8, 9

DEPARTMENT OF EDUCATION
2010

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MISSION STATEMENT

The mission of the Department of Education is to provide all persons in The Bahamas an opportunity to receive an education that will equip them with the necessary beliefs, attitudes, knowledge and skills required for work and life in a democratic, Christian society.

THE PHILOSOPHY

The Department of Education embraces a philosophy that all human beings have an undeniable right to an education, one that will enable them to understand their privileges and responsibilities in the community. The following principles are grounded in the Philosophy:

(i) A belief in the ability of the teaching/learning process to unlock and draw out the fullest potential of the individual;
(ii) An uncompromising commitment to the pursuit of excellence by teachers, learners and all who are associated with educational enterprises;
(iii) A belief in the value of the differing gifts and aptitudes of individuals, and in the importance of these differences in an inter-dependent society;
(iv) An appreciation of the natural and cultural heritage of The Bahamas;
(v) A recognition of The Bahamas as a part of a wider world community which it must interact productively.

The curriculum developers have espoused, in part, the philosophies of John Dewey that "Knowledge is based on experience caused by the learner being in an active relationship with the environment" and Constructivism by Jean Piaget which proposes that the learner should be in an environment where they are engaged in questioning, hypothesizing, investigating, debating, analyzing and evaluating."

ASSUMPTIONS

The Curriculum Guidelines are based on the assumptions that follow:

(i) Students want to learn;
(ii) The physical classroom environment as well as the experiences both inside and outside the classroom affect learning;
(iii) Students have the capacity to construct mental interpretations and concepts of the instructional experiences;
(iv) Students have the prerequisite knowledge and skills as outlined in the Appendix;

DESIGN

The design used for the curriculum guidelines include components of several designs, namely:

(i) **Backward** – initially, the knowledge, skills and attitudes required of students in order to become successful in a Science course of study in Grades 10 – 12 were identified. These served as the basis for the selection of learner outcomes/specific objectives, content, instructional strategies and methods of assessment in the document.
(ii) **Skills-based** – the content is used to develop skills as learner outcomes give focus to skills.
(iii) **Spiral** – skills and concepts are developed at each grade level (and as far as possible in successive units).
(iv) **Multidisciplinary** – most skills are applicable in other disciplines in particular, Language Arts, Mathematics, Social Studies, Health and Family Life as well as Family and Consumer Sciences. Cross references are made to complementary and supplementary information in other subjects (as well as units).
(v) **Flexible** – it allows teachers the scope to modify the guidelines to accommodate students of high and low ability levels as well as students of different learning styles.
(vi) **Authentic** – the examples, problems and formative assessment used are relevant to the students.

OVERVIEW

INTENT

It is intended that this curriculum would be used by teachers throughout The Commonwealth of The Bahamas to provide a measure of standardized instruction.
It is intended further that students having completed the three-year course of study as outlined, will have common knowledge, skills and attitudes relative to a variety of Science topics from the human and social biological science disciplines. Students completing this course of study should exhibit a level of scientific literacy that would enable them to function in science courses at the senior high school level. Further, it is intended that student-focused instructional activities facilitate students assuming responsibility for their learning. Finally, the use of these guidelines will provide students with many opportunities and experiences to develop identified skills that are assessed formatively, thereby preparing students for summative assessment of the skills in The Bahamas Junior Certificate Examinations and subsequently increasing their level of success.

PLANNING

1. Teachers are encouraged to use the curriculum as a guideline for planning lessons. The sequence of learner outcomes in the scope of work allows a number of closely related learner outcomes to be included in one lesson. An example would be an investigation when several skills (formulating hypothesis, design and conducting an investigation, using scientific equipment and materials, recognizing and controlling variables, making observations, predicting, collecting and processing data, drawing relevant conclusions) are included. It is important that the learner outcomes included in one lesson promote students constructing a concept.

2. In an effort to place more emphasis on students' active involvement in the teaching/learning process, there are a number of activities that require being researched or set up prior to a lesson. It is therefore suggested that when Schemes of Work are developed, such activities requiring prior planning are indicated in the time sequence required. Similarly, many opportunities are provided for group work and cooperative learning. It is important that planning includes ample lead time prior to presentations being made.

3. It is recognized that no curriculum guidelines would perfectly suit the pace at which all students master the information and skills. In this regard, it is suggested that skills with many activities and learner outcomes for a particular unit of work, teachers may omit some of the activities for classes that readily acquire the information and skills, while more activities might be used with classes that need more reinforcement. While this flexibility allows modifications to meet students' needs, teachers are advised to ensure that this does not lead to insufficient time to complete the course of study or a speedy completion with excessive "revision" time.

4. It is essential that lesson planning should be based on students' developing defined skills and/or attitudes as well as knowledge.

5. The time allocation in the curriculum is based on three lessons of 50 minutes duration per week for thirty (30) weeks.

INSTRUCTIONS

1. Throughout the curriculum guidelines there is a dual focus to the suggested instructional strategies: that they engage students actively in the learning process and that they are varied to allow students of different learning styles to benefit. Teachers are therefore encouraged to use the strategies indicated, or similar ones in order to maintain these foci.

2. To ensure ample time for the completion of the curriculum in the allotted three (3) year period, a concerted effort has been made by science curriculum committees to avoid duplication of information being taught at more than one school level and in more than one subject. While teachers are encouraged to extend the curriculum and experiences on a lesson basis to meet the needs and interests of students, especially in the case of "high fliers", care should be taken to avoid duplication of aspects of the senior high school curricula.

3. In the same manner that there are many common features of the Bahama Islands, there are significant differences. Teachers are therefore encouraged to include local examples in their planning and instructions.

4. Formative assessment is an integral part of effective planning for instruction and as such should be ongoing. Hence, a variety of means of assessing activities, skill development and learner outcomes are included in the curriculum. It is suggested these, or similar methods, are used to assess students' progress in the identified skills, knowledge and attitudes. The traditional methods of assessment utilizing tests containing structured questions and objective/multiple choice questions similar to those used on The Bahamas Junior Certificate Examinations should still be used more as summative assessments at the end of units, mid-term and end of term assessment.

EVALUATION

As this is a draft document to be used and then evaluated, an evaluation form is included. Evaluation Forms should be completed by teachers who used the curriculum at the end of each year. Since the curriculum is being phased in, it is important that teachers complete and submit the Evaluation Form for seventh grade at the end of the first year, eighth and ninth grades at the end of the second and third years respectively, so that revisions could be made to each section after the year has passed to avoid a lengthy and tedious major revision of the whole curriculum at the end of three years.

INTRODUCTION

RATIONALE FOR SCIENCE EDUCATION IN THE BAHAMAS

To provide opportunities that engage and expose all students in The Bahamas in acquiring scientific knowledge, attitudes and skills which will enhance critical thinking, problem-solving and organizational skills. In so doing, students will be prepared to participate in varied scientific and technological careers in the global environment, as well as realize the impact that they make on the natural world and appreciate the need for conservation.

OVERARCHING GOAL

To become critical thinkers, problem-solvers, innovators, visionaries, scientifically and technologically literate citizens who will appreciate, interpret and conserve the natural environment.

SUB-GOALS

- To develop analytical and evaluative skills, thus becoming critical thinkers.
- To utilize the scientific method as a means of becoming problem solvers.
- To apply scientific knowledge and principles to stimulate creative expressions.
- To relate scientific knowledge and an awareness of technological advances as a means of functioning effectively in the world.
- To formulate, present and defend arguments based on facts.
- To develop an appreciation for the safe and sustainable use of resources.
- To obtain the basic, knowledge, skills and attitudes that are necessary for success in Human Biology and Pre-Allied Health Courses in senior high school.
- To make wise decisions, leading to a healthy lifestyle.

FOCUS

It is increasingly obvious that in this age of information, any course of study cannot apprise students with all of the basic information of that discipline. It is therefore increasingly necessary, that students are equipped with the skills for acquiring information, processing the information and making decisions based on the processed information. The scientific method applied to problem solving highlights the skills that prepare students for life in the community. It is therefore important that all students are provided with extensive opportunities to develop these skills.

The combination of topics taken from a spectrum of health-related areas ensures that the students who complete the three year course of study, have a good background in basic Human and Social Biology.

GENERAL OBJECTIVES

1. Use materials and scientific equipment correctly and safely.
2. Make observations.
3. Utilize the classification process.
4. Make inferences and draw conclusions.
5. Communicate information.
6. Recognize relationships.
7. Measure accurately.
8. Make predictions.
9. Collect, process and interpret data/information.
10. Formulate hypotheses.
11. Recognize and control variables.
12. Design, conduct and evaluate scientific investigations.
13. Formulate models.
14. Apply principles and concepts (scientific & technological) to make products.
15. Make informed, responsible and wise decisions.
16. Pursue new knowledge.
17. Demonstrate critical thinking.

RATIONALE FOR INCLUSIONS

Members of the Curriculum Revision Committee reviewed junior high school science curricula from Jamaica, Guyana, Canada (Atlantic) and the United Kingdom. A comparative analysis was done for the areas of: focus, format, goals, methodologies and content.

Questionnaires designed to seek the input of the public were prepared and distributed. The analysis of data from the questionnaires that were completed by educators, students and members of the community in North Andros, Exuma, Grand Bahama, Long Island, New Providence, San Salvador, and Spanish Wells was used in preparing this document.

The current Health Science Curriculum was revised in 1982. While the 2010 revised Health Science Curriculum retains the human body systems and hygiene, the scope has been significantly expanded. A Gap Analysis was conducted based on a survey of teachers in public schools relative to the 1982 Health Science Curriculum. The results revealed that for eight of the thirteen main content areas, the time allocated was adequate but for the other areas, the time allocated was excessive. The modifications to the previous curriculum are:

(i) **Deletion**

- Components of the Reproduction Unit – namely: human growth and development, heredity, gender determination.

(ii) **Expansions**

- First Aid to treat ailments associated with each human body system follows each system (not limited to the skeletal system).
- The definition of health has been expanded to a strand captioned Healthy Living.
- The unit on Diseases has been expanded so that common disorders and diseases follow every body system.

(iii) **Additions**

- A strand on Food giving focus to healthy practices in food handling, preparation and preservation.
- The use of bush medicine to restore or maintain health is a long-standing tradition in The Bahamas which is becoming less well-known among the youth. Commonly used bush medicine is mentioned after the appropriate system and disorder or disease.
- Adherence to safety guidelines ensures maintenances of health. In this regard, a strand on safety is included giving focus to: Road, Recreational, Water, Fire, Electrical Chemical and Hurricane Safety.
- Environmental Health is included as a strand to highlight common pollutants of water land and air, sorting and disposal of waste as well as protection of the water table.
- Varied instructional strategies that are student-centred allowing students to engage in practical activities to reinforce the concepts.

Rearranged

- The format of the Scope of Work has been significantly modified to show the learner outcomes in the first column as a means of emphasizing their importance. In addition to a column outlining content, are columns showing suggested student activities and resources. A final column has been included with suggested methods of assessment for the learner outcomes and instructional activities. The learner outcomes in the previous document are almost exclusively of a low cognitive level in a content bound document. The new format serves to reinforce focus being given to the identified skills. In addition, the varied methods of assessment included, satisfies the overwhelming input from the public perception questionnaire that assessment should not be based exclusively on tests.

SCOPE & SEQUENCE **STEP 1 (TOPICS & CONTENT)**

Strand/Major Topic	Grade 7	Grade 8	Grade 9
Healthy Living	Definitions of **Health** (physical, mental, emotional) Characteristics of healthy persons Personal Hygiene: for disease prevention, health promotion and self-esteem development. Washing genitals (puberty) Dental hygiene (tartar, plaque), dental disease prevention Importance of rest & sleep Conflict resolution (recognizing and dealing with differences, respect for self & others) Stress management Importance of physical exercise **Nutrition** (nutrients, role, balanced diet) lifestyle Disorders	Skin care Hair care (cleaning, lice) Recreation, stress management Development of personal identity while being a part of groups Group dynamics Planning balanced diets	Hobbies (developing & maintaining, importance) Hypothetical cases (situation analyses) Emotions (variety, use & abuse)
Food	Healthy practices in food **handling** (cleaning surfaces before & after, cleaning utensils, gloves & hair wraps)	**Preparation** of food (comparison of methods of preparation in terms of loss of nutrients, increase in calories, additives, increase in cholesterol, changing the "nature" of the food)	Food **Preservation** (methods – their longevity, nutritional value, technology)

SCOPE & SEQUENCE **STEP 1 (TOPICS & CONTENT)**

Strand/Major Topic	Grade 7	Grade 8	Grade 9
Body Systems	**Cell** organization, cell specialization **Skeletal System** (function, major bones, parts of skeleton, joints) **Muscular System** (functions, 3 types of muscles, major examples, effector organs [arm], importance of good posture **Digestive System** (function, parts & their functions, stages in digestion)	**Circulatory System** (function, structure, blood components and functions, blood groups, structure & function of heart, comparison of blood vessels, importance of double circulatory system) **Respiratory System** (function, structure, role of nasal passage, breathing, gaseous exchange, word equation for cellular aerobic respiration, meaning of anaerobic respiration, comparison of gaseous composition inhaled & exhaled air) **Excretory System** (role of kidneys, skin, lungs; parts of renal system & function, match organ with waste produced/eliminated) **Reproductive System** (structure of male & female reproductive systems, function of parts, puberty, secondary sexual characteristics, menstruation (not cycle), fertilization, pregnancy, birth, pre & post natal care, contraceptives)	**Nervous System** (function of central nervous system, major parts of the brain and function, sensory and motor nerve cells, simple reflex actions, structure of the eye & function [not light refraction diagrams], parts of the ear and functions, movement of stimulus through the air, skin structure & function of parts, location of sensory receptors in specialized organs) **Endocrine System** (features of endocrine system, definition of endocrine gland, endocrine glands with hormone, their effect and deficiency effects)
Diseases and Bush Medicine	Classification of diseases (inherited, pathogenic, contagious/communicable, deficiency, vectors) Rickets, arthritis, “slipped disc”, rheumatism, “locked jaw”, indigestion, constipation, diarrhea, ulcers, gastroenteritis, food poisoning, appendicitis, gall stones, diabetes Bush medicines for named disorders/diseases (plant, preparation, dosage/how used) Use and abuse of legal and illegal drugs.	Anaemia, sickle cell anaemia, leukaemia, high blood pressure/hypertension, haemophilia, dengue fever, nose bleed, heat stroke, dengue, malaria. Allergies (hay fever, sinusitis, asthma), bronchitis, pneumonia, laryngitis, whooping cough, sun burn, rash, skin sores, scabies, ringworm, acne, athlete’s foot, chicken pox, measles, urinary infections, STIs (herpes, gonorrhoea, syphilis HIV/AIDS). Bush medicines for named disorders/diseases (plant, preparation, dosage/how used).	Epilepsy, paralysis, short & long sightedness, corrective lenses, cataracts, conjunctivitis, diabetes, mumps, polio, use and abuse of legal and illegal drugs. Bush medicines for named disorders/diseases (plant, preparation, dosage/how used).

SCOPE & SEQUENCE **STEP 1 (TOPICS & CONTENT)**

Strand/Major Topic	Grade 7	Grade 8	Grade 9
Safety & First Aid	Importance of safety practices, **Road Safety** (pedestrian sidewalk, pedestrian crossing, curbs, corners, dual carriageway, roundabouts, signals of drivers & cyclists, dos and don'ts as cyclists, "popping" cyclists). **Recreational Safety** – Social gathering and sporting events. (use designated recreational areas, dangling wires, following balls onto road, fireworks, barbecues, throwing events) **First Aid** (definition, fractures, dislocations, sprains & strains). Emergency contact numbers.	**Water Safety** (buddy system, awareness of surroundings, dos & don'ts of swimming/diving, electrical storms, dos & don'ts when boating) **Fire Safety** (types of fires & causes, fire extinguishers [types & use], rescuing a person) fuels. Smoke detectors, fire escapes, fire drills **First Aid** (treatment of fainting, heatstroke, burns, scalds, cuts, bruises, choking, taking pulse and breathing rates, CPR)	**Electrical Safety** – dos & don'ts using electrical appliances, receptacles, fixtures, wires, disposal **Chemical Safety** – (classification of chemicals [hazardous explosive, corrosive with symbols], importance of following prescribed amounts [dosage for medicine] & not mixing chemicals/drugs, use of safety gear, storage and disposal) **Hurricane Safety** – Preparation (building, equipment & packing, needs) during a hurricane (do's and don'ts), post-hurricane (use of food left over, water source, seafood) **First Aid** (epilepsy, electrical shock, shock, managing an accident scene, recovery position, unconsciousness, moving a victim)
Environmental Health	Abiotic and biotic components of an ecosystem, common pollutants (sources, effects) of the air, water/sea and land, clean air, clean environment, trees etc.	Sorting and disposal of household waste (aerosol cans, white waste, green waste, kitchen waste, paper, batteries, chemicals & fertilizers), solid waste disposal Location of wells and septic tanks, protection of the water table and wells	Recycling materials and items Evidence of becoming an environmental steward.

Objectives	Grades 1 – 6	Grades 7 – 9	Grades 10 - 12
Use materials and scientific equipment correctly and safely.	√	√	√
Make observations.	√	√	√
Utilize classification process.	√	√	√
Make inferences and draw conclusions.	√	√	√
Communicate information.	√	√	√
Recognize relationships (including spatial).	(√)	√	√
Measure accurately.	√	√	√
Make predictions.	√	√	√
Collect, process and interpret data/information.	(√)	√	√
Formulate hypotheses.	√	√	√
Recognize and control variables.			√
Design, conduct and evaluate scientific investigations.	√	√	√
Formulate models.	√	√	√
Apply principles and concepts (scientific & technological) to create products.		√	√
Make informed, responsible and wise decisions.	√	√	√
Pursue new knowledge.	√	√	√
Demonstrate critical thinking.	√	√	√

SCOPE AND SEQUENCE

Use materials and scientific equipment correctly and safely.

GRADE 7	GRADE 8	GRADE 9
◆ Prepare temporary slides (glass) using scrapings collected from beneath the fingernail. ◆ Use a microscope correctly and carefully to view types of bacteria. ◆ Use spotting tiles and iodine to test for starch in foods. ◆ Use ethanol to test foods for fat. ◆ Use a microscope to observe different tissues (bone, cartilage, ligament, cardiac, smooth, and skeletal muscle tissue). ◆ Use a microscope to observe villi. ◆ Select appropriate parts of plants to prepare “medicine”. ◆ Demonstrate healthy practices in food **handling** (cleaning surfaces before & after, cleaning utensils, gloves & hair wraps). ◆ Use bandages correctly to immobilize an injured bone/body part. ◆ Use appropriate seat belts correctly to strap persons of various age groups in a vehicle. ◆ Use a helmet (cyclist). ◆ Use a microscope to identify microbes found in various sources of water (ponds, lakes, faucet, well). ◆ Use indicators to test for acidity of various sources of water. ◆ Use apparatus to test for water salinity. ◆ Use apparatus to filter “impure” water.	◆ Use a microscope to identify blood cells. ◆ Use stopwatch/clock to measure pulse rates. ◆ Use a microscope to observe an alveolus. ◆ Use apparatus and materials to safely compare the carbon dioxide content in inhaled and exhaled air. ◆ Use limewater to test for carbon dioxide. ◆ Use stopwatch/clock to measure breathing rates. ◆ Use a microscope to identify structures of the skin. ◆ Use appropriate parts of plants to prepare “medicine”. ◆ Use a thermometer correctly and safely to measure the temperature of food being boiled, fried and steamed. ◆ Use an available source of fresh water to treat chemical burns. ◆ Use dressings and bandages correctly to cover wounds. ◆ Use a mouth shield correctly. ◆ Correctly make a distress signal that might be used on a boat. ◆ Use a fire extinguisher correctly.	◆ Use apparatus to measure reaction time. ◆ Use a microscope to identify glandular tissue. ◆ Use appropriate parts of plants to prepare “medicine”. ◆ Use a pH meter/indicator to correctly and safely measure the acidity of food. ◆ Use petri dishes to prepare a culture from food samples. ◆ Use available materials correctly and safely in managing an accident scene. ◆ Use available materials and items to safely move a victim from danger. ◆ Demonstrate the correct use of an eye wash fountain. ◆ Use an appropriate item to remove contact of a victim from an electrical source.

SCOPE AND SEQUENCE

Make observations.

GRADE 7	GRADE 8	GRADE 9
◆ Identify examples of conflict. ◆ Describe the variety of shapes and sizes of micro-organisms seen through the microscope. ◆ Identify a tooth with: plaque, tartar or dental cavities/caries. ◆ Observe a positive (colour) food test for starch. ◆ Observe a positive (colour) food test for fat. ◆ Recognize the signs of severe malnutrition. ◆ Observe features of Rickets in photographs of persons with the disease. ◆ Observe features of bone dislocation, fractures and arthritis in photographs. ◆ Observe the range of motion in different joints. ◆ Observe bone rich in calcium and phosphorus and one deficient in these minerals. ◆ Observe and identify how antagonistic muscles work. ◆ Observe persons with, or diagrams of muscular injuries. ◆ Observe features of pig "tripe"/intestine. ◆ Observe features of dietary deficiency diseases in photographs. ◆ Observe and identify the layers in a L. S. of a tooth. ◆ Identify a bolus in a diagram. ◆ Observe peristalsis. ◆ Identify different parts of the Digestive System (colour the parts of the digestive system). ◆ Observe features of strains and sprains. ◆ Observe the relevant part of a plant to determine its suitability for use in preparation of "medicine". ◆ Observe the texture of paste or colour of solution to determine completion of preparation of bush medicine.	◆ Identify "triggers" of anger. ◆ Recognize the importance of self awareness. ◆ Identify sources of body odour. ◆ Describe features of the red blood cell (after observing model or diagram). ◆ Observe and identify the parts of a mammalian heart (pig, sheep or cow). ◆ Observe structural differences between arteries and veins by viewing diagrams. ◆ Observe the thinness of capillary walls. ◆ Observe differences of healthy and clogged arteries by comparing diagrams. ◆ Observe the difference in pulse rate before and after exercise. ◆ Observe chest movements during breathing. ◆ Observe what actions cause the balloons to inflate in a model of the respiratory system. ◆ Make observations from comparing photographs of lungs of non-smokers and smokers. ◆ Make observations to identify filtration organelles, after studying photograph of excretory system (skin and kidneys). ◆ Describe features of the sperm cell that make it efficient at carrying out its job. ◆ Observe structures of the male and female reproductive system (by viewing diagrams). ◆ Describe the position of a foetus in an amniotic sac. ◆ Observe the relevant part of a plant to determine its suitability for use in preparation of "medicine". ◆ Observe the texture of paste or colour of solution to determine completion of preparation.	◆ Identify situations/conditions that are stressful based on case studies/examples given. ◆ Observe and describe structural differences in motor and sensory neurons (by viewing diagrams). ◆ Make observations of endocrine glands after studying photographs. ◆ Observe the relevant part of a plant to determine its suitability for use in preparation of "medicine". ◆ Observe the texture of paste or colour of solution to determine completion of preparation (bush medicine). ◆ Observe signs of food spoilage. ◆ Observe ingredients used as food additive preservatives. ◆ Observe an accident scene to ensure that it is safe. ◆ Observe signs of a victim. ◆ Make assessment observations to determine physical and personnel resources available to assist in rendering first aid.

SCOPE AND SEQUENCE

Make observations.

GRADE 7	GRADE 8	GRADE 9
◆ Identify unhealthy food handling practices. ◆ Identify a road pedestrian crossing. ◆ Observe indicators of curves in the road. ◆ Identify vehicle and drivers' (hand) signals. ◆ Use visual aids to identify incorrect use of roads by pedestrians and drivers. ◆ Identify warning/danger signs on property. ◆ Identify potential accidents caused by dangling wires, playing near roads, fireworks, barbecues, throwing events. ◆ Observe licence (vehicle/aeroplane) numbers. ◆ Observe flaws in playground equipment. ◆ Describe two sources of pollution found in the environment.	◆ Identify improperly cooked meats. ◆ Observe the signs of five types of skin wounds (cuts, bruises, scrapes, avulsions, and punctures). ◆ Observe the effects that burns have on the skin. ◆ Observe the appearance of different types of burns (using pictures). ◆ Observe license (vessels) numbers. ◆ Identify a buoy. ◆ Identify warning/danger signs in the marine environment. ◆ Observe differences in colour of the sea. ◆ Observe and identify various vectors found in the community. ◆ Observe locations of waste disposal sites at school, home and the wider community. ◆ Observe pests around scattered garbage. ◆ Identify green waste. ◆ Identify white waste. ◆ Identify harmful waste in and around the home.	

SCOPE AND SEQUENCE

Utilize classification process.

GRADE 7	GRADE 8	GRADE 9
◆ Identify different kinds of conflict. ◆ Identify groups of disease-causing micro organisms. ◆ Use features to classify foods as starch, fat, simple sugars or fibre. ◆ Classify foods as complex and may be digested, complex and are not digested or not requiring digestion. ◆ Classify the three food nutrients that must be digested. ◆ Distinguish between saturated and unsaturated fats. ◆ Classify injuries as fractures or sprains. ◆ Distinguish between bone dislocation and fracture. ◆ Compare voluntary and involuntary muscles. ◆ Classify muscles as voluntary or involuntary. ◆ Classify joints according to the type of movement. ◆ Classify muscles based on location. ◆ Identify where digestion begins and ends for each class of nutrients. ◆ Classify diseases/disorders (as non-communicable, pathogenic, degenerative and dietary deficiency). ◆ Use common names to classify plants and their use in preparation of bush medicine. ◆ Classify “medicines” based on the methods of preparation. ◆ Classify personal gear worn to ensure hygienic conditions during food preparation. ◆ Distinguish between sprains and strains. ◆ Classify road signs. ◆ Identify designated recreational areas. ◆ Identify classes/groups of unsafe features of the outdoor environment. ◆ Classify pollutants as solid, liquid and gaseous. ◆ Classify components of the environment as biotic or abiotic.	◆ Classify anger. ◆ Identify situations that require one to adopt practices involved in anger management. ◆ Classify common diseases that are spread by poor hygiene. ◆ Differentiate between diagrams of cross-sections of three types of blood vessels. ◆ Differentiate between roles executed by lymphocytes and phagocytes. ◆ Classify blood vessels according to their function. ◆ Classify contraceptives as barrier, chemical, or surgical. ◆ Classify diseases/disorders (as communicable, pathogenic, degenerative, inherited, vector-transmitted, allergic, and dietary). ◆ Use common names to classify plants and their use in preparation of bush medicine. ◆ Classify “medicines” based on the methods of preparation. ◆ Classify foods as containing water or fat-soluble nutrients. ◆ Identify foods rich in LD cholesterol. ◆ Identify methods of food preparation that add little or no cholesterol. ◆ Differentiate between water, land and air-borne vectors. ◆ Use the Binomial System to classify vectors. ◆ Classify pathogens as air, water or animal borne. ◆ Classify waste (green, white, household).	◆ Classify the causes, signs, symptoms and effects of stress. ◆ Classify neurons according to their function. ◆ Classify nervous organs as “receptors” or “effectors”. ◆ Classify diseases and disorders (as communicable, pathogenic, and congenital). ◆ Use common names to classify plants and their use in preparation of bush medicine. ◆ Classify “medicines” based on the methods of preparation. ◆ Classify methods of preserving food. ◆ Classify methods of preventing or delaying microbe activity. ◆ Classify types of preservatives. ◆ Use signs of a victim to identify shock. ◆ Classify potentially hazardous household chemicals.

SCOPE AND SEQUENCE

Make inferences and draw conclusions.

GRADE 7	GRADE 8	GRADE 9
◆ Draw a conclusion on situations that create(d) conflict within the classroom/playground/at home. ◆ Use food tests to determine the nutrients present in an unknown food. ◆ Identify the types of enzymes present in a digestive juice based on the foods digested. ◆ Suggest the deficiency disease caused, based on information given. ◆ Draw a conclusion about a woman after menopause whose diet was deficient in calcium and phosphorus. ◆ Draw a conclusion on the health of teachers based on the number of hours usually spent exercising. ◆ Draw a conclusion about a person's physical fitness based on muscular (anatomy) tone. ◆ Draw a conclusion about state of health of inactive teens. ◆ Draw a conclusion about the digestive system of a baby who is lactose intolerant. ◆ Draw a conclusion about a person whose gall bladder is removed. ◆ Draw a conclusion about teens who practice unhealthy eating habits. ◆ Draw a conclusion on the expiry date of given bush medicines based on the preparation to usage time. ◆ Draw a conclusion relative to the suitability of given concentrations of a bush medicine preparation based on body mass indices/gender. ◆ Draw a conclusion on the types of injuries sustained based on the nature of an accident, information given and observations made.	◆ Draw a conclusion about the condition of a person based on the blood composition given. ◆ Draw a plausible conclusion about the condition of a person's heart, based on their diet. ◆ Draw a conclusion about the relative composition of carbon dioxide in inhaled and exhaled air. ◆ Draw a conclusion about the condition of a person based on the presence or absence of sugar in their urine. ◆ Draw a conclusion about the condition of a person based on the color of their urine (dark or light). ◆ Draw a conclusion about a point in a woman's menstrual cycle, based on hormone levels. ◆ Draw a conclusion about the plausibility of a woman being pregnant, based on the relative level of progesterone indicated. ◆ Draw a conclusion about the possibility of conception at various points in the menstrual cycle. ◆ Draw a conclusion relative to the suitability of given concentrations of preparation of bush medicines based on body mass indices/gender. ◆ Draw a conclusion on whether a victim is suffering from stroke based on signs displayed. ◆ Draw a conclusion on the nature of a coastline accident based on information and observation. ◆ Draw a conclusion on the types of injuries sustained based on the nature of the accident, information given and observations made.	◆ Draw a conclusion relative to the suitability of given concentration of bush medicine preparations based on body mass indices/gender. ◆ Draw a conclusion on the types of injuries sustained based on the nature of the accident, information given and observations made. ◆ Draw a conclusion on the nature of an electrical or chemical accident based on information and observation.

SCOPE AND SEQUENCE

Make inferences and draw conclusions.

GRADE 7	GRADE 8	GRADE 9
◆ Draw a conclusion on the nature of a road or playground accident based on information and observation. ◆ Draw a conclusion about a person's health based on their living environment. ◆ Draw conclusions about diseases identified in different environments based on the type of pollutants found there (i.e. lung cancer, cigarette smokers).		

SCOPE AND SEQUENCE

Communicate information.

GRADE 7	GRADE 8	GRADE 9
◆ Make an oral presentation on managing conflict. ◆ Make diagrams of micro-organisms seen under a microscope. ◆ Use correct group names for micro-organisms that cause diseases. ◆ Make an oral presentation on the practice of washing hands. ◆ Demonstrate the correct methods of washing hands and cleaning the nails. ◆ Use the correct names for common dental disorders of the teeth and gums. ◆ Make an oral presentation on the differences between plaque, tartar, cavities and gingivitis. ◆ Make an oral presentation on the importance of maintaining proper dental hygiene. ◆ Make a poster showing the suggested biomass figures for common heights for male and female classmates. ◆ Make a pamphlet promoting exercise to keep healthy. ◆ Make a poster showing good and bad posture. ◆ Make an oral presentation describing the negative effects of bad posture. ◆ Use scientific names for major bones. ◆ Construct a table comparing common names to scientific names for bones. ◆ Describe the condition, signs and symptoms of rickets. ◆ Describe the condition, signs and symptoms of arthritis. ◆ Describe the condition, signs and symptoms of “slipped disc”. ◆ Use scientific names to identify major muscles. ◆ Explain the functions of muscles.	◆ Make an oral presentation on triggers that induce anger. ◆ Make an oral presentation on the importance of proper genital, armpits, skin and hair hygiene. ◆ Make a brochure identifying organisms and diseases spread by poor skin and hair hygiene. ◆ Use correct names of toiletries used to reduce sweating and underarm odours. ◆ Make an oral presentation identifying names and describing uses of toiletries for cleansing the skin and maintaining pleasant body odour. ◆ Use correct names for common blood vessels. ◆ Make an annotated diagram of the heart. ◆ Demonstrate (electronically, model or drama) the movement of blood through the heart. ◆ Make an oral presentation describing the double circulation. ◆ Construct a bar graph using data of students’ blood groups. ◆ Formulate an argument to show the importance of the functions of blood.	◆ Use role plays to demonstrate ways to manage given real life stressful situations. ◆ Demonstrate positive social/communicative skills to maintain positive relationships with relatives and friends. ◆ Use correct names for parts of the brain. ◆ Demonstrate (verbally or through drama) the path of a signal in a reflex arc. ◆ Make a presentation to explain the importance of reflex actions. ◆ Use correct names for parts of the skin. ◆ Use correct names for parts of the eye. ◆ Use correct names for parts of the ear. ◆ Demonstrate (verbally, model, or drama) the process that brings about hearing. ◆ Use correct names for common ductless glands. ◆ Make an annotated diagram of the endocrine system. ◆ Construct a table showing hormones and their functions.

SCOPE AND SEQUENCE

Communicate information.

GRADE 7	GRADE 8	GRADE 9
◆ Describe the condition, signs and symptoms of rheumatism. ◆ Describe the condition, signs and symptoms of "locked jaw". ◆ Make menus for balanced diets. ◆ Make an oral presentation on the importance of a balanced diet. ◆ Make a rap about the importance of a balanced diet. ◆ Make an annotated diagram of L.S. a Tooth. ◆ Label the digestive system. ◆ Describe what happens to food in the parts of the alimentary canal. ◆ Make an oral presentation on the purpose of mechanical digestion. ◆ Describe the condition, signs and symptoms of indigestion. ◆ Describe the condition, signs and symptoms of constipation. ◆ Describe the condition, signs and symptoms of diarrhea. ◆ Describe the condition, signs and symptoms of ulcers. ◆ Describe the condition, signs and symptoms of gastroenteritis. ◆ Describe the condition, signs and symptoms of food poisoning. ◆ Describe the condition, signs and symptoms of appendicitis. ◆ Describe the condition, signs and symptoms of gall stones. ◆ Describe the condition, signs and symptoms of diabetes. ◆ Make a poster of bush medicines and their uses. ◆ Make charts, a video or PowerPoint production of four bush medicines and their method of preparation.	◆ Use correct names for parts of the respiratory system. ◆ Make an annotated diagram of the respiratory system. ◆ Demonstrate (electronically, model or drama) gaseous exchange and transportation of oxygen and carbon dioxide by the blood. ◆ Make an oral presentation describing breathing. ◆ Use a word equation to summarize cellular aerobic respiration. ◆ Use correct names for parts of the urinary system and parts of the skin. ◆ Make an annotated diagram of the urinary system. ◆ Make an annotated diagram of the skin. ◆ Make an oral presentation describing the formation of urine. ◆ Use correct names for parts of the male and female reproductive systems. ◆ Make annotated diagrams of the male and female reproductive systems. ◆ Make an annotated diagram of the fetus in amniotic fluid. ◆ Make an oral presentation about the stages of birth. ◆ Communicate, orally or through drama, the procedures and importance of both ante and post natal care. ◆ Make a poster showing bush medicines and their uses. ◆ Make a poster, video or PowerPoint presentation of four bush medicines and their preparation.	◆ Make a poster of bush medicines and their uses. ◆ Make a poster, video or PowerPoint presentation showing four bush medicines and their methods of preparation. ◆ Match named bush medicines to the diseases/disorders that they are used to treat. ◆ Make an oral presentation to show one disease/disorder and the bush medicine(s) used to treat it. ◆ Describe the identification of plants, their preparation and uses (bush medicine). ◆ Construct a table of photographs/drawings of plants and their uses. ◆ Display leaf presses made from plants (studied) used as bush medicine. ◆ Make a group presentation on the positive and negative effects of commonly used methods of food preservation on maintaining good health. ◆ Describe reasons for storing and preserving food. ◆ Design a pamphlet/brochure highlighting five rules for food storage. ◆ Make an oral presentation showing safety precautions for hurricanes.

SCOPE AND SEQUENCE

Communicate information.

GRADE 7	GRADE 8	GRADE 9
◆ Make an oral presentation to show one disease/disorder and the bush medicines to treat it. ◆ Describe the identified plants, their preparation and uses. ◆ Construct a table of photographs/drawings of plants and their uses. ◆ Match named bush medicines to the diseases/disorders that they are used to treat. ◆ Describe leaf presses made from plants used as bush medicine. ◆ Make an oral presentation or participate in a skit to show the importance of using proper apparel when preparing food. ◆ Write a short story to explain the term First Aid. ◆ Compare different types of fracture. ◆ Demonstrate proper care for four main types of injuries to muscles, bones and joints. ◆ Use the correct terms for the acronym P.R.I.C.E. ◆ Make dramatic presentations on the correct way to treat common minor injuries: • Fractures • Sprains • Strains ◆ Demonstrate the correct way to cross dual carriageways and roundabouts. ◆ Make drawings to show guidelines for pedestrians using the road. ◆ Make a rap, poem or song to highlight safety rules for cyclists (bicycle or motor cycle). ◆ Demonstrate the hand signals used by drivers. ◆ Make an oral presentation describing five safety rules for walking.	◆ Make an oral presentation to show one disease/disorder and the bush medicines used to treat it. ◆ Describe the identified plants, their preparation and uses. ◆ Match named bush medicines to the diseases/disorders that they are used to treat. ◆ Construct a table of photographs/drawings of "bush medicine" plants and their uses. ◆ Describe leaf presses made from plants used as bush medicine. ◆ Prepare a flyer or pamphlet to promote the use of two methods of food preparation that contribute to good health. ◆ Participate in a debate comparing the value of different methods of food preparation and their contribution to good health. ◆ Use the correct terms for the acronyms C.P.R and A.B.C's in First Aid. ◆ Demonstrate the correct use of abdominal thrusts on a choking adult and infant. ◆ Demonstrate the correct way to perform rescue breathing and C.P.R. ◆ Describe a soft tissue. ◆ Describe and identify examples of dressing and bandages used in a skit. ◆ Make a brochure or oral presentation on types of wounds. ◆ Demonstrate the correct use of a pressure bandage and elastic bandage. ◆ Demonstrate the correct care of an open wound and burn. ◆ Describe chemical, electrical and solar radiation burns. ◆ Make an oral presentation on the causes and treatment of fainting.	◆ Describe the signs of epilepsy. ◆ Use a skit or make a PowerPoint presentation to describe immediate care of epilepsy. ◆ Use a skit or make a PowerPoint presentation to describe immediate care for shock. ◆ Demonstrate placing a victim in the recovery position. ◆ Make an oral presentation on the causes and signs of shock ◆ Demonstrate the First Aid treatment for shock. ◆ Explain conditions in which moving the victim will be necessary. ◆ Make a flyer showing the steps to take in managing an accident scene. ◆ Make an advertisement or skit about the importance of keeping The Bahamas ***"Clean, Green and Pristine".***

SCOPE AND SEQUENCE

Communicate information.

GRADE 7	GRADE 8	GRADE 9
◆ Create a skit/PowerPoint or oral presentation to illustrate safety rules for cyclists. ◆ Make a poster or brochure showing accident prevention tips for children and teenage road users. ◆ Make a poster or brochure showing accident prevention for adult road users. ◆ Design a poster to show correct practice in crossing a road. ◆ Use common and scientific names for common pollutants. ◆ Make an oral presentation to the class/group about the negative effects of pollution. ◆ Design pamphlets that have an anti-pollution focus. ◆ Make a poster showing the negative effects of marine pollution on the health of humans. ◆ Make an oral presentation on the effects of land pollutants on the health of humans. ◆ Write an infomercial for television highlighting the effects of common land pollutants on the health of humans. ◆ Write a skit on sources and effects of the greenhouse gas (carbon dioxide).	◆ Describe chemical, electrical and solar radiation burns. ◆ Make an oral presentation on the causes and treatment of fainting. ◆ Use the correct term for the acronym R.A.C.E ◆ Make a brochure showing safety practices when using the marine environment. ◆ Create a poster/brochure on the dos and don'ts of swimming/diving and boating. ◆ Make a brochure of "Do's and Don'ts" relative to safety in water sports/activities. ◆ Use the correct names for types of fires. ◆ Make a visual presentation showing fire prevention tips. ◆ Make a flyer or brochure showing the types of fire extinguishers. ◆ Demonstrate the correct use of a fire extinguisher using the acronym P.A.S.S ◆ Explain the use of P.A.S.S. in extinguishing a fire using a fire extinguisher. ◆ Make a skit/PowerPoint safety rules for fireworks, campfires and barbecues. ◆ Use common and scientific names for common pollutants, vectors and diseases studied. ◆ Write an infomercial for television on the importance of disposing of "white" waste properly. ◆ Make a rap, song or poem about the effects of burning garbage at home. ◆ Make a presentation on the effects of some pollutants on the water table.	

SCOPE AND SEQUENCE

Recognize relationships.

GRADE 7	GRADE 8	GRADE 9
◆ Recognize and explain the relationship between • negative emotional expression creating conflict • irrational feelings • behavior and conflict. ◆ Recognize and explain the relationship between poor dental hygiene and the complications that follow. ◆ Explain the relationship between washing hands and cleaning the nails to maintaining good health. ◆ Explain the relative proportions of food groups in the food pyramid/barrel. ◆ Relate dietary diseases to a deficiency of specific nutrients. ◆ Explain the relationship between calorie intake, exercise level and obesity. ◆ Relate conditions of diabetes, hypertension, elevated cholesterol, overweight/obesity to life expectancy. ◆ Recognize the relationship between the movements of antagonistic muscles. ◆ Recognize the relationship between exercise and fitness/ good health. ◆ Recognize the relationship between skeletal muscles and bones. ◆ Recognize the relationship between antagonistic muscles. ◆ Recognize and explain the relationship between healthy bones, cartilage, ligaments and tendons. ◆ Explain the relationship between enzymes and the rate of digestion. ◆ Recognize and explain the relationship between the structure of the small intestine and its function in absorption.	◆ Recognize and explain the relationship between “anger triggers” and “anger”. ◆ Recognizes the relationship between decisions made and their impact on one’s lifestyle. ◆ Recognize and explain the relationship between poor skin hygiene and skin infection. ◆ Recognize and explain the relationship between the blood pressure in blood vessels to the thickness of the vessels’ walls. ◆ Recognize and explain the relationship between the presence of valves and low blood pressure. ◆ Recognize and explain the relationship between the presence of infection and increased white blood cell production. ◆ Explain the relationship of the structure of blood cells to their function. ◆ Explain the relationship between diet and proper functioning of the heart. ◆ Recognize and explain the difference in diameter of air tubes from the trachea to the alveoli. ◆ Recognize the relationship between the structure of the alveoli, capillaries and cells to gaseous exchange. ◆ Explain the relationship between the circulatory system and the respiratory system. ◆ Measure fluid intake and fluid output for a 24 hour period.	◆ Recognize and explain the relationship between stress and lifestyle. ◆ Recognize the relationship between positive communication skills and maintaining a healthy relationship. ◆ Examine how changes in self and others impact relationships (family, peers and adults). ◆ Recognize the relationship between length of axon and number of dendrites to efficiency of nervous signal transmissions. ◆ Recognize and explain the relationship between the amount of melanin and skin complexion. ◆ Recognize and explain the relationship between skin complexion and likelihood of acquiring skin cancer. ◆ Recognize and explain the relationship between accommodation and clear vision. ◆ Explain the relationship between blood glucose level and insulin. ◆ Describe the effects of increased production of adrenalin and thyroxin on the heart or pulse rate. ◆ Relate the external features of plants used for bush medicine to their natural habitat. ◆ Recognize the relationship between methods of food preservation and growth of microbes.

SCOPE AND SEQUENCE

Recognize relationships.

Grade 7	Grade 8	Grade 9
◆ Relate the external features of plants used for bush medicine to their natural habitat. ◆ Describe the relationship between unhealthy food handling practices and disease transmission. ◆ Recognize the relationship between immobilizing a victim and causing less harm. ◆ Recognize the relationship between speed and damage caused in vehicular accidents. ◆ Explain the relationship between population increase and pollution. ◆ Recognize the need to develop more health awareness programmes as pollution increases. ◆ Recognize the relationship between the functioning of governmental agencies and non-governmental agencies on the health of the environment and residents (Department of Environmental Health Services, BEST Commission, Surveillance of MOH)	◆ Recognize and explain the relationship between abstinence/using contraceptives and number of pregnancies recorded. ◆ Recognize the relationship between unhealthy lifestyle practices and transmission of STI's. ◆ Recognize and explain the relationship between education and the number of STI's recorded. ◆ Recognize and explain the relationship between emotional state and healthy/regular menstrual cycle. ◆ Recognize and explain the relationship between amenorrhea (retained uterine lining) and pregnancy. ◆ Recognize and explain the relationship between ante and post natal care and the health of mother and child. ◆ Recognize and explain the relationship between breast feeding and susceptibility of babies to illnesses. ◆ Recognize the relationship between unhygienic practices and transmission of communicable diseases. ◆ Recognize the relationship between the type of disease vector and speed of disease transmission. ◆ Relate the external features of plants used for bush medicine to their natural habitat. ◆ Recognize the relationship between certain methods of food preparation and increased calories. ◆ Recognize the relationship between some methods of food preparation and an increase in cholesterol content. ◆ Recognize the relationship between some methods of food preparation and a decrease in the nutritional value of the food.	

SCOPE AND SEQUENCE

Recognize relationships.

GRADE 7	GRADE 8	GRADE 9
	◆ Recognize the relationship between some methods of food preparation and a negative effect on maintaining BMI and dietary related disorders. ◆ Recognize the relationship between immobilizing a victim and causing more harm. ◆ Recognize the relationship between the type of burn and rate of recovery. ◆ Recognize the relationship between darkness in sea colour with its depth. ◆ Recognize the need to develop more effective means of waste disposal as population increases. ◆ Show the relationship between poor solid waste disposal practices and the population of disease-carrying agents such as rodents.	

SCOPE AND SEQUENCE

Measure accurately.

GRADE 7	GRADE 8	GRADE 9
◆ Use a scale between 1 and 10 (1 being the lowest), to determine the ability level to manage conflict based on given scenarios. ◆ Use a triple beam balance to measure servings of food in grammes. ◆ Read a bathroom scale to one pound/kilogramme accuracy. ◆ Measure height of students in cm. ◆ Measure the length of various bones. ◆ Measure length and width of a biceps muscle when contracted and relaxed. ◆ Use a string to measure and compare the length of the small intestine to the large intestine. ◆ Measure time (minutes) taken for correct preparation of bush medicines. ◆ Measure dosage (teaspoonful, tablespoonful, ¼ cup etc.). ◆ Measure temperatures (to 1°C) of medicine preparations. ◆ Measure the pH of water samples from various sources. ◆ Construct a bar graph showing the amounts of pollutants (e.g. glass, plastic, cardboard) on a beach, shoreline or park.	◆ Use a scale between 1 and 10 to determine the level of control, based on given scenarios. ◆ Read body temperature (clinical thermometer) to 0.5°C/F. ◆ Count pulses for one minute. ◆ Correctly check circulation (pulse) for ten seconds. ◆ Take breathing rate for 30 seconds. ◆ Measure time taken (minutes) for correct bush medicine preparation. ◆ Measure dosage (teaspoonful, tablespoonful, ¼ cup etc.). ◆ Measure temperature (to 1°C) of medicine preparation. ◆ Measure the temperature (to 1°C) of food. ◆ Correctly measure the pulse and breathing rates of a victim.	◆ Use a scale between 1 – 10 to determine the ability to maintain a friendship. ◆ Use a scale between 1 – 10 to determine the ability to deal with a given stressful situation. ◆ Measure reaction time in seconds. ◆ Measure time (minutes) taken for correct preparation of a bush medicine. ◆ Measure dosage (teaspoonful, tablespoonful, ¼ cup etc.). ◆ Measure temperature (to 1°C) of medicine preparation. ◆ Measure the temperature (to 1°C) of food.

SCOPE AND SEQUENCE

Make predictions.

GRADE 7	GRADE 8	GRADE 9
◆ Predict the effects of properly managing conflicts at home, school and in the community. ◆ Use statistics of dental care of boys and girls in the class to predict the effect of good dental hygiene at the end of the school year. ◆ Predict the effects of increased specific nutrients on the body of a person with a specified deficiency disease. ◆ Predict the effects on the body of a diet with more/less calories. ◆ Predict the effects of different diets on the body. ◆ Predict the effects on the foetus of a pregnant woman taking in too little calcium and phosphorus in the diet. ◆ Predict the effect on a person if their body did not absorb calcium and phosphorus. ◆ Predict the effect of loss of cartilage in joints of a human. ◆ Predict what would happen to the body if the skeleton disappeared. ◆ Predict what would happen if cardiac and skeletal muscles stopped working. ◆ Predict the effect of a blockage (growth of tissue) in the small intestine. ◆ Predict the change in daily diet for a person whose gall bladder was removed. ◆ Predict what would happen if food was not properly chewed. ◆ Predict the effect of food poisoning on three persons of different age groupings.	◆ Use statistics to predict the number of students that could be saved from injury in five years, with exposure to good anger management skills. ◆ Use the statistics of blood groups in the grade to predict what the ratio would be in the next generation. ◆ Predict how exercise would affect pulse rate. ◆ Predict the effect particular factors might have on breathing rate. ◆ Use the statistics of STI infections recorded to predict future numbers after five years. ◆ Use the statistics of teenage pregnancy cases to predict future numbers after five years. ◆ Predict the effect of alcohol and drug use of a female on her foetus. ◆ Predict the effect of lack of ante and post natal care on both mother and child.	◆ Predict the effects of stress management on the lives of students who are faced with emotional strain (e.g. examinations). ◆ Predict the effect of age on reaction time. ◆ Predict the effect of damage to a named part of the brain. ◆ Predict what would happen if reflex actions were under our conscious control. ◆ Predict how appearance and health of skin would be affected by excessive rubbing with a sponge. ◆ Predict the effect of removing visual cones on sight. ◆ Predict what would happen to the pulse rate if the thyroid gland was removed surgically. ◆ Predict what would happen if a diabetic was given too much insulin. ◆ Predict the effects of taking too much or too little of a named/given bush medicine. ◆ Predict factors that might pose difficulty in accessing and/or preparing the bush medicine. ◆ Predict effects of using medicine that is prepared incorrectly (e.g. paste for external use being ingested). ◆ Predict the effects of giving a child the dosage for an adult. ◆ Predict the effect that immigrants and or economic and technological development might have on popularity of using bush medicine. ◆ Predict the effect of repeatedly changing the temperature of food on the growth of microbes. ◆ Predict the effect of opening, for a short time, a vacuum packed jar of preserves on the contents.

SCOPE AND SEQUENCE

Make predictions.

GRADE 7	GRADE 8	GRADE 9
◆ Predict the effects of taking too much or too little of a given bush medicine. ◆ Predict factors that might pose difficulty in accessing and/or preparing the bush medicine. ◆ Predict effects of using medicine that is prepared incorrectly (e.g. paste for external use being ingested). ◆ Predict the effect of using unclean utensils while preparing uncooked food. ◆ Make predictions about possible microbe cultures from the nails of "clean" hands. ◆ Predict any further injuries that may be incurred based on a patient's signs and the environment. ◆ Use information from research to predict the length of time and amount of money it takes to clean different size environments of litter/pollutants. ◆ Predict effects that can be caused by a build up of various types of pollutants. ◆ Predict the effects of long-term marine pollution on the environment and economy of The Bahamas.	◆ Predict the effect of using milk formulas to replace breast milk on the health of baby and its bonding with mother. ◆ Predict the effects of giving a child the dosage of medicine as specified for an adult. ◆ Predict the time for a given/named communicable disease to be transmitted through a population. ◆ Predict the effect that immigrants and or economic and technological development might have on popularity of using bush medicine. ◆ Predict the effect that extreme temperatures and humidity would have on the body (fainting, heatstroke, hypothermia).	◆ Predict the effect of shock on the body over a long period. ◆ Predict the effects of a clean environment on students' attitude and behaviour. ◆ Predict the effects of urbanization on ecosystems, natural flora and fauna.

SCOPE AND SEQUENCE

Collect, process and interpret data/information.

GRADE 7	GRADE 8	GRADE 9
◆ Conduct a survey to determine the number of dental cavities in boys vs. girls in the class. ◆ Calculate the average number of dental cavities seen in boys vs. girls. ◆ Interpret findings of the survey on the number of dental cavities. ◆ Calculate the average number of teeth for classmates. ◆ Construct a bar graph of data collected from a survey on dental cavities of boys and girls in a class. ◆ Collect height and weight data of classmates. ◆ Use data to calculate BMI. ◆ Conduct a survey to determine the percentage of persons interviewed who are at the correct Body Mass Index. ◆ Conduct a survey on the eating habits (meal times and type of food) of obese/overweight persons. ◆ Construct graphs to show height and weight data of classmates. ◆ Calculate the average number of hours per week teachers (at school) spend exercising. ◆ Construct bar graphs to show the nutrients found in each of four food samples (meat, white fish, whole wheat bread, and baked beans). ◆ Conduct a survey of classmates' diet for a week to determine the number of students whose diet is balanced (food pyramid/drum). ◆ Use statistics of diabetes, hypertension, elevated cholesterol, overweight/obesity in The Bahamas to construct bar graphs.	◆ Conduct a survey of blood groups (grade level, school or community). ◆ Determine the percentage of each blood group in the population surveyed. ◆ Calculate pulse rates. ◆ Construct a graph showing the difference in pulse rate before and after exercise. ◆ Calculate breathing rates. ◆ Find the average breathing rate per minute per person, for a given number of people. ◆ Construct pie graphs showing the composition of inhaled and exhaled air. ◆ Construct a bar graph to show the relationship between fluid intake and fluid output. ◆ Construct a bar graph of STI's recorded over the past decade. ◆ Conduct a survey of 50 persons to determine the percentage of persons that use bush medicine. ◆ Conduct a survey among classmates to determine the three most popular methods of preparing meats. ◆ Compare the caloric value of preparing a meat using four different methods. ◆ Compile statistics for the number of persons treated in the local community clinic for burns and/or choking during the past year. ◆ Record pulse rates for a period of time.	◆ Measure reaction times. ◆ Conduct a survey of persons wearing spectacles or contact lenses (at school) to determine the most common eye defect among young persons. ◆ Conduct a survey in their neighbourhood to determine the population of a given bush medicine, compile the data for several neighbourhoods and construct a bar graph to show the populations. ◆ Find the number of illnesses caused by food poisoning in the community during the past year. ◆ Determine the percentage of illnesses caused by food poisoning in the community during the past year that were caused by food prepared outside of the home. ◆ Compare the caloric, sugar or water difference in a food before and after preservation. ◆ Conduct a survey of students in the school who are trained in First Aid. ◆ Calculate the ratio of students who are trained in First Aid to the student population. ◆ Take a survey of the adults in the community, church, or who frequent a local popular location to determine the ratio of persons trained in First Aid to the number of persons who frequent that place. ◆ Conduct a survey to determine the most common cause of accidents among teenagers in or around the home or gardens/farms in the settlement/area/island.

SCOPE AND SEQUENCE

Collect, process and interpret data/information.

GRADE 7	GRADE 8	GRADE 9
◆ Use data on food poisoning to determine the most common cause of food poisoning. ◆ Conduct a survey of their neighbourhood to determine the population of a given bush medicine (plant), compile the data for several neighbourhoods and construct a graph to show the frequency of populations. ◆ Construct a bar graph to show the groupings (reasons for enrollment) of persons who took the Food Handlers course in the community during the last training course. ◆ Conduct a survey to determine the most common cause of accidents among teenagers on roads or sporting facilities in the settlement/area/island. ▪ Construct a bar graph of the main causes of road accidents in The Bahamas. ◆ Use a survey to determine the frequency of garbage collection per month in the community. ◆ Use data from a coastal clean up to determine the five most common sea pollutants. ◆ Draw a bar graph to show the occurrence of the five most common marine pollutants. ◆ Construct a pie chart (percentage) of five common pollutants found locally in the sea, lake/pond or well water.	◆ Interpret pulse rates and breathing rates to determine the condition of a patient. ◆ Conduct a survey to determine the most common cause of accidents among teenagers in or near to the sea in their settlement/area/island. ◆ Conduct a survey of twenty-five young people and twenty-five adults to determine the extent to which safety rules are used while sea bathing, swimming and diving (beaches). ◆ Compile statistics of the number and types of fires on the island during the past year. ◆ Draw a bar graph to compare either the number of cases of burns and choking or causes of fire. • Measure a distance equal to the minimum legal distance between a cesspit and well.	

SCOPE AND SEQUENCE

Formulate hypotheses.

GRADE 7	GRADE 8	GRADE 9
◆ Formulate a hypothesis as to whether dental caries are more common in junior high school boys or girls. ◆ Formulate a hypothesis on the effect mandatory healthy diets in schools would have on the young generation. ◆ Formulate a hypothesis on the importance of Vitamin D in the diet of pregnant women. ◆ State a hypothesis on the shortening of a person's height in old age. ◆ State a hypothesis on muscle sprains being related to exercise. ◆ Formulate a hypothesis as to what would happen if the cartilage between vertebrae is displaced. ◆ Formulate a hypothesis on whether the body compensates if the cartilage in the knee is destroyed. ◆ Formulate a hypothesis as to whether the liver can compensate for a malfunctioning pancreas. ◆ Formulate a hypothesis on how a bush might be prepared to treat a given illness. ◆ Formulate a hypothesis as to a treatment for an injury described in a case study. ◆ Formulate a hypothesis on the cause of the largest amount of accidents among teenagers on roads or sporting facilities in The Bahamas. ◆ Formulate a hypothesis on the effect a mandatory decrease in the number of vehicles on New Providence would have on the health of its residents. ◆ Formulate a hypothesis on the effects on fish of changing the salinity of the water in the aquarium	◆ Formulate a hypothesis as to whether the number of chambers in a heart is related to its efficiency. ◆ Formulate a hypothesis as to whether there is an advantage in having a particular blood group. ◆ Formulate a hypothesis as to whether breathing rate varies with exercise, age, gender or size. ◆ Formulate a hypothesis as to whether increased fluid intake causes increased urinary or fluid output. ◆ Formulate a hypothesis as to whether there are advantages in breast feeding for mother and child. ◆ Formulate a hypothesis as to whether utilizing ante and post natal care are advantageous for mother and child. ◆ Formulate a hypothesis as to which contraceptive is most effective. ◆ State a hypothesis on the increase in the number of cases of cancer in The Bahamas. ◆ Formulate a hypothesis on how a given bush might be prepared to treat a given illness. ◆ Formulate a hypothesis on using heat to tenderize meat. ◆ Formulate a hypothesis on tenderizing meat by changing pH. ◆ Formulate a hypothesis as to whether a suggested remedy would treat the injury described in a case study. ◆ Formulate a hypothesis on the cause of the largest number of accidents among teenagers in or near to the sea in The Bahamas. ◆ Formulate a hypothesis on the practicality of incineration as the method for solid waste disposal in The Bahamas.	◆ Formulate a hypothesis as to whether persons with larger pinnae hear better. ◆ Formulate a hypothesis as to whether pulse rate decreases after thyroid removal. ◆ Formulate a hypothesis as to whether a given plant might be used as a bush medicine. ◆ Formulate a hypothesis on how a bush might be prepared to treat a given illness. ◆ Formulate a hypothesis on the method of food preservation, commonly used which causes the greatest longevity (shelf-life). ◆ Formulate a hypothesis concerning the availability of trained first aiders. ◆ Formulate a hypothesis on the cause of the largest number of accidents among teenagers in or around homes or gardens (farms) in The Bahamas. ◆ State a hypothesis on the effects of urbanization on well fields (availability of unpolluted fresh water).

SCOPE AND SEQUENCE

Recognize and control variables.

GRADE 7	GRADE 8	GRADE 9
◆ Identify variables in an investigation to determine whether the consumption of sweets has an effect on the occurrence of tooth caries. ◆ Identify variables in an investigation to determine whether adequate number of hours of sleep has an effect on students' performance at school. ◆ Identify variables in an investigation to determine whether the level of physical exercise has an effect on students' weight. ◆ Identify variables in an investigation to determine whether the number of calories used depends on the level of activity. ◆ Recognize variables and attempt to control one of the variables (temperature, amount of plant material, amount of water, time) in preparation of bush medicine. ◆ Identify factors that contribute to the spread of a named disease.	◆ Recognize and control variables when taking a survey (school, grade level). ◆ Recognize and control variables (activity, anxiety) when taking pulse rates. ◆ Recognize and control variables (activity, anxiety) when taking breathing rates. ◆ Recognize variables and attempt to control one of the variables (temperature, amount of plant material, amount of water, time) in preparation of bush medicine. ◆ Use the same food to compare food preparation methods. ◆ Identify variables in an investigation to determine which type of organism is the most efficient at catching pests (frogs for houseflies in a sealed environment e.g. large terrarium).	◆ Recognize and control variables when measuring reaction time (health of individual, gender). ◆ Recognize and control variables when measuring/testing hearing (gender, age). ◆ Recognize variables and attempt to control one of the variables (temperature, amount of plant material, amount of water, time) in preparation of "medicine". ◆ Recognize the importance of using sterile apparatus and instruments in preparations for culture growth.

SCOPE AND SEQUENCE

Design, conducts and evaluates scientific investigations.

GRADE 7	GRADE 8	GRADE 9
◆ Plan and conduct an investigation to determine whether the amount of sweets consumed has an effect on the occurrence of dental caries. ◆ Conduct investigations to determine the nutrients in unknown food samples. ◆ Conduct investigations to determine the nutrients in locally grown foods. ◆ Plan and conduct a simulated investigation to determine the effects of lubrication on the joints. ◆ Conduct investigations to determine whether weight has a relationship to physical fitness. ◆ Prepare a bush medicine.	◆ Plan and conduct an investigation to determine whether there is an advantage in having a particular blood group. ◆ Plan an investigation to determine whether pulse rate depends on an environmental factor. ◆ Plan and conduct an investigation to determine the effect of exercise on pulse rate. ◆ Design and conduct an experiment to show that activity has an effect on pulse rate. ◆ Plan an investigation to determine whether breathing rate depends on an environmental factor. ◆ Design and conduct an experiment to show that activity has an effect on breathing rate. ◆ Plan and conduct an investigation to determine whether fluid intake affects fluid output. ◆ Plan an investigation to determine whether breast-fed babies are less susceptible to infection. ◆ Prepare a bush medicine. ◆ Design, conduct and evaluate an investigation to show the relationship between certain methods of food preparation and increased calories. ◆ Design, conduct and evaluate an investigation to show the relationship between certain methods of food preparation and an increase in (cholesterol) fat content. ◆ Design, conduct and evaluate an investigation to show the relationship between certain methods of food preparation and the nutritional value of the food.	◆ Plan and conduct an investigation to determine how age or gender affects reaction time. ◆ Plan and conduct an investigation to determine if size of pinna affects hearing. ◆ Plan and conduct an investigation to determine if memory changes with age. ◆ Plan and conduct an investigation to determine if hearing deteriorates with age. ◆ Prepare a bush medicine. ◆ Design, conduct and evaluate an investigation to show the relationship between methods of food preservation and growth of microbes. ◆ Design, conduct and evaluate an investigation to determine which method of food preservation, commonly used, contributes to maximum longevity.

SCOPE AND SEQUENCE

Design, conducts and evaluates scientific investigations.

GRADE 7	GRADE 8	GRADE 9
	◆ Design, conduct and evaluate an investigation to determine whether heat has an effect on tenderizing meat. ◆ Design and evaluate an investigation to show whether pH has an effect on tenderizing meat. ◆ Plan and conduct an investigation to determine which method of waste disposal is most effective for various pollutants.	

SCOPE AND SEQUENCE

Formulate models.

GRADE 7	GRADE 8	GRADE 9
◆ Construct a model with six basic steps to reduce conflicts. ◆ Make a food drum. ◆ Make a model of the human skeleton. ◆ Make models of the different types of joints. ◆ Make a model of the forearm inclusive of the bones, muscles, cartilage, ligaments, and tendons. ◆ Make a model (other than a drum or pyramid) that represents proportions of food groups in a balanced diet. ◆ Make a model of a typical tooth (LS). ◆ Make a model of the digestive system. ◆ Make a model of villi. ◆ Make a model to show healthy practices in food handling. ◆ Make models showing types of fractures. ◆ Make a model of a clean environment and a polluted environment.	◆ Construct a model that identifies steps involved in managing anger. ◆ Construct a model showing steps in goal setting. ◆ Make a model of the human skin (LS). ◆ Make models of blood cells. ◆ Make a model of the double circulatory system. ◆ Make a model of the respiratory system. ◆ Make a model of the urinary system. ◆ Make a model of a fetus in the amniotic sac. ◆ Make a model of apparatus used in ante or post natal clinics. ◆ Construct a model to show the spread of communicable diseases. ◆ Construct a model to show the transmission of pathogens by a vector. ◆ Make a graphic model showing the steps in the use of P.A.S.S. ◆ Make a graphic model showing the steps in rescuing a victim from a fire. ◆ Make a model of a landfill. ◆ Make a model of the life cycle of a vector (e.g. Anopheles mosquito).	◆ Make a model of a sensory and a motor neurone. ◆ Make a model of the endocrine system. ◆ Make a model of a plant used as bush medicine. ◆ Make a model which shows healthy practices in food storage. ◆ Make a model of the effects of microbes on food and the action of one method of food preservation in reducing or eliminating the microbes and their effects. ◆ Formulate a visual model/schematic of the steps to be taken in managing the scene of an accident. ◆ Construct a model plant for recycling waste (one component).

SCOPE AND SEQUENCE

Apply principles and concepts (scientific & technological) to make products.

GRADE 7	GRADE 8	GRADE 9
◆ Construct a functional model of a joint. ◆ Make a healthy, economical, marketable snack using locally grown food materials. ◆ Make a healthy drink using locally grown fruit/vegetables. ◆ Use knowledge of the effects of temperature and pressure on reactions to develop a more efficient/effective means of preparing a bush medicine. ◆ Develop a gadget, instrument or apparatus to prepare a bush medicine. ◆ Suggest a natural additive to make a bush medicine more appealing. ◆ Develop a means of preserving and storing a bush medicine. ◆ Construct a model or computer-designed graphic of an environment that can be affected by biotic and abiotic factors.	◆ Construct a functional model with the characteristics of an "aorta". ◆ Construct a functional model with the features of a larynx. ◆ Construct a model with the features of a kidney. ◆ Construct a product for an infant with features of a mother's breast. ◆ Design a means of controlling a disease-bearing animal vector. ◆ Develop a more efficient/effective means of preparation or develop a gadget/instrument/apparatus to prepare a specified bush medicine. ◆ Use a natural additive to make a bush medicine more appealing. ◆ Develop a means of preserving and storing a bush medicine. ◆ Design a method of food preparation which retains all nutrients. ◆ Make a device that aids in checking one of the areas of ABC. ◆ Make an appropriate and attractive presentation on a commonly used home remedy for one of the injuries studied. ◆ Utilize materials to construct an environmentally safe mouse trap.	◆ Construct a functional pyramid model with 5 levels to managing stress. ◆ Construct a model with features of the middle ear (transference & amplification of vibrations). ◆ Develop a more efficient/effective means of preparation or develop a gadget/instrument/apparatus to prepare a specified bush medicine. ◆ Suggest a natural additive to make a "medicine" more appealing. ◆ Develop a means of preserving and storing a bush medicine. ◆ Use information on conditions needed for microbe growth to design a means of extending the shelf-life of a food, or a method of preserving a perishable food. ◆ Design a device that would assist in transporting a victim or to be used at the scene of an accident. ◆ Make a press for recycling paper.

SCOPE AND SEQUENCE

Make informed, responsible and wise decisions.

GRADE 7	GRADE 8	GRADE 9
◆ Identify and adopt practices to manage/solve conflict. ◆ Demonstrate positive social skills that prevent conflict. ◆ Identify and adopt good dental hygiene practices to maintain healthy teeth and a beautiful smile. ◆ Adopt and maintain an exercise routine. ◆ Adopt and maintain the number of hours of rest/sleep recommended for the age group. ◆ Make a lifestyle change to eat healthy (use water as main drink with juices and milk; reduce, or eliminate eating snacks, eat healthy snacks). ◆ Make a decision to attain and maintain the personal BMI recommended for healthy living. ◆ Identify and adopt practices to maintain a healthy skeleton. ◆ Identify and adopt practices to maintain healthy muscles. ◆ Identify and adopt practices to keep physically fit. ◆ Make a decision to limit intake of food to recommended servings. ◆ Identify and adopt practices to maintain a healthy digestive system. ◆ Plan nutritionally-balanced meals to avoid dietary-deficiency diseases. ◆ Make a decision whether or not to use specified bush medicines based on information in textbooks and oral testimonies. ◆ Use food handling practices that promote health and safety.	◆ Demonstrate the value of being able to manage/control anger. ◆ Demonstrate the importance of wise decision making during a life time. ◆ Identify and adopt practices to reduce stress and related health problems. ◆ Identify and adopt practices to maintain pleasant body odour. ◆ Identify and adopt practices to maintain the health of the heart. ◆ Identify situations that necessitate and adopt the practice of wearing a mask to protect the nose. ◆ Avoid smoking. ◆ Drink an adequate amount of water to facilitate proper functioning of the kidneys. ◆ Identify and adopt practices to prevent contracting STI's. ◆ Identify and adopt practices to prevent unwanted pregnancy. ◆ Identify and adopt practices that promote health and hygiene of reproductive organs. ◆ Compose a personal pledge to not be a transmitter of a STI. ◆ Demonstrate good hygiene practices as a means of preventing the spread of communicable diseases. ◆ Make a decision whether or not to use specified bush medicines based on information in textbooks and oral testimonies.	◆ Identify and adopt practices to keep hair healthy. ◆ Identify and adopt practices to keep skin healthy (e. g. bathing regularly, using moisturizer, and refrain from excessive sponging of the face). ◆ Identify and adopt practices to preserve sight. ◆ Identify and adopt practices to preserve hearing (e. g. refrain from excessively loud music & other sounds). ◆ Make a decision whether or not to use specified bush medicines based on information in textbooks and oral testimonies. ◆ Select and use methods of food preservation that avoid unhealthy preservatives. ◆ Use food storage practices that promote health. ◆ Demonstrate safe practices when handling chemicals. ◆ Demonstrate safe practices when using electrical appliances. ◆ Make a decision whether or not to attempt to rescue and/or administer First Aid based on an assessment of the environment. ◆ Prioritize the injuries to be treated based on information received and signs of the victim(s). ◆ Engage in good environmental stewardship practices at home, the park, beach, in the water and along the roadside.

SCOPE AND SEQUENCE

Make informed, responsible and wise decisions.

GRADE 7	GRADE 8	GRADE 9
◆ Demonstrate safe practices when using the road as a pedestrian. ◆ Demonstrate safe practices as a passenger in a vehicle. ◆ Use knowledge of driver's hand and car signals to make wise choices as a pedestrian**.** ◆ Demonstrate safety rules for walking and crossing. ◆ Use knowledge of safety rules to make wise choices as a cyclist. ◆ Use knowledge of safety rules while observing and playing sports. ◆ Demonstrate safe practices when using playing fields or sporting facilities. ◆ Participate in a class or group clean-up of a neighbourhood area, park or beach. ◆ Write and keep a personal pledge to reduce the production of carbon dioxide.	◆ Select methods of food preparation which retain the food's nutritional value. ◆ Select food preparation methods that use minimal fat and salts. ◆ Use information based on signs and symptoms given to make decisions for treatment of injuries. ◆ Utilize safe practices when sea bathing, swimming or diving. ◆ Use knowledge of safe practices when boating.	

SCOPE AND SEQUENCE

Pursue new knowledge.

GRADE 7	GRADE 8	GRADE 9
◆ Find out the latest techniques in managing conflict. ◆ Find out the treatment to remove plaque and tartar build up. ◆ Research the latest methods in bone/cartilage replacement (e.g. knee/hip). ◆ Read a newspaper or magazine article on the nutritional value of a food. ◆ Read labels on foods. ◆ Research different methods of teeth replacement. ◆ Research gastric bypass, acid reflux and other digestive disorders. ◆ Read an article on a disease not studied in class from one of the categories: communicable, congenital, degenerative, pathogenic, inherited. ◆ Find out additional bush medicines and/or home remedies used for the diseases/disorders studied. ◆ Conduct research to discover variations of plants used and/or methods of preparation in different islands of The Bahamas, Caribbean countries or parts of the world. ◆ Pose a question of interest related to food handling and conduct relevant research. ◆ Conduct research to determine the types of road accidents that occur in The Bahamas. ◆ Conduct research to determine the causes of road accidents in The Bahamas. ◆ Find out the cause of the largest number of accidents among teenagers on roads or sporting facilities in The Bahamas. ◆ Explain how behaviour and attitude have changed towards pollutants in the local environment.	◆ Find out additional ways to reduce anger. ◆ Find out the latest cream/ointment/spray used to treat a fungal skin infection. ◆ Find out the latest methods in treating heart conditions (surgery [by-pass, pace makers]). ◆ Use information researched to describe how knowledge, attitudes and behaviours toward blood transfusions have changed over time. ◆ Find out the components in vehicle exhaust fumes and their effects on humans. ◆ Find out the latest procedures in ante and post natal care. ◆ Use information researched to describe how knowledge, attitudes and behaviours toward breast feeding have changed over time. ◆ Find out the latest information on the advantages of breast feeding for mother and child. ◆ Find out the latest information on the effectiveness of named contraceptives. ◆ Find out the latest information on treating named STI's. ◆ Read an article on a disease, not studied in class, from one of the categories: communicable, congenital, degenerative, pathogenic, inherited. ◆ Find out additional bush medicines and/or home remedies used for the diseases/disorders studied. ◆ Conduct research to discover variations of bushes used and/or methods of preparation in different islands of The Bahamas, Caribbean countries or parts of the world. ◆ Read articles on methods of food preparation.	◆ Find out additional information about "stress" and "stress management". ◆ Use information researched to describe how the brain changes with age to contribute to conditions such as memory loss and Alzheimer's disease. ◆ Find out the latest methods of treating eye defects and diseases such as hypermetropia, myopia, conjunctivitis. ◆ Find out the latest techniques of treating and reducing the effects of Alzheimer's disease. ◆ Find out information as to whether diet and lifestyle contribute to diseases such as Alzheimer's. ◆ Find out information on Hormone Replacement Therapy. ◆ Read an article on a disease, not studied in class, from one of the categories: communicable, congenital, degenerative, pathogenic, inherited. ◆ Find additional bush medicines and/or home remedies used for the diseases/disorders studied. ◆ Conduct research to discover variations of bushes used and/or methods of preparation in different islands of The Bahamas, Caribbean countries or parts of the world. ◆ Find additional information on methods of food preservation and storage. ◆ Pose a question of interest related to food preservation and storage; conduct relevant research. ◆ Find out the cause of the largest number of accidents among children in or around the home or gardens (farms) in The Bahamas.

SCOPE AND SEQUENCE

Pursue new knowledge.

GRADE 7	GRADE 8	GRADE 9
◆ Conduct a sample survey to determine the level of awareness of Bahamians to global pollution (greenhouse gas emissions, marine pollution, radioactive pollution).	◆ Pose a question of interest related to food preparation and conduct relevant research. ◆ Find out the cause of the largest number of accidents among children and teenagers in or near to the water in The Bahamas ◆ Find out information on new types of fire extinguishers or fire fighting methods. ◆ Research new techniques in handling and treating solid waste.	◆ Find out the effects of named invasive species on the health/well-being of humans in The Bahamas. ◆ Compile a list of synthetic recyclable items used in the environment.

SCOPE AND SEQUENCE

Demonstrate critical thinking.

GRADE 7	GRADE 8	GRADE 9
◆ Compare the effectiveness of being exposed to adequate conflict reduction management versus very little exposure in contemporary Bahamian society. ◆ Justify with reasons whether three named diseases are linked to lifestyle. ◆ Suggest personal, economic and social effects of lifestyle-related diseases and disorders. ◆ Evaluate the nutritional value of a diet. ◆ Justify, with reasons, whether food poisoning occurs only in certain seafood. ◆ Compare the effectiveness of the use of bush medicine with prescribed medicines. ◆ Compare the side effects of the use of bush medicine with prescribed medicines. ◆ Describe possible advantages and disadvantages of the use of bush medicines. ◆ Describe the effects of land development in The Bahamas on the availability of plants used for bush medicine. ◆ Suggest ways that might prevent accidents on roads or sporting facilities in The Bahamas. ◆ Find out the effects of chlorofluorocarbons (CFC's) on the ozone layer. ◆ Suggest reasons why three named illnesses are linked to pollution. ◆ Make a position statement on whether humans have more negative than positive effects on their environment/ecosystem.	◆ Justify "the tone of voice relates to expressions of anger and violence." ◆ Pose a question on the effectiveness of making decisions and setting goals. ◆ Pose a question on the circulatory system which extends knowledge. ◆ Suggest reasons for the results of the data collected on blood groups. ◆ Compare the efficiency and effectiveness of breathing through the nose versus the mouth. ◆ Pose a question on the excretory system which extends knowledge. ◆ Evaluate the extent to which the skin is adapted to carry out its functions (excretion/protection/cooling). ◆ Suggest reasons for changes in STI contractions over the years. ◆ Suggest reasons for changes in the number of teenage pregnancy cases (if any) over the years. ◆ Evaluate the importance of amniotic fluid. ◆ Evaluate the importance of family planning. ◆ Evaluate the importance of ante and post natal care. ◆ Compare the efficiency and effectiveness of various contraceptives. ◆ Evaluate the advantages and disadvantages of utilizing named contraceptives. ◆ Suggest reasons for differences in contraceptive usage among various races, ages, socio-economic classes of persons. ◆ Describe the economic and social implications of using or refraining from using contraceptives.	◆ Evaluate the quality of life without stress reduction skills. ◆ Determine the effectiveness of positive skills for healthy relationships. ◆ Suggest reasons for differences in reaction time among persons of different age groups or gender. ◆ Pose a question on the endocrine system which extends knowledge. ◆ Suggest expiry dates for given bush medicines, based on the preparation to usage time. ◆ Compare the side effects of the use of bush medicine to prescribed medication for a given ailment. ◆ Describe possible advantages and disadvantages of the use of bush medicine. ◆ Suggest, with explanation, whether the production of bush medicine might be a sustainable industry in The Bahamas. ◆ Suggest ways that might prevent accidents in or around the home or gardens (farms) in The Bahamas. ◆ Suggest advantages and disadvantages of recycling. ◆ Explain the extent to which sorting waste for disposal and recycling waste improves health of the environment.

SCOPE AND SEQUENCE

Demonstrate critical thinking.

GRADE 7	GRADE 8	GRADE 9
	◆ Compare the advantages and disadvantages of chemical and biological methods for controlling disease-bearing animals. ◆ Compare the effectiveness of the use of bush medicine with prescribed medicines. ◆ Compare the side effects of the use of bush medicine with prescribed medicines. ◆ Suggest an expiry date for given bush medicines based on the preparation to usage time. ◆ Review the nutritional value, appearance and cost of preparing a particular food in each of three methods. ◆ Suggest how restaurants and cooks could help to improve the health of people in The Bahamas. ◆ Suggest ways that might prevent accidents in or near to the water in The Bahamas. ◆ Suggest reasons why waste collection, management and storage are not handled in the same manner on New Providence compared to most Family Islands. ◆ Analyse the plausibility of using landfills to replace incineration throughout The Bahamas. ◆ Explain whether the banning of burning trash at home is justified or not.	

STANDARDS AND BENCHMARKS
GRADE: 7

Students should be able to:

Use materials and scientific equipment correctly and safely.

- Use spotting tiles and iodine to test for starch in foods.
- Use microscope to observe different tissues.
- Use indicators to test for acidity of various sources of water.

Make observations.

- Observe features of bone dislocation, and fractures and arthritis in photographs.
- Identify warning/danger signs on property.
- Observe peristalsis.

Utilize classification process.

- Identify groups of disease-causing micro organisms.
- Classify muscles based on location.
- Classify diseases/disorders.
- Identify classes/groups of unsafe features of the outdoor environment.

Make inferences and draw conclusions.

- Identify the types of enzymes present in a digestive juice based on the foods digested by it.
- Suggest the deficiency disease caused based on information given.
- Draw a conclusion on the types of injuries sustained based on the nature of an accident, information given and observations made.

Communicate information.

- Describe methods of managing conflict.
- Describe the negative effects of bad posture.
- Explain the effects of common land pollutants on the health of humans.

Recognize relationships.

- Identify and explain the relationship between calorie intake, exercise and obesity.
- Recognize the relationship between speed and damage caused in vehicular accidents.
- Recognize the relationship between population increase and solid waste production/pollution.

Measure accurately.

- Use a triple beam balance to measure servings of food in grammes (1g accuracy).
- Measure height of students in cm (1cm accuracy).
- Measure the pulse for one minute.
- Use a string to measure (1cm accuracy) and compare the length of the small intestine to the large intestine.

Make predictions.

- Predict the effects of increased specific nutrients on the body of a person with a specified deficiency disease.
- Predict the effects on the foetus of a pregnant woman taking in too little calcium and phosphorus in the diet.
- Predict the effect of using unclean utensils while preparing uncooked food.

Collect, process and interpret data/information.

- Conduct a survey to determine the number of dental cavities in boys vs. girls in the class and interpret the findings.
- Use data to calculate BMI.
- Calculate the average number of hours per week teachers spend exercising.
- Draw a bar graph to show the occurrence of the five most common marine pollutants on the island/in The Bahamas.

Formulate hypotheses.

- Formulate a hypothesis on the effect mandatory healthy diets in schools would have on the young generation.
- State a hypothesis on muscle sprains being related to exercise.
- Formulate a hypothesis on how a bush might be prepared to treat a given illness.
- Formulate a hypothesis on the cause of the largest amount of accidents among teenagers on roads or sporting facilities in The Bahamas.

Recognize and control variables.

- Identify variables in an investigation to determine whether the consumption of sweets has an effect on the occurrence of tooth caries.
- Identify variables in an investigation to determine whether adequate number of hours of sleep has an effect on students' performance at school.
- Identify variables in an investigation to determine whether the level of physical exercise has an effect on students' weight.
- Recognize variables and attempt to control one of the variables in preparation of bush medicine.

Design, conduct and evaluate scientific investigations.

- Plan and conduct an investigation to determine whether the amount of sweets consumed has an effect on the occurrence of dental caries.
- Conduct investigations to determine the nutrients in locally grown foods.
- Plan and conduct a simulated investigation to determine the effects of lubrication on the joints.

Formulate models.

- Construct a model with six basic steps to reduce conflicts.
- Make a model of the forearm inclusive of the bones, muscles, cartilage, ligaments, and tendons.
- Make a model of the digestive system.

Apply principles and concepts (scientific & technological) to make products.

- Construct a functional model of a joint.
- Make a healthy, economical, marketable snack using locally grown food materials OR
  Make a healthy drink using locally grown fruit/vegetables.
- Use a natural additive to make a bush medicine more appealing.

Make informed, responsible and wise decisions.

- Identify and adopt practices to manage/solve conflict.
- Make a decision to attain and maintain the personal BMI recommended for healthy living.
- Make a lifestyle change to eat healthy (use water as main drink with juices and milk; reduce, or eliminate eating snacks, eat healthy snacks).
- Use food handling practices that promote health and safety.
- Write and keep a personal pledge to reduce the production of carbon dioxide.

Pursue new knowledge.

- Read labels on foods.
- Read an article on a disease not studied in class from one of the categories: communicable, congenital, degenerative, pathogenic, and inherited.
- Find out additional bush medicines and/or home remedies used for two of the diseases/disorders studied.

Demonstrate critical thinking.

- Suggest personal, economic and social effects of lifestyle-related diseases and disorders.
- Describe the effects of land development in The Bahamas on the availability of plants used for bush medicine.
- Suggest reasons why three named illnesses are linked to pollution.
- Make a position statement with reasons on whether humans have more negative than positive effects on their environment/ecosystem.

GRADE: 8

Students should be able to:

Use materials and scientific equipment correctly and safely.

- Use a microscope to identify blood cells.
- Use apparatus (test tubes) and materials (lime water) to safely compare the carbon dioxide content in inhaled and exhaled air.
- Use a mouth shield correctly.
- Use a fire extinguisher correctly.

Make observations.

- Identify “triggers” of anger.
- Observe structural differences between arteries and veins (diagrams).
- Observe photographs of lungs of non-smokers and smokers.
- Observe the texture and colour of bush medicine preparations.
- Observe the signs of four types of skin wounds.

Utilize classification process.

- Classify blood vessels according to their function.
- Classify contraceptives.
- Classify the diseases/disorders studied.
- Classify pathogens.

Make inferences and draw conclusions.

- Draw a plausible conclusion about the condition of a person’s heart, based on their diet.
- Draw a conclusion about the relative composition of carbon dioxide in inhaled and exhaled air.
- Draw a conclusion about the possibility of conception at various points in the menstrual cycle.

Communicate information.

- Make a brochure identifying organisms and diseases spread by poor skin and hair hygiene.
- Make an oral presentation describing the double circulation.
- Use a word equation to summarize cellular aerobic respiration.
- Make an oral presentation to show one disease/disorder and the bush medicines used to treat it.
- Create a poster/brochure on the dos and don’ts of swimming/diving and boating.

Recognize relationships.

- Recognize and explain the relationship between ante and post natal care and the health of mother and child.
- Recognize the relationship between the type of disease vector and speed of disease transmission.
- Recognize the relationship between some methods of food preparation and a decrease in the nutritional value of the food.
- Recognize the relationship between darkness in sea colour with its depth.

Measure accurately.

- Read body temperature (clinical thermometer) to 0.5°C/F.
- Measure breathing rate for 30 seconds.
- Measure dosage (teaspoonful, tablespoonful, ¼ cup etc.).

Make predictions.

- Predict the effect of exercise on pulse rate.
- Predict the effect particular factors might have on breathing rate.
- Use the statistics of teenage pregnancy cases to predict future numbers after five years.
- Predict the effect of alcohol and drug use of a female on her foetus.
- Predict the effect that immigrants and or economic and technological development might have on popularity of using bush medicine.

Collect, process and interpret data/information.

- Determine the percentage of each blood group in the population surveyed.
- Find the average breathing rate per minute per person, for a given number of people.
- Conduct a survey of 50 persons to determine the percentage of persons that use bush medicine
- Conduct a survey of twenty-five young people and twenty-five adults to determine the extent to which safety rules are used while sea bathing, swimming and diving (beaches).

Formulate hypotheses.

- Formulate a hypothesis as to whether there is an advantage in having a particular blood group.
- Formulate a hypothesis as to whether breathing rate varies with exercise, age, gender or size.
- Formulate a hypothesis as to whether utilizing ante and post natal care are advantageous for mother and child.
- Formulate a hypothesis on tenderizing meat by changing pH.

Recognize and control variables.

- Recognize and control variables when taking a survey (school, grade level).
- Recognize and control variables (activity, anxiety) when taking pulse rates.
- Recognize and control variables (activity, anxiety) when taking breathing rates.

Design, conduct and evaluate scientific investigations.

- Plan and conduct an investigation to determine how exercise affects pulse rate.
- Plan an investigation to determine whether breathing rate depends on an environmental factor.
- Design, conduct and evaluate an investigation to determine whether heat has an effect on tenderizing meat.

Formulate models.

- Construct a model showing steps in goal setting.
- Make a model of the respiratory system.
- Make a graphic model showing the steps in the use of P.A.S.S.
- Make a model of the life cycle of a vector (e.g. Anopheles mosquito).

Apply principles and concepts (scientific & technological) to make products.

- Construct a functional model with the features of a larynx.
- Design a means of controlling a disease-bearing animal vector.
- Develop a means of preserving and storing a bush medicine.

Make informed, responsible and wise decisions.

- Identify and adopt practices to reduce stress and related health problems.
- Identify and adopt practices to prevent contracting STI's.
- Demonstrate good hygiene practices as a means of preventing the spread of communicable diseases.
- Select methods of food preparation which retain the food's nutritional value.
- Use information based on signs and symptoms given to make decisions for treatment of injuries.

Pursue new knowledge.

- Use information researched to describe how knowledge, attitudes and behaviours toward blood transfusions have changed over time.
- Find out the components in vehicle exhaust fumes and their effects on humans.
- Read articles on methods of food preparation.

Demonstrate critical thinking.

- Pose a question on the circulatory system which extends knowledge.
- Compare the efficiency and effectiveness of breathing through the nose versus the mouth.
- Describe the economic and social implications of using or refraining from using contraceptives.
- Suggest reasons why waste collection, management and storage are not handled in the same manner on New Providence compared to most Family Islands.
- Explain whether the banning of burning trash at home is justified or not.

GRADE: 9

Students should be able to:

Use materials and scientific equipment correctly and safely.

- Use a pH meter/indicator to correctly and safely measure the acidity of food.
- Use petri dishes to prepare a culture from food samples.
- Use an eye wash fountain.

Make observations.

- Observe and describe structural differences in motor and sensory neurons (by viewing diagrams).
- Observe signs of food spoilage.
- Make assessment observations to determine physical and personnel resources available to assist in rendering first aid.

Utilize classification process.

- Classify neurons according to their function.
- Classify methods of preserving food.
- Classify potentially hazardous household chemicals.

Make inferences and draw conclusions.

- Draw a conclusion on the types of injuries sustained based on the nature of the accident, information given and observations made.
- Draw a conclusion on the nature of an electrical or chemical accident based on information and observations.

Communicate information.

- Demonstrate positive social/communicative skills to maintain positive relationships with family and friends.
- Demonstrate (verbally or through drama) the path of a signal in a reflex arc.
- Demonstrate (verbally, model, or drama) the process that brings about hearing.
- Make an annotated diagram of the endocrine system.
- Design a pamphlet/brochure highlighting five rules for food storage.
- Make a flyer with the steps in managing an accident scene.

Recognize relationships.

- Recognize and explain the relationship between stress and life style.
- Recognize and explain the relationship between the amount of melanin and skin complexion.
- Explain the relationship between blood glucose level and insulin.
- Describe the effects of increased production of adrenalin and thyroxin on the heart or pulse rate.

Measure accurately.

- Measure reaction time in seconds.
- Measure temperature (to 1°C) of medicine preparation.

Make predictions.

- Predict the effect of age on reaction time.
- Predict the effects of taking too much or too little of a named/given bush medicine.
- Predict the effect of repeatedly changing the temperature of food on the growth of microbes.
- Predict the effects of urbanization on ecosystems and natural flora and fauna.

Collect, process and interpret data/information.

- Measure reaction times.
- Conduct a survey of persons wearing spectacles or contact lenses (at school) to determine the most common eye defect among young persons.
- Compare the caloric, sugar or water difference in a food before and after preservation.
- Calculate the ratio of students who are trained in First Aid to the student population.

Formulate hypotheses.

- Formulate a hypothesis as to whether persons with larger pinnae hear better.
- Formulate a hypothesis concerning the availability of trained first aiders.
- Formulate a hypothesis on the cause of the largest number of accidents among teenagers in or around homes or gardens (farms) in The Bahamas.
- State a hypothesis on the effects of urbanization on well fields (availability of unpolluted fresh water).

Recognize and control variables.

- Recognize and control variables when measuring reaction time (health of individual, gender).
- Recognize and control variables when measuring/testing hearing (gender, age).
- Recognize the importance of using sterile apparatus and instruments in preparations for culture growth.

Design, conduct and evaluate scientific investigations.

- Plan and conduct an investigation to determine whether age or gender affects reaction time.
- Plan and conduct an investigation to determine if hearing deteriorates with age.
- Design, conduct and evaluate an investigation to show the relationship between methods of food preservation and growth of microbes.

Formulate models.

- Make a model of sensory and motor neurons.
- Make a model which shows healthy practices in food storage.
- Construct a model plant for recycling waste (one component).

Apply principles and concepts (scientific & technological) to make products.

- Suggest a more efficient/effective means of preparation or develop a gadget/instrument/apparatus to prepare a specified bush medicine.
- Use information on conditions needed for microbe growth to design a means of extending the shelf-life of a food, or a method of preserving a perishable food.
- Design a device that would assist in transporting a victim or to be used at the scene of an accident.
- Make a press for recycling paper.

Make informed, responsible and wise decisions.

- Identify and adopt practices to keep skin healthy.
- Identify and adopt practices to preserve sight.
- Make a decision whether or not to use specified bush medicines, based on information in textbooks and oral testimonies.
- Make a decision whether or not to attempt to rescue and/or administer First Aid, based on an assessment of the environment.
- Engage in good environmental stewardship practices at home, the park, beach, in the water and along the roadside.

Pursue new knowledge.

- Find out information as to whether diet and lifestyle contribute to diseases such as Alzheimer's.
- Find out information on Hormone Replacement Therapy.
- Pose a question of interest related to food preservation and storage; conduct relevant research.
- Find out the cause of the largest number of accidents among children in or around the home or gardens (farms) in The Bahamas.

Demonstrate critical thinking.

- Based on the preparation to usage time suggest expiry dates for given bush medicines.
- Suggest, with explanation, whether the production of bush medicine might be a sustainable industry in The Bahamas.
- Suggest ways that might prevent accidents in or around the home or gardens (farms) in The Bahamas.
- Explain the extent to which sorting waste for disposal and recycling waste improves health of the environment.

COMPARATIVE STANDARDS FOR GRADE LEVELS

Grade	Use materials and scientific equipment correctly and safely.	Make observations.	Utilize classification process.	Make inferences and draw conclusions.	Communicate information.	Recognize relationships.	Measure accurately.	Make predictions.
7	Spotting tiles, medicine droppers, iodine, litmus paper.	Observe warning or danger signs erected or on labels.	Classify muscles based on location.	Based on information given, suggest the deficiency disease caused.	Clearly describe observations.	Recognize the position of a component in a system and its relationship to other components in the system.	Measures to 0.1kg , 0.1g, height to 1cm.	Predict the effect of one step being missed in a series of steps.
8	Use of test tubes, lime water, mouth shield, thermometer, fire extinguisher.	Observe photographs of lungs of non-smokers and smokers.	Classify common diseases/disorders.	Draw a valid conclusion based on observations and/or results.	Sequentially explain a process orally.	Recognize direct relationships (directly proportional).	Read to 1°C, ½ and ¼ teaspoonful/tablespoon ful; 1/4 and ½ cup.	Based on data, predict an outcome if there are no interferences.
9	Petri dishes, pH meter, eye wash fountain.	Observe and describe structural differences in motor and sensory neurons (by viewing prepared slides or diagrams).	Classify potentially hazardous household chemicals.	Analyse data to formulate conclusions on situations in every day experiences.	Prepare an effective means of communicating information to a group of persons.	Recognize indirect relationships (inversely proportional).	Measure volume of liquid to 0.5 ml or cm^3.	Predict the outcome if one variable is taken into account.

COMPARATIVE STANDARDS FOR GRADE LEVELS

Grade	Collect, process and interpret data/information.	Formulate hypotheses.	Recognize and control variables.	Design, conduct and evaluate scientific investigations.	Formulate models.	Apply principles and concepts (scientific & technological) to make products.	Make informed, responsible and wise decisions.	Pursue new knowledge.
7	Calculate averages, and collate data (numbers), construct bar graphs.	Formulate hypothesis.	Recognize variables.	Plan simple investigations.	Make model of a body system.	Make a functional model.	Make a lifestyle change to "eat healthy".	Read labels.
8	Collect and process data from survey instruments.	Formulate a hypothesis that may be easily tested.	Recognize variables and attempt to control one.	Plan, conduct and evaluate a simple investigation.	Make graphic (organizer) models.	Suggest a method or process based on a scientific principle studied.	Identify and adopt practices to prevent contracting STI's.	Read articles on a given topic. Interview people to acquire information.
9	Interpret findings from surveys.	Formulate a hypothesis that may not be easily tested.	Recognize and controls more than one variable.	Plan, conduct and evaluate an investigation to verify a hypothesis.	Make models of cells.	Design and make a gadget based on a scientific principle studied.	Engage in good environmental stewardship practices.	Identify a topic or question of interest and relate to the information studied to conduct independent research.

Grade	Demonstrate critical thinking.
7	Suggest reasons to explain observations or data.
8	Pose a question on a topic; based on researched information related to the question, formulate a position statement.
9	Suggest economic and social implications of given issues.

SCOPE OF WORK
GRADE: 7
STRAND: HEALTHY LIVING

TOPIC: PERSONAL HYGIENE DURATION: 3 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Define Health.	Health: state of physical, mental and emotional well-being	• Think, pair, share • Class discussion	Human and Social Biology resource books	Written (worksheet).
Demonstrate the correct methods for washing hands and cleaning the nails (include hand sanitized).	Washing hands, nails, duration, rinsing drying and turning off water (include hand sanitized).	Practice proper washing steps for the duration ("Happy Birthday" song).	Ministry of Health publications	Correct demonstrations of the steps.
Explain the relationship between washing hands and cleaning the nails to maintaining good health.	Many micro-organisms (bacteria and viruses) are pathogens. Hands are in contact with many and varied surfaces – most likely to have pathogens. Washing removes pathogens, decreases chances of illness.	Design a visual aid to show the relationship between washing hands and cleaning the nails to maintaining good health.		Rubric for assessing visual aids.
Identify groups of disease-causing micro-organisms.	• Virus: Colds & Flus • Bacteria: Strep throat • Fungus: ringworm, athletes foot • Protists: dysentary	Conduct research (textbooks) to identify groups of disease-causing micro-organisms.	*Human Form & Function* *Human and Social Biology for the Tropics*	Groupings correctly identified.
Describe the variety of shapes and sizes of micro-organisms seen through the microscope.	Micro-organisms based on size and shapes e.g. spherical, rod-shaped, curve, tadpole, amoeboid.	• Observe photomicrographs of a variety of micro-organisms. • Make models showing the variety of shapes and relative sizes of disease-causing micro-organisms.	*Human and Social Biology for the Tropics* Plasticene	Rubric for assessing models.

SCOPE OF WORK
GRADE: 7
STRAND: HEALTHY LIVING

TOPIC: PERSONAL HYGIENE DURATION: 5 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use correct group names for micro organisms that cause diseases.	Protists, viruses, bacteria (cocci, vibrio, bacillus)	• Pronounce names • Label models		Correct pronunciations, spelling and matching names with models.
Use a microscope correctly and carefully to view types of bacteria.	• Compound, light microscopes used to magnify small specimens to be seen. • Parts and their functions of the microscope. • Correct procedure for transporting (arm and base), using and storage of microscopes	• Observe prepared slides of microorganisms (naked eyes) • Label parts of microscope • Match parts of microscope to function. • Practice transporting microscope using arm and base • View assorted slides using the microscope	*CXC Integrated Science*	• Correct labelling of parts and their functions of the microscope. • Rubric for correct use apparatus and equipment.
Prepare temporary slides using scrapings collected from beneath the fingernail.	Clean, dry glass slide and cover slip. Obtain scraping, smear on slide, add water, lower coverslip, dry gently, place on stage. Difference between temporary and permanent slides.	• Class participates in oral drill in steps for preparing the temporary slide. • Prepare slides of scrapings from beneath the fingernails	*CXC Integrated Science*	Rubric for assessing correct handling of apparatus and materials.

SCOPE OF WORK
GRADE: 7
STRAND: HEALTHY LIVING

TOPIC: CONFLICT

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Identify different types of conflict.	Identify conflict as disagreement between two or more persons. • Conflict within self • Conflict between individuals • Conflict between groups • Conflict between group members	• Discussion • Role play	*Oxford Dictionary* *Conflict Resolution For Secondary Students*.	Rubric for assessing role play
Identify examples of conflict.		Think, pair, share examples of conflict	*Conflict Resolution For Secondary Students*	Number of examples identified and correctly classified.
Recognize and explain the relationship between • negative emotional expression creating conflict. • irrational feelings. • behavior and conflict.	• Expressing anger/hostility towards someone • Irrational feeling or belief about someone e.g. dislike someone because you feel that they dislike you even though you don't know the person • Teasing or hitting someone even when told to stop as the other individual gets angry and an argument develops	• Discussion • Skit/role play		Rubric for assessing oral presentations
Draw a conclusion on situations that create(d) conflict within the classroom/playground/at home.	• Gossip • Belittling an individual • Teasing • Lying • Cheating • Bullying • Miscommunication/ misunderstanding • Negative body/non-verbal communication	• Discussion • Comic strips		• Clearly stated plausible conclusions. • Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 7
STRAND: HEALTHY LIVING

TOPIC: CONFLICT

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use a scale between 1 and 10 (1 being the lowest), to determine the ability level to manage conflict based on given scenarios.	Scenarios requiring various degrees to mange conflict on a scale of 1 to 10.	• Discussion • Skit		
Predict the effects of properly managing conflicts at home, school and in the community.	• Conflict solved through negotiation or diffusing with humor or other strategies, effects will be: 1. peaceful 2. harmonious 3. respect 4. love 5. caring and sharing 6. non-violent atmosphere 7. good communication and understanding 8. use the "I message"	Discussion Write a short dramatic movie script involving the predicted effects of managing conflict properly. When using "I" message you state how you feel. Avoid blaming anyone.		• Plausible prediction. • Rubric for assessing oral presentations.
Find out the latest techniques in managing conflict.		Research information on the internet with citation in report written.	Internet	Rubric for assessing conducting research.
Construct a model with six basic steps to reduce conflicts.	1. Detach 2. Be curious 3. Fair hearing 4. Echo 5. Express 6. Find the win-win	Practice using steps in real life scenarios assigned.	Conflict Resolution: 6 Simple Steps http://www.care2.com/greenliving/conflict-resolution-six-steps.html	Rubric for assessing models.

SCOPE OF WORK
GRADE: 7
STRAND: HEALTHY LIVING

TOPIC: CONFLICT

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make an oral presentation on managing conflict.	Use strategies such as: • Avoidance/walk away • Negotiation/compromise • Diffuse using humor • Talk with a responsible adult or peer. • Mediation • Compromise	Preparation of oral presentation with props.		Rubric for assessing oral presentations.
Identify and adopt practices to manage/solve conflict.	• Listen to others' point of view • Ask for clarification when there is misunderstanding • Lower tone of voice • Do not spread gossip • Avoid teasing or belittling others • Apologize, negotiate to diffuse conflict etc.	• Discussion • Skit		Long-term behaviour.
Demonstrate positive social skills that prevent conflict.	Positive skills such as: • Listen to others • Respect self and others • Express self truthfully and clearly • Honest • Non-judgmental • Avoid gossiping and belittling others	Write a letter to a friend (who is usually confrontational with others) informing him/her of the skills he/she needs to develop in order to demonstrate positive social skills that would prevent conflict.		Number of appropriate/relevant skills, persuasiveness of writing, benefits highlighted.
Compare the effect of exposure to adequate conflict reduction management strategies versus very little exposure on contemporary Bahamian society.	The more exposure to effective conflict resolution strategies, the more effectively conflicts are resolved peacefully. Little exposure to effective conflict resolution, the greater the chances are to end in violence etc.	Discussion of real-life Bahamian situations followed by skits.		Rubric for assessing oral presentations.

SCOPE OF WORK
GRADE: 7
STRAND: HEALTHY LIVING

TOPIC: DENTAL HEALTH DURATION: 5 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe and identify the layers in a L. S. of a tooth.	Canine and premolar-enamel, dentine, pulp, blood vessels, nerve cells, cement, jaw bone, gum	• Observe diagrams of L. S. tooth. • Make an annotated diagram of L. S. tooth.	Posters, text/resource books, worksheet	Rubric for assessing visual aids.
Describe the process of tooth decay.	Bacteria live around teeth. Bacteria break down sugars to form an acid. The acid corrodes the tooth forming a hole. Food particles are trapped in the hole with further bacterial action causing a carie. The hole could deepen to the pulp which could cause bleeding and pain (exposure of the blood vessels and nerve cells).	• In groups, read information from more than one source. • Prepare a visual aid (comic strip, poster or slide show) to show the process of tooth decay.	text/resource books	Rubric for assessing visual aids.
Formulate a hypothesis as to whether dental caries are more common in junior high school boys or girls.	Research guideline with grading system and define hypothesis with examples. Hypothesis: Dental caries are more common in junior high boys than junior high girls (vice versa).	• Discussion • Formulate hypothesis	Oxford Dictionary Internet	Formulation of a hypothesis.
Conduct a survey to determine the number of dental cavities in boys vs. girls in the class.	Type of questions for survey.	• Students interview each other and get permission to count cavities in each other's mouth. • Record information	Students of the class	Rubric for conducting investigations.
Construct a bar graph of data collected from a survey on dental cavities of boys and girls in a class.	Ways to construct bar graphs with examples.	Collect information from survey and construct bar graph.	*Biology for CXC*	Construction of bar graph accurately from data collected.

SCOPE OF WORK
GRADE: 7
STRAND: HEALTHY LIVING

TOPIC: DENTAL HEALTH

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Calculate the average number of dental cavities seen in boys vs. girls.	Calculate the average as the sum of figures in a set divided by the number of figures in the set.	Calculate the average number of dental cavities seen in boys vs girls in the class.	*STP Caribbean Mathematics*	Calculation of average.
Interpret findings of the survey on the number of dental cavities.	Define "interpret" with scientific examples.	Interpret findings from the survey.	Oxford dictionary	Interpret findings.
Calculate the average number of teeth for classmates.	Process for calculating averages.	• Determine the number of teeth each student in the class has. • Calculate the average number of teeth.		Rubric for collecting and processing data.
Use the correct names for common dental disorders of the teeth and gums.	Gingivitis, pyorrhea, "double row" impacted teeth, abscess.	Make an oral presentation on common dental disorders of the teeth and gums.		Rubric for assessing oral presentations.
Make a visual presentation on the differences between plaque, tartar, cavities and gingivitis.	Gingivitis – gums are infected by bacteria, swollen and sore; plaque – sticky "paste" containing bacteria onto teeth and between teeth and gums; tartar – "paste" but hardened; cavity – hole caused by acid from the action of bacteria on sugary foods.	Make a visual presentation on the differences between plaque, tartar, cavities and gingivitis.	*Human Form & Function* Internet Resource books	Rubric for assessing visual presentations.
Find out the treatment to remove plaque and tartar build up.	• Brushing and flossing daily • Fluoride • Yearly dental checks • Special dental procedures • Eat more vegetables that are required to be chewed longer, less sugary foods	• Preparation of questionnaire to interview a local dentist. • Interview local dentist on procedures to remove or prevent the buildup of plaque and tartar.	• Information from local dentist • *Human Form and Function*	Rubric for assessing/conducting investigations.

SCOPE OF WORK
GRADE: 7
STRAND: HEALTHY LIVING

TOPIC: DENTAL HEALTH

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Research different methods of teeth replacement.	Removable dentures, bridge, implant, crown, root canal.	• Conduct research to find out different methods of teeth replacement. • Dentist/Dental hygienist as guest speaker or field trip to dental clinic. • Prepare a brochure (low reading level) to inform persons of options in replacing/fixing damaged teeth.	Internet Interviews (dentist/dental hygienist/persons with procedures)	Rubric for assessing visual aids.
Make an oral presentation on the importance of maintaining proper dental hygiene.	Good hygiene – healthy gums and teeth, longevity of teeth, good breath. Bad hygiene – tooth decay, bad breath, loss of teeth, gum infections, pain, swollen face, dental expenses.	• Make an oral presentation on the importance of maintaining proper dental hygiene.		Rubric for assessing oral presentations.
Recognize and explain the relationship between poor dental hygiene and the complications that follow.	Poor dental hygiene as a result of : • Not brushing and flossing daily • Poor diet • Too much sugar etc. Complications – cavities, build up of plaque & tartar, abscesses, gingivitis, bleeding gums all caused by action of bacteria on food left on/around teeth.	• Small group discussion. • Write a short essay to explain the relationship between poor dental hygiene and the complications that follow.	*Human Form and Function* *CXC Human and Social Biology*	Rubric for assessing oral (written preparation) presentations – number of points, logical sequencing, clear relationship shown.

SCOPE OF WORK
GRADE: 7
STRAND: HEALTHY LIVING

TOPIC: DENTAL HEALTH

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Plan and conduct an investigation to determine whether the amount of sweets consumed has an effect on the occurrence of dental caries.	Variables constant; types of sweets to be counted, vary frequency/quantity of sweets eaten and drank.	• Target group (age, gender) • Number of respondents • Questionnaire • Analysis of data • Conclusion formed		Rubric for assessing/conducting investigations.
Identify variables in an investigation to determine whether the consumption of sweets has an effect on the occurrence of tooth caries.	Type of sweet, level of hygiene (brushing, flossing).	Identify variables in an investigation to determine whether the consumption of sweets has an effect on the occurrence of tooth caries.		Variables correctly identified.
Identify and adopt good dental hygiene practices to maintain healthy teeth and a beautiful smile.	• Flossing and brushing after meals • Eat more fruits and vegetables over sweets • Use fluoride toothpaste • Six months to yearly dental cleaning and checks	• Discussion • Create a comic strip on the care of the "Teeth Family"	• *Human Form and Function* • Information from local dentist	Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 7
STRAND: HEALTHY LIVING

TOPIC: PHYSICAL FITNESS DURATION: 2 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a pamphlet promoting exercise to keep healthy.	Routine, breathing, heartbeat, strength, improved circulation, stress relief, improved mental functioning.	• List the benefits of exercising • Make a pamphlet promoting exercise to keep healthy.		Rubric for assessing visual aids.
Adopt and maintain an exercise routine.	Exercise routine to suit age, physical ability, schedule, environment.	Adopt and maintain an exercise routine.		Long-term practice.
Identify variables in an investigation to determine whether adequate number of hours of sleep has an effect on students' performance at school.	Age group/reading level, responsibilities at school, extracurricular, home environment, exercise routine, BMI, diet, time of last meal, (thyroid activity – normal)	Identify variables in an investigation to determine whether adequate number of hours of sleep has an effect on students' performance at school.	*Human Form & Function*	Number of variables correctly identified.
Adopt and maintain the number of hours of rest/sleep recommended for the age group.		Adopt and maintain the number of hours of rest/sleep recommended for the age group.		Long-term practice.
Identify variables in an investigation to determine whether the level of physical exercise has an effect on students' weight.	Age group, family BMI, diet, number of meals & snacks per day, time of last meal, (thyroid activity – normal)	Identify variables in an investigation to determine whether the level of physical exercise has an effect on students' weight.		Number of variables correctly identified.

SCOPE OF WORK
GRADE: 7
STRAND: FOOD

TOPIC: FOOD HANDLING DURATION: 3 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Explain how food could become a source of ill-health.	Eating or drinking food containing harmful micro-organisms (bacteria, fungi), pesticides, toxins produced by bacteria or moulds.	Record ways food eaten by them in the last day may have been contaminated. Compile a list (as a class). Discussion	*Nutrition Made Simple*	Number of valid sources of contamination.
Classify personal gear worn to ensure hygienic conditions during food preparation.	Head wrap, apron, gloves	Identify personal gear. Match personal gear to hygiene. Match personal gear to means of prevention of food contamination.		Personal gear correctly matched with means of preventing food contamination.
Make an oral presentation to show the importance of using proper apparel when preparing food.		Make an oral presentation or participate in a skit to show the importance of using proper apparel when preparing food.		Rubric for assessing oral presentations.
Predict the effect of using unclean utensils while preparing uncooked food.	Bacteria and spores of moulds are found everywhere. Heat kills bacteria and moulds (germs); unclean utensils could transfer the germs to uncooked food.	Predict the effect of using unclean utensils while preparing uncooked food.		Clearly stated valid prediction with logical reasons.
Demonstrate healthy practices in food handling.	Cleaning surfaces before and after, cleaning utensils, use pots that are not rusty and have smooth surfaces; wash hands thoroughly and frequently; use gloves & hair wraps, avoid touching face, use clean spoon each time for tasting, bathe regularly.	Role play	*Home Economics A Caribbean Approach Book 1*	Rubric for assessing oral presentations (skits).

SCOPE OF WORK
GRADE: 7
STRAND: FOOD

TOPIC: FOOD HANDLING

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Identify unhealthy food handling practices.	Sneezing, coughing, talking or singing while handling food, exposed cuts or bruises (or not covered with clean water-proof covering, handling food while suffering from chicken pox, diarrhea or gastro-enteritis, long fingernails with no gloves, scratching hair.	Brainstorming Draw a cartoon to show common, unhealthy food handling practices and the negative effects.	*Home Economics A Caribbean Approach Book 1*	Rubric for assessing visual aids.
Describe the relationship between unhealthy food handling practices and disease transmission.	Germs or their waste products (toxins) cause diseases when ingested. Germs transmitted from direct contact (hands), fluids (perspiration, saliva), hair, clothing.	Construct a graphic organizer showing the relationship between unhealthy food handling practices and disease transmission.	*Home Economics A Caribbean Approach Book 1*	Direct relationship shown.
Make predictions about possible microbe cultures from the nails of "clean" hands.		Make predictions about possible microbe cultures from the nails of "clean" hands.	*Human & Social Biology for the Tropics*	Plausible predictions with logical reasons.
Make a model to show healthy practices in food handling.		Make a model to show healthy practices in food handling.		Rubric for assessing models.
Use food handling practices that promote health and safety.	Keep face away from pan when removing lids/covers, handle sharp utensils with care, avoid frying wet foods, keep flames under – not around saucepan.	Use food handling practices that promote health and safety.	*Home Economics A Caribbean Approach Book 1*	Long-term behaviour.

SCOPE OF WORK
GRADE: 7
STRAND: FOOD

TOPIC: FOOD HANDLING

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Construct a bar graph to show the groupings (reasons for enrollment) of persons who took the Food Handlers course in the community during the last training course.	Food vendors, restaurant workers, persons working at food stalls during fairs, regattas or home-coming events.	Interview local Ministry of Health personnel to find out the grouping and numbers in each group that participated in the Food Handlers course. (If none available, use New Providence data). Construct a graph to show the relative numbers in the groupings.	Nurse or Ministry of Health Healthy Lifestyles/Nutrition Division. Food Handlers Clinic, Department of Public Health.	Rubric for processing data.
Pose a question of interest related to food handling and conduct relevant research.		Pose a question of interest related to food handling. Conduct relevant research.	Home Economics textbooks, magazines, television programmes, library, Internet.	Relevancy of question and evidence of critical thinking. Rubric for conducting investigations.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: CELL ORGANISATION DURATION: 6 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a temporary (wet) slide of epithelial (cheek) cells.	Epithelial cells form the lining of the mouth walls. They are thin and easily removed.		Toothpicks, glass slides, cover slips, water, methylene blue (stain), wash bottles, dropping pipettes, hand towels	Rubric for assessing handling apparatus & materials.
Use a microscope to observe a temporary (wet) slide of epithelial (cheek) cells.	Care for compound microscopes. Steps in setting up microscopes. Steps in use of a microscope to observe specimens on a slide.	Teacher demonstration – use of microscope. Students – drill practice in use of microscope. Students use microscopes to observe cheek epithelial cells.	Compound microscopes (light sources).	Number of correct steps taken in using the microscopes.
Make a diagram of epithelial cells.	Outline diagram with shading to show relative density/colours for: nucleus, cytoplasm and membrane.	Make a diagram of epithelial cells.		Differentiation of three parts of the cell, shape of cells drawn.
Identify cell organelles.	Nucleus – controls the activities of the cell. Cytoplasm – chemical activities, medium for organelles. Membrane – covers & protects cell contents, controls substances entering and leaving cell.	Identify cell organelles in diagrams, photomicrographs and microscopic specimens.	Posters of cells, diagrams in textbooks showing a variety of cells. Epithelial cells specimen.	Organelles correctly identified in each diagram.
Make a model of a cell showing major organelles.	As above	Make a model of a cell showing major organelles.	Styrofoam, toothpicks, coloured paper, scissors, glue, plastic (different colours).	Size proportions of cell organelles. Inclusion of organelles. Shape of cells.
Identify specialized cells.	Sensory neurone, motor neurone, red blood cell, white blood cells (two types), sperm cell, ovum.	• Observe specialized cells. • Identify specialized cells.	Posters showing various specialized cells: diagrams of various cells in textbook. worksheet	Specialized cells correctly identified.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: CELL ORGANISATION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Relate the shape of specialized cells to their functions.	Neurons are long to allow quick passage of messages, blood cells – flexible to pass through capillaries, WBCs no fixed shape, engulf pathogens, RBC increased surface, sperms – long tail for mobility, ova – large increase chances of fertilization.	Brainstorming (think-pair-share) in pairs. Complete worksheet	Worksheet	Valid features of cells, valid functions of the cells, plausible relationships shown/reasons given.
Make scale diagrams of a spermatozoan, an ovum and a sensory neurone.	Comparative sizes of the cells.	Measure and record the length of drawings of: a spermatozoan, an ovum and a sensory neurone. Select & note a suitable scale. Make drawings according to the scale.	Diagrams of spermatozoa, ova and sensory neurons (textbook).	Appropriate scale used. Accuracy of drawings (length of cells).
Classify tissue based on cells observed.	Epithelium, blood, nerve, bone.	Use diagrams of cells studied to classify/name type of tissue.	Diagrams/prepared slides of tissue – blood, bone, nerve, muscle, epithelium.	Number of tissues correctly identified.
Make a model showing the relationship between cells, tissues, organs and body systems.	Many cells found together form a tissue. Tissues are connected to form a structure/an organ. Organs that are connected and work together for one function form a body system.	• Name a variety of organs. • Identify the main tissues in each organ. • Name organs that work together. • Match organs with body systems. • Make a model showing the relationship between cells, tissues, organs and body systems.	Diagrams, pictures, scissors, glue, paper Worksheet Construction paper (Flow Chart)	Relationship between cells, tissues, organs and systems clearly shown.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: SKELETAL SYSTEM DURATION: 7 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Predict what would happen to the body if the skeleton disappeared.	No shape, no support; lack of protection of internal organs, movement changed, no new red, white blood cells, lack of oxygen in the body, less reserve for calcium and phosphorus.	• Students close their eyes and imagine their bodies without a skeleton. • In small groups, students demonstrate their bodies without the skeleton.	Chart of the Human Body.	Number of valid points made or demonstrated.
Identify the functions of the skeleton.	Gives the body its shape, provides support, protects internal organs, allows movement of the body, bone marrow produces blood cells, reserve for calcium & phosphorus.	• Class discussion based on predictions. • Add notes to a diagram of the skeleton.	Diagrams of the Human Skeleton.	Number of functions identified and correctly matched with parts of the skeleton.
Relate the structure of the skeleton to its functions.	Flat bones – protection Long bones (limbs) – movement Joints – movement Long bones (marrow) – blood cells	• Identify parts concerned with movement – give general description. • Identify parts concerned with protection – give general description. • Identify parts concerned with making blood cells – give general description. • Identify parts that provide the overall shape of the body – give general description.	Worksheet	Valid descriptions given that relate the appearance of bones to a given function.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: SKELETAL SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Construct a table comparing common names to scientific names for bones.	Skull - cranium Collar bone - clavicle Shoulder - scapula Breast bone - sternum Back bone - vertebrae Upper arm - humerus Lower arm - radius (connects to thumb) and ulna (connects to pinky finger) Wrist - carpal Hand bones - metacarpals Fingers & toes - phalanges Ribs - ribs Hips - pelvis Thigh - femur Knee - patella Lowe leg - tibia (shin bone) & fibula (smaller bone) Ankle - tarsal Foot bones - metatarsals	• Students will make a model of the skeleton on construction paper. On one side they will write the common names and on the other side write the scientific names of the skeleton. • Draw a table matching common names to the scientific names.	Chart Paper clips Diagram of skeleton Model of skeleton	Accuracy of labeling. Number correctly matched.
Use scientific names for major bones.	As above.	• Vocabulary-building exercises including pronunciations. • Complete puzzle(s).	Word search, crossword puzzles, poster of Human Skeleton	Correct pronunciations and spelling for vocabulary.
Measure height of students in cm.		• In pairs, students measure the height, in cm, of each other. • As a class, list students in height order (with measurements).	Metre rulers, measuring tape (metric)	Measurements taken to 1.0 cm. accuracy.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: SKELETAL SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Measure the length of various bones.	Humerus, femur, tibia, radius, ulna	• Measure the length of various bones. • Compare the length of various bones.	Metre rulers, measuring tape (metric).	Measurements taken to 1.0 cm. accuracy.
Make a model of the human skeleton.	Skull, vertebral column, rib cage, pectoral and pelvic girdles, limb bones.	Make a model of the human skeleton.	Construction paper, thumb tacks, staples, scissors and markers.	Number of main parts included, size proportions, flexibility of joints.
Construct a functional model of vertebrae.	33 bones make up the vertebral column 7 cervical vertebrae 12 thoracic vertebrae 5 lumbar vertebrae fused sacral vertebrae coccyx or 'tail' vertebrae	Construct a functional model of two vertebrae with cartilaginous discs.	Model and picture of vertebrae, vertebral column.	Rubric for assessing models.
Observe the range of motion of different joints.	Ball & socket – free rotation Hinge – back and forth movement Gliding – slight movement Immovable – fixed Pivot – side to side motion Pivot eg. Neck	• In pairs, students demonstrate movement of various joints (shoulder, hip, knee, elbow, fingers, toes, ankles, wrist, backbone, neck) • Describe the movement of each joint.	Model of skeleton with moveable joints.	Description of movement of each joint.
Classify joints according to the type of movement.	Ball & socket – shoulder, hip Hinge – elbow, knee Gliding – backbone, fingers, toes Immovable – pelvis, cranium	Classify joints according to the type of movement.		Joints observed correctly classified in one of the four main groups.
Make models of the different types of joints.		Make models of the different types of joints.	Textbook	Rubric for assessing models.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: SKELETAL SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Predict the effect of loss of cartilage in joints of a human.	Cartilage prevents bones from rubbing together, therefore painful movement. Loss causes reduced range of motion, and swollen joints, wearing of bones.	Have students dramatize a body without cartilage, and describe what the body would look and feel like.	Pictures	Plausible predication.
Plan and conduct a simulated investigation to determine the effects of lubrication on the joints.	No lubrication, the joints rub together, and eventually wear down. This leads to arthritis.	Plan and conduct a simulated investigation to determine the effects of lubrication on the joints.	Internet Sticks of chalk, petroleum gel/cooking oil.	Rubric for assessing experimental investigations.
Formulate a hypothesis as to what would happen if the cartilage between vertebrae is displaced.	Cartilage acts as padding between vertebrae. Slipped disc would develop.	Formulate a hypothesis as to what would happen if the cartilage between vertebrae is displaced.	Diagram or model of vertebral column.	Plausible hypothesis.
Formulate a hypothesis on whether the body compensates if the cartilage in the knee is destroyed.	Arthritis would develop.	Formulate a hypothesis on whether the body compensates if the cartilage in the knee is destroyed.	Internet	Plausible hypothesis.
Use microscope to observe different tissues.	Bone, cartilage.	• Use microscope to observe different tissues. • Sketch the features of each tissue.	Compound microscopes, prepared slides of bone and cartilage tissues.	Correct use of the microscope.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: SKELETAL SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Recognize and explain the relationship between healthy bones, cartilage, ligaments and tendons.	Cartilage is a softer skeletal material than bone. Cartilage gives shape. Cartilage found at the end of bones to prevent friction. Ligaments connect bones. Ligaments are stretchy. Tendons connect muscle to bone. Tendons are not elastic.	• Label parts of a synovial joint • Colour code bones, cartilage, tendons and ligaments. • Use materials to represent organs and tissue e.g. pencils/pens – bones large rubber bands – muscles small rubber bands – ligaments wire – tendons eraser – cartilage to show the relationship between the organs/tissues. Explain why each tissue is most effective in its locations and function.	Diagrams of a synovial joint (knee) Elastic bands	Valid explanations given for function of ligaments, tendons, cartilage and bone.
Identify and adopt practices to maintain a healthy skeleton.	Diet containing protein, calcium, phosphorus. Posture – sitting, standing, lying.	• Brainstorming (class) • In small groups, make a pneumonic device	*Human Form & Function*	Pneumonic device.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: THE MUSCULAR SYSTEM DURATION: 6 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Explain the functions of muscles.	Muscles help our body to move. Muscles help our heart to beat. Muscles found in internal organs control automatic actions e.g. food digesting, breathing etc., Produce heat - keep body temperature stable. Maintains posture	• Make or colour muscles. • Explain the actions of muscles while using an elastic band to demonstrate their functions.	Elastic bands, pencils Other art supplies	Rubric for assessing oral presentation or assessment of visual aids.
Classify muscles as voluntary or involuntary.	Skeletal muscles attached to skeleton, perform voluntary/conscious movements. Smooth muscles and cardiac muscles are classified as involuntary muscles - automatic movement without your knowledge or control.	• Make a list of ten voluntary and involuntary actions. • Locate muscles that are involved with each action. • Classify the muscles used for each action. • Complete a summary table.	Posters of muscular system Diagrams of muscular system	Correct classification of muscles.
Compare voluntary and involuntary muscles.	Appearance of cells, location, control.	Complete a Venn diagram.	Venn diagram (outlines)	Points correctly placed in diagram.
Predict what would happen if cardiac and skeletal muscles stopped working.	Cardiac muscles cause the heart to beat. Skeletal muscles help form the framework of the body and are responsible for movements of parts of the body and the whole body.	• Make a list of predications • Class compiles a list.	*Human Form and Function*	Plausible predictions.
Classify muscles based on location.	As above	Label muscles (colour code) as skeletal, cardiac or smooth.	Diagram of skeleton with muscles outlined.	Correct classification.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: THE MUSCULAR SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe and identify how antagonistic muscles work.	Antagonistic muscles work in pairs. When one contracts, the other relaxes. Muscles only pull on bone; they do not push on bones.	• In pairs, observe flexing of arm. • Observe action of antagonistic muscles in model joints. • Identify pairs of antagonistic muscles.	Textbooks Model of moveable joint. Video of muscles moving a limb. Diagrams of the Muscular System.	Antagonistic muscles correctly identified.
Recognize the relationship between the movements of antagonistic muscles.	As above.	• Observe a model when efforts are made for antagonistic muscles to work in the same manner. • Describe the nature of the malfunction.	Model of moveable joint with attached antagonistic muscles.	Relationship with antagonistic muscles working opposite clearly described.
Measure length and width of a biceps muscle when contracted and relaxed.		In pairs, measure length and width of a biceps muscle when contracted and relaxed.	Measuring tape (metric)	Accuracy of measurements to 1 cm.
Recognize the relationship between skeletal muscles and bones.	Bones cannot move; muscles contract to move bones that are attached.	Recognize the relationship between skeletal muscles and bones.	Textbooks	Relationship clearly and correctly stated.
Use scientific names to identify major muscles.		• Locate muscles on diagrams • Label muscles • Complete puzzles	Diagrams of muscular system Puzzles (muscular system)	Scientific names for muscles correctly used.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: THE MUSCULAR SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use microscope to observe different tissues (cardiac, smooth, and skeletal muscle tissue).		• Use microscope to observe different tissues (cardiac, smooth and skeletal muscle tissue).	Compound microscope, prepared slides of cardiac, smooth and skeletal muscle tissue.	Correct use of microscope.
Make a model of the forearm inclusive of the bones, muscles, cartilage, ligaments, and tendons.		Make a model of the forearm inclusive of the bones, muscles, cartilage, ligaments, and tendons.	Craft materials Textbooks	Rubric for assessing models.
Identify and adopt practices to maintain healthy muscles.	Good diet (protein, minerals), exercise (tone), posture	• Read text/reference books. • Complete matrix identifying practices to maintain healthy muscles on worksheet. • Adopt practices to maintain healthy muscles.		Practices correctly identified. Long-term practice.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: THE MUSCULAR SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Based on the number of hours usually spent exercising, draw a conclusion on the health of teachers.	The equivalent of 20 – 30 minutes brisk exercise daily maintains good health.	• Take a survey of teachers to determine the range and the average number of hours spent exercising per week. • Draw a conclusion based on the data collected.	Notepad	Valid conclusion based on data.
Draw a conclusion about a person's physical fitness based on muscular (anatomy) tone.	Muscle tone refers to the firmness of the muscles. Muscle tone is improved through regular exercise.	• Observe classmates' biceps • Observe photographs of body builders, beauty queens and persons in swimsuits • Draw a conclusion about a person's physical fitness based on muscular (anatomy) tone.	Photographs of persons of various ages and shapes/sizes in swimsuits.	Valid conclusions drawn based on observations.
Make a poster showing the suggested biomass figures for common heights for male and female classmates.	Biomass is a number which relates a person's height to weight. A high ratio indicates overweight for the height. Higher biomass indices lead to ill-health.	• List height and weight for classmates. • Use a table of values to find the BMI for given height and weight. • Discuss the formula to calculate the BMI. • Make a poster showing the BMI for classmates.	Chart of BMI values.	Rubric for assessing visual aids.
Make a poster showing good and bad posture.		Make a poster showing good and bad posture.	*Human & Social Biology for the Tropics* Photographs, drawings	Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: THE MUSCULAR SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make an oral presentation describing the negative effects of bad posture.	Good posture – body is held correctly so that there is only slight tension in the muscles. Muscle tone describes tension of the muscles in a healthy condition. Muscles never completely relax otherwise the body would collapse. If both antagonistic muscles at a joint have healthy muscle tone, then the joint is held firmly. Bad posture puts a strain on the muscles in the body. To limit muscle strain, the center of gravity in the body should lie directly over the feet and the parts of the body should be equally distributed on either side of a vertical line. In this position a minimum of effort has to be made by the different muscles acting antagonistically to give support. Poor posture puts a strain on muscles and they lose their tone. The circulation of the blood, breathing and digesting can also be affected. Bad posture while standing is caused by high heel shoes. People who suffer from obesity put much strain on the skeleton, particularly the joints.	Make an oral presentation describing the negative effects of bad posture.	Poster of good and bad posture. Pictures of good and bad posture.	Rubric for assessing oral presentations.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: FITNESS DURATION: 3 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Conduct a survey to determine the percentage of persons interviewed who are at the correct Body Mass Index.	Body Mass Index (BMI) is a number representing the ratio of a person's height to weight. A table of BMI indicates correct, higher and lower BMI.	• Conduct a survey to determine the height and weight of persons of a given age group and gender. • Use a BMI table to determine the percentage of persons interviewed who are at the correct Body Mass Index.	Questionnaires BMI table	Rubric for assessing/conducting investigations (surveys). Rubric for assessing/collecting and processing data.
Use data to calculate BMI.		Use data to calculate BMI.		Rubric for assessing/collecting and processing data.
Construct graphs to show height and weight data of classmates.	Histograms for BMI of girls, boys.	Construct graphs to show height and weight data of classmates.		Rubric for assessing/collecting and processing data.
Make a decision to attain and maintain the personal BMI recommended for healthy living.		Make a decision to attain and maintain the personal BMI recommended for healthy living.		Long-term behaviour.
Calculate the average number of hours per week teachers spend exercising.		• Conduct a survey to determine number of hours per week teachers spend exercising. • Calculate the average number of hours per week teachers spend exercising.		Rubric for assessing/collecting and processing data.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: FITNESS

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Identify variables in an investigation to determine whether the level of physical exercise has an effect on students' weight.	Age, gender, diet (type and quantity), thyroid activity, stress level.	Identify variables in an investigation to determine whether the level of physical exercise has an effect on students' weight.		Variables correctly identified.
Identify variables in an investigation to determine whether the number of calories used depends on the level of activity.	Age, gender, thyroid activity, stress level.	Identify variables in an investigation to determine whether the number of calories used depends on the level of activity.		Variables correctly identified.
Recognize the relationship between exercise and fitness/good health.	Muscles in good condition, reduces risk of obesity, improved breathing and blood circulation, reduce stress, sleep better, supple joints.	• List advantages of regular exercise routine. • Describe the relationship between exercise and each advantage. • Write a poem/song/rap highlighting the relationship between exercise and fitness/ good health.	*Human Form and Function*	Rubric for assessing oral presentations.
Make a pamphlet promoting exercise to keep healthy.	As above.	Make a pamphlet promoting exercise to keep healthy.		Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: FITNESS

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Read a bathroom scale to one pound/kilogramme.		• Use a bathroom scale to measure the weight of group members. • Read a bathroom scale to one pound/kilogramme. • Record measurements.	Bathroom scale	Accuracy of measurements.
Read a ruler to one centimeter.		• Use a ruler to measure the height of group members. • Read a ruler to one centimetre. • Record measurements.	Ruler	Accuracy of measurements.
Identify and adopt practices to keep physically fit.	Balanced diets, moderate eating and drinking, exercise routine, hobbies, rest, posture.	• Identify practices to keep physically fit. • Adopt practices to keep physically fit.		Practices correctly identified. Long-term behaviour.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: NUTRITION DURATION: 13 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Explain the relative proportions of food groups in the food pyramid/ drum.	A food pyramid is a guide that helps in planning types and relative proportions of foods to be consumed each day. The area of each section represents the relative proportion of that food group which is needed.	Class discussion. Worksheet on the Food Drum and/or Food Pyramid.	Food pyramid or drum chart, worksheets Nutrition Unit, Ministry of Health	Correct responses given on worksheet.
Use a triple beam balance to measure servings of food in grams.	Food servings can be quantified in serving sizes: cups, or grams. Grams provide exact measurement of food for consumption.	Measure commonly eaten foods from all food groups. Compare grams versus cups versus servings.	Triple beam balance, Internet, beakers, Petri dishes, evaporating dishes.	Use of apparatus, accuracy of measurement.
Make a food drum.	As above.	Construct a food pyramid or drum.	Paper, markers, stencils, newspaper, cardboard, glue, brushes.	Rubric for assessing models.
Make a decision to limit intake of food to recommended servings.	Servings of foods as indicated by food pyramid/drum.	Choose the correct serving size of common foods based on recommendations.	Food pyramid, measuring apparatus, photographs.	Long-term behaviour.
Make a model (other than a drum or pyramid) that represents proportions of food groups in a balanced diet.	See food pyramid or drum for relative proportions.	In groups, decide on a figure/shape and proportions, then make a model (other than a drum or pyramid) that represents proportions of food groups in a balanced diet.	Chart paper, glue, newspapers, magazines, cardboard, paint brushes.	Rubric for assessing models.
Use features to classify foods as starch, fat, simple sugars or fibre.	Outward appearance (colour, consistency, feel), chemical tests Starchy – grains, pastries Fat- meats, oils Sugar – fruit, desserts, candies Fibre – vegetables, fruit	• Classify food based on features. • List features used to classify foods.	Various foods.	Criteria for classification.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: NUTRITION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Distinguish between saturated and unsaturated fats.	Fat that occurs naturally in living matter contains varying proportions of saturated (animal) and unsaturated (plant) fat.	Make a list of foods that contain saturated and unsaturated fats.	Biology and nutrition resource books.	Foods correctly classified according to the main type of fat content.
Make menus for balanced diets.	A balanced diet consists of food from all food groups in their required amounts.	Make menus for hypothetical restaurants/special occasions (birthday, wedding, class party). List foods from each food group.	Paper, markers, stencils.	Menu – balanced diet and appropriate menu for occasion.
Make an oral presentation on the importance of a balanced diet.	Adequate nutrients from all food groups prevent malnutrition and other bodily dysfunctions.	Oral presentation (small groups).		Rubric for oral presentation.
Conduct a survey of classmates' diet for a week to determine the number of students whose diet is balanced (food pyramid/drum).	A balanced diet consists of food from all food groups. A matrix for each student to include number of servings required, for each food group and space to enter the actual servings taken in.	Complete individual student's sheet. Compile data into one matrix. Determine the number of students whose diet is balanced (food pyramid/drum).	Handout with servings shown for common foods/drinks, survey matrix.	Data and correct compilation of number of students with balanced diet.
Compare the nutrients found in each of four food samples (meat, white fish, whole wheat bread, and baked beans) by constructing a bar graph.	Nutrients include carbohydrates, fats, proteins, minerals, vitamins, and water.	Construct a bar graph comparing food and the nutrients in them.	Food items (meat, white fish, whole wheat bread and baked beans), or food labels.	Rubric for assessing processing data – bar graphs.
Read a newspaper or magazine article on the nutritional value of a food.	Local and international literary materials.	Write a short report.	Newspapers, magazines, fast food nutrition facts, food labels.	Comprehension of information, simply and clearly written report on the article with personal comments.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: NUTRITION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Read and interpret nutrition fact labels on foods.	Nutrition facts are found on (most) packaged food labels. They contain important information about the nutrients found and the quantity in food.	Clip and compile nutrition facts from food labels. Peruse newspapers, magazines for articles on nutritional value. Acquire nutrition facts from popular fast food restaurants. Compare the nutrient values of different foods.	Newspapers, magazines, fast food nutrition facts, food labels.	Appropriate method of recording the nutrient value of different foods.
Evaluate the nutritional value of a meal.	Nutritional value of foods is based on the amount of useful nutrients found in them. These are often shown on food labels.	List nutrients found in common foods and the relative amount.	Food labels (four).	Number of points made with supporting reasons.
Make a menu for a restaurant for teenagers.	A balanced diet consists of food from all food groups in their required amounts.	Make menus for hypothetical restaurants/special occasions (birthday, wedding, class party). List foods from each food group.	Paper, markers, stencils.	Menu – balanced diet and appropriate menu for occasion.
Make a healthy, economical, marketable snack using locally grown food materials.	Fresh or processed e.g. sauces/balls, chips, fruit/veggie mixtures – potato, cassava, yam, carrots, sapodilla, banana, plantain, breadfruit etc.	• Recipe • Snack	Recipes using similar food source, packaging for snack.	Attractiveness, inexpensive materials, easily available local materials, healthiness.
Make a healthy drink using locally grown fruit/vegetables.	Healthy drinks are rich in nutrients (vitamins), as natural as possible without many additives.	Compile/share recipes. Use fruits vegetables to make a healthy drink (at home).	Fruits, vegetables, ice, spoons, cups, blender.	Recipe for drink.
Use spotting tiles and iodine to test for starch in foods.	Iodine solution reacts with cooked starch, producing a deep purple or blue/black colour.	Test food items for starch.	Spotting tiles, iodine, starch-rich foods.	Use of apparatus, observations made.
Observe a positive (colour) food test for starch.	Iodine solution reacts with starch, producing a deep purple.	As above.	As above.	Observations made and recorded.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: NUTRITION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use ethanol to test foods for fat.	When ethanol is used to test for fats in foods, ethanol causes the oil to emulsify, giving a translucent appearance indicating the presence of oil (or fat) in the food sample.	Add ethanol to oil. Shake to mix then let stand and observe.	Ethanol, water, food samples, test tubes.	Observations made.
Observe a positive food test for fat.	When fats are rubbed onto a filter paper, a translucent spot remains, indicating the presence of oil (or fat) in the food sample.	Test food sample for fats.	Paper (filter), food samples.	Observations made.
Use food tests to determine the nutrients present in an unknown food.	Tests for starch and fat.	Test various foods for nutrients.	Mixture e.g. olive oil, corn flour and salt), iodine, paper (filter), test tubes, spotting tiles.	Rubric for investigations.
Conduct investigations to determine the nutrients in unknown food samples.	Tests for the presence of starch and fat.	Test unknown foods for nutrients.	Food samples (macaroni, cheese, grapes etc.), iodine, ethanol, paper (filter), test tubes, spotting tiles.	Rubric for conducting investigations.
Conduct investigations to determine the nutrients in locally grown foods.	Test for the presence of carbohydrates and fats.	Test locally grown foods for nutrients.	Food samples (slices of yam, sugar canes, cassava, sweet potato, aloe etc.), iodine, ethanol, paper (filter), test tubes, spotting tiles.	Rubric for conducting investigations.
Observe features of deficiency diseases in photographs.	Deficiency diseases for above mentioned nutrients.	Observe, then describe features of deficiency diseases.	Photographs	Accuracy of observations and descriptions.
Relate dietary diseases to a deficiency of specific nutrients.	As above. Vitamin A, B1, B6, B12, C, D, K Minerals iodine, iron, calcium, phosphorus, carbohydrates, protein	List deficiency diseases and the specific nutrient associated with them. Match deficiency diseases (photographs) with specific nutrients associated with them.	Worksheet	Match deficiency disease with deficiency of a particular nutrient.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: NUTRITION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Based on information given, suggest the deficiency disease caused.	As for previous learner outcome.	Discuss ways to prevent deficiency diseases. Use index cards (some with photographs others with description of deficiency disease) to identify the specific nutrients deficient in each case. Examine meals/diets to determine missing nutrient(s).	Index cards with photographs and descriptions of deficiency diseases. Meals or diets that are not balanced.	Correct identification of deficiency diseases.
Recognize the signs of severe malnutrition.	Swollen stomach, emaciated bodies and head, extreme listlessness.	• Observe photographs of persons showing signs of severe malnutrition. • Describe the signs.	Magazines, Internet, text and resource books.	Number and accuracy of signs described.
Draw a conclusion about a post-menopausal woman whose diet was deficient in calcium and phosphorus.	Calcium and phosphorus are instrumental in the development and maintenance of strong teeth and bones. There appears to be a relationship between aging and loss of calcium which causes weakening of the bones.	Brainstorm why people seem to become shorter with age and why bone fractures take longer to heal. List causes and features of osteoporosis.	Diagrams or photographs comparing changes in body features with aging.	Conclusions stated with reasons.
Predict the effects on the foetus of a pregnant woman taking in too little calcium and phosphorus in the diet.	Calcium and phosphorus are instrumental in the development of strong teeth and bones. Baby would probably develop rickets and thin layer of enamel on teeth.	Predict the effects on the foetus of a pregnant woman taking in too little calcium and phosphorus in the diet. Record the prediction.	Information on benefits of calcium and phosphorus in the diet. Worksheet	Plausible predictions with reasons stated.
Formulate a hypothesis on the importance of Vitamin D in the diet of pregnant women.	Vitamin D plays an important role in the maintenance of organ systems, uptake of calcium and bone growth.	List advantages and disadvantages of having vitamin D in the diet of pregnant women for the uptake of calcium.	Worksheet as above.	Plausible hypothesis with reasons stated.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: NUTRITION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
State a hypothesis on the shortening of a person's height in old age.		Observe photographs or sketches of persons at different ages in adulthood to compare the height at each stage.	Photographs, drawings, *Human Form & Function*	Clearly stated plausible hypothesis based on observations.
Predict the effect on a person if their body did not absorb calcium and phosphorus.	Effect on bones, general body function – bones more easily fracture, teeth readily decay and become damaged.	Predict how improper absorption calcium and phosphorus would affect a person's health.		Plausible predictions with reasons stated.
Predict the effects of increased specific nutrients on the body of a person with a specified deficiency disease.	Increasing intake of a specific nutrient should reverse the effects of a deficiency disease.	Predict the effects of increased specific nutrients on the body of a person with a specified deficiency disease.		Plausible predictions with reasons stated.
Explain the relationship between calorie intake, exercise and obesity.	The calorie is a measure of energy produced from the foods. Increased caloric intake results in obesity or mass storage of surplus energy-rich molecules as fat in the body. Exercise expends some of this stored energy, and the obese person loses weight.	Class discussion based on data showing persons' caloric intake and energy needed. Oral presentation. Make a flow chart.	Cardboard, paper, glue, scissors, markers, rulers. *Human and Social Biology for the Tropics* – P. Gadd	Clearly identified and explained relationships.
Predict the effects on the body of a diet with higher/lower calories.	A sustained diet of high calories could lead to obesity and related disorders. Low calorie diet could lead to listlessness, marasmus.	Record individual predictions then compile/compare them.		Valid predictions made.
Compare a western diet to eastern and Bahamian diets.	Asian diets tend to be mainly vegetables, beans and grains compared with the Americas – heavily meat diets.	Conduct research to find out staple dishes in Asian and American countries. Compare and contrast the diets.	Internet, magazines, cookbooks.	Rubric for assessing conducting research.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: NUTRITION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Predict the effects of different diets on the body.	Animal fat – obesity & cholesterol, hypertension, stroke, heart attack High salt – hypertension Carbohydrates – obesity, diabetes	• Observe meals that form different diets e.g. mainly grain, vegetables, meat. • Predict the effects of each type of diet on the body.		Plausibility and clarity of prediction.
Plan nutritionally-balanced meals to avoid dietary-deficiency diseases.	Nutritionally-balanced meals contain the necessary food nutrients in their required amounts.	Plan nutritionally-balanced meals (breakfast, lunch, dinner) to avoid dietary-deficiency diseases.		The amount of each necessary nutrient in the required amount.
Formulate a hypothesis on the effect mandatory healthy diets in schools would have on the young generation.	Cafeteria/lunch vendor menus. Young people tend to eat more sweets and less vegetables and fruits. Students may elect to eat their preferred foods after school or they eat what is available at school and develop a taste for healthy food.	Group discussion on advantages and disadvantages of monitoring foods sold at school. Formulate a hypothesis on the effect mandatory healthy diets in schools would have on the young generation.		Hypothesis clearly stated with plausible reasons.
Make a lifestyle change to eat healthy.	Use water as the primary beverage. Drink juices and milk instead of soft drinks. Reduce, or eliminate unnecessary or unhealthy snacking (“fast foods”, sugary and fatty foods).	Keep a daily food journal. List foods and times of ingestion. Have a fellow student highlight healthy /unhealthy food choices in different colours. Suggest healthy alternative food choices that can be made in the future.	Journal	Reflective entries in journal reflect attitude change. Long-term behaviour.
Justify whether food poisoning occurs only in certain seafood.	When certain fish and invertebrates feed on contaminated products or food containing heavy metals, they contain toxins.	• Conduct research to determine the most common seafood causing poisoning. • Find out the cause of the poisoning. • Justify whether food poisoning occurs only in certain seafood.		Sea foods correctly identified with valid sources of poisoning, logical reasons given.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: PARTS OF THE DIGESTIVE SYSTEM DURATION: 3 lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make an oral presentation on the purpose of mechanical digestion.	Food must be crushed into smaller pieces and churned into a liquid in order to flow through the alimentary canal easily.	Oral presentation.	LCD projector	Rubric for oral presentation.
Identify different parts of the Digestive System.	Mouth, salivary glands, tongue, teeth, esophagus, stomach, liver, pancreas, gallbladder, small intestine, large intestine (colon), rectum, anus.	Colour the parts of the digestive system. Name individual parts/or organs.	Charts, diagrams, models, handouts.	Observations made, correct labeling.
Make a model of the Digestive System.	Mouth, salivary glands, tongue, teeth, esophagus, stomach, liver, pancreas, gallbladder, small intestine, large intestine (colon), rectum, anus.	Make a (life-sized) model of the human digestive system using various materials.	Cotton, cardboard, paper, glue, scissors, glue, cardstock, construction paper, handouts, sheet, large roll of paper, leaf (pancreas), grocery bag (stomach).	Rubric for assessing models.
Use a microscope to observe villi.	Relative size, shape, colour.	Identify villus/villi. Draw villi and cross section of intestinal walls.	Charts, diagrams, models, handouts, microscope, prepared slides.	Use of apparatus, outline diagram of villi.
Make a model of villi.	Epithelial cells, blood vessels. Relative sizes and shapes of components	Model construction.	Cotton, cardboard, paper, glue, scissors, glue, cardstock, construction paper, handouts, sheet, large roll of paper.	Rubric for assessing models.
Observe features of pig “tripe”/ intestine.	“Tripe” is the common name referring to the long, narrow, white intestine of sheep, cows, pigs. The inner wall lining is rough with “bumps”.	Observe outward appearance and use hand lens to observe surface of inner lining. With the aid of diagrams describe the features of “tripe”.	Sheep, cows, pigs stomach lining (tripe) and intestines.	Written description and diagrams.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: DIGESTIVE PROCESS DURATION: 7 lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use a string to compare the length of the small intestine to the large intestine.	Small intestine is roughly 6 meters long, the large 1.5 meters. The diameter (not the length) differentiates the small and large intestines.	Measure string to length of small intestine. Measure a different colour string/yarn to the length of the large intestines. Compare lengths of the intestines.	Strings (2 colours), ruler/tape measure.	Accuracy of measurement.
Describe what happens to food in different parts of the alimentary canal.	Mouth, stomach, duodenum, ileum, large intestine (colon) and rectum.	List mechanical changes and chemical changes foods undergo. Simulate mechanical changes of food.	Balloons, transparent plastic bags, food, water, elastic bands.	Communication of information.
Identify where digestion begins and ends for each class of nutrient.	Carbohydrates – cooked starch begins in mouth, ends in ileum. Proteins - begin in stomach ends in ileum. Fats – begin in duodenum, ends in ileum. Vitamins, minerals and water are readily taken up into the bloodstream and do not have to be digested. Absorption takes place in the ileum.	On a diagram of the alimentary canal, colour the organs in which digestion begins and ends for each nutrient group. Use different colours to represent each nutrient group.	Markers, highlighters, colour pencils, handout digestive system.	Organs correctly identified.
Explain the relationship between enzymes and the rate of digestion.	Enzymes speed up the rate of chemical digestion significantly. Enzymes are biological catalysts.	Use starchy foods to investigate the rate action of enzymes of substrates.	Salivary amylase, bread, crackers, potatoes, stopwatch.	Recognition of relationships.
Identify a bolus in a diagram.	Bolus is the mass/ball of food that has been chewed and swallowed.	Identify bolus in a diagram. Move a paper ball along a tube or flexible cylinder. Simulate muscular motions.		Identification and labeling of a bolus.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: DIGESTIVE PROCESS

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Predict what would happen if food was not properly chewed.	Food is softened and made smaller in size during the process of mastication (chewing).	Practice chewing various food items properly. Describe effects of large masses of food on esophageal tissue.	Food items, article.	Plausible predictions.
Based on the foods digested by a digestive juice, identify the types of enzymes present in it.	Digestive juices aid the process of chemical digestion (e.g. bile, pancreatic juice, trypsin) Saliva – starch (amylase/carbohydrase) Gastric juice: protein (protease) Pancreatic juice: starch (amylase/ carbohydrase), protein (protease), fats (lipases) Intestinal juice: starch (amylase/ carbohydrase), protein (protease), fats (lipases).	Complete a worksheet with organs, digestive juice, enzymes and action.	Worksheet	Number of correct responses.
Recognize and explain the relationship between the structure of the small intestine and its function in absorption.	Relative size (length and width), shape and structural makeup (folding of inner wall and villi). Villi are found in the walls of the small intestine. They are finger-like projections with large surface area. Increased surface area and time food spends passing through the intestine so increasing chances of absorption.	Make a model of the ileum to show its length, narrowness. View cross-section of ileum. View villi using a microscope.	Charts, diagrams of TS ileum, microscopes, prepared slides.	Number of valid points to demonstrate the relationship between the structure of the ileum and absorption.
Identify and adopt practices to maintain a healthy digestive system.	Eat a balanced diet that includes all nutrients much water and fiber, which promote regular bowel movements; eat on time, avoid late night meals.	Class discussion. Identify and adopt practices to maintain a healthy digestive system.		Long-term behaviour.

SCOPE OF WORK
GRADE: 7
STRAND: BODY SYSTEMS

TOPIC: DIGESTIVE PROCESS

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Predict the effect of a blockage (growth of tissue) in the small intestine.	Food travels the alimentary canal as peristaltic contractions. Obstructions prevent the normal flow of food and fluid. There is a back-up of food causing pain and sensation of being "full". Reduced defeacation, adhesions, hernias or tumors.	List signs of intestinal obstruction.		Plausible predictions with reasons.
Predict the effect on daily diet for a person whose gall bladder was removed.	Gall bladder stores bile which aids in the digestion of fatty foods. Diet should have minimal fatty component. Bile emulsifies (breaks up) fat into small "droplets" so increasing the surface area for enzymes to work. Bile is made in the liver and stored in the gall bladder.	Class discussion on the functions of bile and the gall bladder. Compiles a list of foods that people without gall-bladders should avoid (due to inadequate amounts of bile to process them at mealtime).	Chart of Digestive System.	Plausible predictions with reasons.
Compare the functions of the liver and pancreas.	Function, role in digestion, features: **Digestion** Liver – bile salts, emulsify fats - stores glucose as glycogen, and converts glycogen to glucose - breaks down excess amino acids Pancreas – pancreatic juice – protease, lipase, amylase **Endocrine** Liver – controls amount of sugar in blood Pancreas – makes hormones (chemicals) to monitor sugar	List function of the liver and pancreas. Compare and contrast the two organs. Indicate the role of each in the digestion process.	Textbooks	Number of points made. Comparisons made.

SCOPE OF WORK
GRADE: 7
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: SKELETAL SYSTEM DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe features of bone dislocation, and fractures and arthritis in photographs.	A **dislocation** is a separation of two bones where they meet at a joint. Dislocation – swelling & "sagging", fractures, swelling, arthritis, swelling of joints, "cramped" fingers.	• Observe features of bone dislocation, and fractures and arthritis in photographs. • Complete a table describing the appearance of each along with differences.	Photographs First Aid books	Number and accuracy of observations recorded.
Classify bone fractures.	A **fracture** is a complete break, chip or crack in the bone. "Hairline" – a fine break. Simple – break in one place. Compound – break in more than one place**.** **Simple fracture** is a break in the bone without damage to the skin. A **compound fracture** involves a break in, or loss of skin and splintering of the bone.	• Brainstorming (small groups). • Classify diagrams of fractures on worksheet based on definitions.	First Aid books	Correct classification.
Describe the condition, signs and symptoms of rickets.	Soft bones due to dietary deficiencies in calcium, phosphorus and Vit. D. "Crooked" legs, inability to stand for long periods.	• Observe photographs of persons with rickets. • Describe the external appearance of the condition.	*Human & Social Biology for the Tropics*	Clarity of the description.
Describe the condition, signs and symptoms of arthritis.	Inflammation of joints caused by swelling, disfigured, pain.		*Human Form & Function*	Clarity of the description.
Describe the condition, signs and symptoms of "slipped disc".	Cartilage between vertebrae moved out of place. Pain in back increased with movement.	• In small groups, brainstorm. • Class compare information. • Note correct information.	*Human Form & Function*	Clarity of the description.
Research the latest methods in bone/cartilage replacement e.g. knee/hip.		Research the latest methods in bone/cartilage replacement.	Internet	Rubric for assessing research.

SCOPE OF WORK
GRADE: 7
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: THE MUSCULAR SYSTEM DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe persons with, or diagrams of muscular injuries.		Observe pictures of muscular injuries.	Photographs	
Observe features of strains and sprains.	**Sprains** are injuries that affect ligaments, thick bands of tissue that attach bone to bone. They occur in response to a stretch or tear of a ligament. **Strains** are injuries that affect muscles or tendons, thick bands that attach muscles to bones. They occur in response to a quick tear, twist, or pull of the muscle.	• Observe features of strains and sprains. • Describe the observed features of strains and sprains.	Photographs	Description of sprains and strains.
Classify injuries as sprains.		Identify examples of sprains.	First Aid books, photographs, scenarios.	Sprains correctly identified.
Distinguish between sprains and strains.	• A **sprain** is the tearing of ligaments at a joint. • A **strain** is a stretching and tearing of muscles or tendons.	• Allow students to utilize pictures to observe the features of each of the injuries. • Use pictures to create a booklet of the injuries to muscles, bone and joints.	*American Red Cross Community First Aid and Safety.*	Clearly described differences between sprains and strains.
Describe the condition, signs and symptoms of rheumatism.	Rheumatoid arthritis – fibrous tissue around the joints become swollen, stiff, inflamed and painful; person may feel tired and show weight loss.	• Research the condition of rheumatism. • Describe the condition of rheumatism. • Relate the signs and symptoms to the condition of rheumatism.	First Aid books, *Human Form & Function* Worksheet	Signs and symptoms correctly identified and described.

SCOPE OF WORK
GRADE: 7
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: MUSCULAR SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Describe the condition, signs and symptoms of tetanus "locked jaw".	Tetanus "locked jaw" bacteria enter body through cuts and scratches. Muscles of the neck, back and limbs tighten. Muscles of jaw tighten and cause "lock".	• Research the condition of tetanus. • Describe the condition of tetanus. • Relate the signs and symptoms to the condition of tetanus.	First Aid book, *Human Form & Function* Worksheet	Signs and symptoms correctly identified and described.
Describe the condition, signs and symptoms of rabies.	Rabies – caused by infection of saliva of infected mammal. Throat muscles tighten, fever, convulsions and paralysis.	• Research the condition of rabies. • Describe the condition of rabies. • Relate the signs and symptoms to the condition of rabies.	*Human Form & Function* Worksheet	Signs and symptoms correctly identified and described.
State a hypothesis on muscle sprains being related to exercise.	Sprain – a torn ligament causes pain and swelling. Sprain and torn Achilles tendon caused by excessive stress on tissues.	State a hypothesis on muscle sprains being related to exercise.	*Human Form & Function*	Hypothesis clearly stated with reasons given.

SCOPE OF WORK
GRADE: 7
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: NUTRITION DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Relate dietary diseases to a deficiency of specific nutrients.	As above. Vitamin A, B1, B6, B12, C, D, K Minerals iodine, iron, calcium, phosphorus, carbohydrates, protein.	List deficiency diseases and the specific nutrient associated with them. Match deficiency diseases (photographs) with specific nutrients associated with them.	Worksheet	Match deficiency disease with deficiency of a particular nutrient.
Relate conditions of diabetes, hypertension, elevated cholesterol, overweight/obesity to life expectancy.	Obese persons have an increased risk of developing illnesses such as diabetes, hypertension, and heart disease, all of which may lead to premature death.	Use statistical data to compare life expectancy among people with illnesses such as diabetes, hypertension, heart disease. Make a poster to relate the symptoms of illnesses/conditions named to treatment and prevention.	Statistical data (national), cardboard, paper, glue, scissors, markers, rulers.	Rubrics for visual display.
Use statistics of diabetes, hypertension, elevated cholesterol, overweight/obesity in The Bahamas to construct bar graphs.	Graphs show occurrences comparing genders or age groups.	Interpret data. Construct graph. Compare occurrence of named diseases/disorders among genders, and age groups.	Graph paper, data.	Rubric for assessing processing data.

SCOPE OF WORK
GRADE: 7
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: DIGESTIVE DISORDERS DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Describe the condition, signs and symptoms of indigestion.	General discomfort, bloating, burning.	• Read text/resource books to find out information about the condition, signs and symptoms of indigestion. • Complete a matrix showing the signs and symptoms of indigestion.	*Human Form and Function*	Matrix with correct information.
Describe the condition, signs and symptoms of constipation.	Infrequent passing of hard stool, abdominal discomfort, bloating.	• Read text/resource books to find out information about the condition, signs and symptoms of constipation. • Complete a matrix showing the signs and symptoms of constipation.	*Human Form and Function*	Matrix with correct information.
Describe the condition, signs and symptoms of diarrhoea.	Frequent passing of loose, watery stool.	• Read text/resource books to find out information about the condition, signs and symptoms of diarrhoea. • Complete a matrix showing the signs and symptoms of diarrhoea.	*Human Form and Function*	Matrix with correct information.
Describe the condition, signs and symptoms of gastric/peptic ulcers.	A break in the surface of the stomach/duodenum wall; a sore – burning pain in the abdomen.	• Read text/resource books to find out information about the condition, signs and symptoms of gastric/peptic ulcers. • Complete a matrix showing the signs and symptoms of gastric/peptic ulcers.	*Human Form and Function*	Matrix with correct information.

SCOPE OF WORK
GRADE: 7
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: DIGESTIVE DISORDERS

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Describe the condition, signs and symptoms of heartburn.	Inflammation of the oesophagus caused by the upward movement of acid from the stomach, painful burning sensation.	• Read text/resource books to find out information about the condition, signs and symptoms of heartburn. • Complete a matrix showing the signs and symptoms of heartburn.	*Human Form and Function*	Matrix with correct information.
Describe the condition, signs and symptoms of flatulence (gas).	Accumulation of air (gas) taken in while eating or drinking, it may be produced by the action of bacteria in the gut.	• Read text/resource books to find out information about the condition, signs and symptoms of flatulence. • Complete a matrix showing the signs and symptoms of flatulence.	*Human Form and Function*	Matrix with correct information.
Describe the condition, signs and symptoms of gastroenteritis/food poisoning.	Inflammation of the lining of the stomach/intestine caused by bacterial action on food causing food poisoning. Nausea, abdominal pain, diarrhoea.	• Read text/resource books to find out information about the condition, signs and symptoms of gastroenteritis/food poisoning. • Complete a matrix showing the signs and symptoms of gastroenteritis/food poisoning.	*Human Form and Function*	Matrix with correct information.
Describe the condition, signs and symptoms of appendicitis.	Inflammation of the appendix. Severe pain on right side of the abdomen, nausea and sometimes vomiting.	• Read text/resource books to find out information about the condition, signs and symptoms of appendicitis. • Complete a matrix showing the signs and symptoms of appendicitis.	*Human Form and Function*	Matrix with correct information.

SCOPE OF WORK
GRADE: 7
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: DIGESTIVE DISORDERS

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Describe the condition, signs and symptoms of gall stones.	Deposits of cholesterol collect in the gall bladder. Severe pain in the upper abdomen.	• Read text/resource books to find out information about the condition, signs and symptoms of gall stones. • Complete a matrix showing the signs and symptoms of gall stones.	*Human Form and Function*	Matrix with correct information.
Describe the condition, signs and symptoms of diabetes.	Excess glucose in the blood. Excessive thirst, frequent copious urination, weight loss, itching, lethargy.	• Read text/resource books to find out information about the condition, signs and symptoms of diabetes. • Complete a matrix showing the signs and symptoms of diabetes.	*Human Form and Function*	Matrix with correct information.
Predict the change in daily diet for a person whose gall was removed.	Avoid fatty foods.	Predict the change in daily diet for a person whose gall bladder was removed.		Correct prediction with plausible reasons.
Predict what would happen if food was not properly chewed.	Choking, flatulence, indigestion.	Predict what would happen if food was not properly chewed.		Correct prediction with plausible reasons.
Formulate a hypothesis as to whether the liver can compensate for a malfunctioning pancreas.	Pancreas produces enzymes that cause chemical breakdown of carbohydrates, fats and protein. Liver produces bile that physically breaks down fats.	Formulate a hypothesis as to whether the liver can compensate for a malfunctioning pancreas.		Hypothesis clearly stated with plausible reasons.
Research gastric bypass.	Surgical procedure to reduce the volume of the stomach – less food consumed; therefore large amount of weight lost.	• Research gastric bypass. • Describe simply what the procedure is and its purpose.	Magazines, Internet	Accuracy and clear description of information.

SCOPE OF WORK
GRADE: 7
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: TYPES OF DISEASES DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Classify diseases/disorders.	Infectious diseases are caused by pathogens that spread from one person to another. Examples of infectious diseases. Degenerative diseases caused by malfunctioning of an organ (could become progressively worse). Dietary deficiency diseases caused by malnutrition. Examples of deficiency diseases. Communicable disease (infectious, caused by a pathogen, passed from person to person). Non-communicable (disease not passed on by pathogens e.g. degenerative, inherited, sickle cell anaemia).	• Read text/resource books to determine examples of degenerative, deficiency and infectious diseases. • Define communicable and non-communicable. • Classify degenerative, deficiency and infectious diseases as communicable or non-communicable. • Make a graphic organizer to classify diseases/disorders (as non-communicable, or communicable.	*CXC Human and Social Biology*	Correct classification. Rubric for assessing visual aids.
Predict the effect of food poisoning on three persons of different age groupings.	The effect is greatest on young children, than old people than on adults. However, effects might be longest lasting in old persons.	• Predict the effect of food poisoning on three persons of different age groupings.		Valid predication with plausible reasons.
Read an article about a disease not studied in class from one of the categories: communicable, congenital, degenerative, pathogenic, inherited.	Congenital diseases - malfunctioning of an organ present from birth Inherited (caused by inherited genes).	• Read an article about a disease not studied in class from one of the categories: communicable, congenital, degenerative, pathogenic, inherited. • Make a brief presentation.	*CXC Human and Social Biology*	Rubric for assessing presentations.

SCOPE OF WORK
GRADE: 7
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: BUSH MEDICINES DURATION: 11 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use common names to identify bush medicines.	Appetite - Aloe, Bay Geranium, Cascarilla bark, Gale of Wind, Madeira bark Backache – Gum Elemi, Love Vine, Madeira bark Constipation – Castor Oil, Fig, Prickly Pear, Senokot Diarrhoea – Banana (green), Stopper Bush, Guava Gripe (babies) – Dill Seed Indigestion – Aloe, Dill Seed Poisoning – Bay Cedar Rheumatism – Buttonwood, Match-Me-If-You-Can, Dog Wood Sprains – Aloe, Guava Strains – Five Fingers, Rooster Comb, Life Leaf Toothache – Bay Cedar	• Observe slide show or photographs. • Match names with photographs. • Complete word puzzles.	*Bush Medicine in Bahamian Folk Tradition* Photographs (PowerPoint Presentation) Artifacts (plants/pieces)	Number of photographs correctly identified with common names.
Classify common plants used in the preparation of bush medicine.	Herbs, shrubs or trees; annuals, biennials, perennials; monocotyledons, dicotyledons;	• Define each group title. • Classify each plant. • Make a table or graphic organizer to classify the plants above.	*Bush Medicine in Bahamian Folk Tradition* Photographs (PowerPoint Presentation) Artifacts (plants/pieces)	Rubric for assessing visual aids (graphic organizer).
Relate the external features of plants used for bush medicine to their natural habitat.	Sandy – long roots, vines (soft stems). Rocky – short roots, small leaves.	• Observe photographs of plants in their habitat. • Observe plants. • Relate the external features of plants (above) to their natural habitat on a worksheet.	*Bush Medicine in Bahamian Folk Tradition* Photographs (PowerPoint Presentation) Artifacts (plants/pieces) Worksheet	Worksheet clear relationship between features and habitat.

SCOPE OF WORK
GRADE: 7
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: BUSH MEDICINES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Predict factors that might pose difficulty in accessing and/or preparing the bush medicine.	Location (in coppice, beach), effect on plant (use of root), thickness of leaf cuticle, thickness of bark.	Predict factors that might pose difficulty in accessing and/or preparing the bush medicine.	Photographs of plants in their habitats.	Validity of points in predictions.
Describe leaf presses made from plants used as bush medicine.	Leaves of plants (above), different shapes and sizes.	• Observe leaf presses made from plants. • Describe leaf presses made from plants.	*Bush Medicine in Bahamian Folk Tradition*	Details given in descriptions.
Conduct a survey of the neighbourhood to determine the population of a given bush medicine, compile the data for several neighbourhoods and construct a graph to show the frequency of populations.	One of: Gale of Wind, Aloe, Love Vine, Castor Oil, Match-Me-If-You-Can, Gum Elemi, Life Leaf.	• Select a bush medicine plant. • Conduct a survey of the neighbourhood to determine the population of a given bush medicine, compile the data for several neighbourhoods and construct a graph to show the frequency of populations.	*Bush Medicine in Bahamian Folk Tradition*	Rubric for assessing collecting and processing data.
Formulate a hypothesis on how a bush might be prepared to treat a given illness.	One of: Appetite - Aloe, Backache – Love Vine, Constipation – Castor Oil, Strains – Five Fingers.	Formulate a hypothesis on how a bush might be prepared to treat a given illness.		Clearly stated, plausible hypothesis.
Observe relevant part of plant to determine its suitability for use in preparation of “medicine”.	As Above.	• Observe relevant part of the plant (selected above). • Describe its suitability for use in preparation of “medicine”.		Clear description and valid reasons for its suitability.
Select appropriate parts of plants to prepare “medicine”.	For plant selected above.	Teacher demonstration of preparation of the “medicine”.		Parts selected are deemed appropriate based on their appearance and texture.
Observe the texture of paste or colour of solution to determine completion of preparation.	For plant selected above.	Observe the texture of paste or colour of solution at completion of preparation.		Description of colour and/or texture.

SCOPE OF WORK
GRADE: 7
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: BUSH MEDICINES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Classify "medicines" based on the methods of preparation.	Boiling (to wash area or drink), beating (to apply to area), make a paste.	Create a table to classify all medicinal plants studied based on the methods of preparation.	*Bush Medicine in Bahamian Folk Tradition*	Correct groupings of methods of preparation, number of plant preparations correctly classified.
Describe the identified plants, their preparation and uses.		In the table above, add the use(s) for each medicinal preparation.	*Bush Medicine in Bahamian Folk Tradition*	Correct information in table.
Make a poster of bush medicines and their uses.	Plants studied in the Unit.	Make a poster of bush medicines and their uses.	Photographs, leaf presses	Rubric for assessing visual aids.
Make charts, a video or Power Point production of four bush medicines and their method of preparation.	Plants studied in the Unit.	Make charts, a video or Power Point production of four bush medicines and their method of preparation.		Rubric for assessing visual presentations.
Construct a table of photographs/drawings of plants and their uses.	Plants studied in the Unit.	• Construct a table of photographs/drawings of plants and their uses. • Match named bush medicines to the diseases/disorders that they are used to treat.		Number of bush medicines correctly matched with the diseases/disorders.

SCOPE OF WORK
GRADE: 7
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: BUSH MEDICINES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make an oral presentation to show one disease/disorder and the bush medicines to treat it.	Loss of Appetite – (Aloe, Bay Geranium, Cascarilla bark, Gale of Wind, Madeira bark), constipation – (Castor Oil, Fig, Prickly Pear, Senokot/cinnicord, rheumatism – (Buttonwood, Match-Me-If-You-Can, Dog Wood).	Make an oral presentation to show one disease/disorder and the bush medicines to treat it.	*Bush Medicine in Bahamian Folk Tradition*	Rubric for assessing oral presentations.
Predict the effects of taking too much or too little of a given bush medicine.	One of the above.	Predict the effects of taking too much or too little of a given bush medicine.		Clearly stated plausible prediction.
Recognize variables and attempt to control one of the variables in preparation of bush medicine.	Indigestion – Aloe, Dill Seed Variables (temperature, amount of plant material, amount of water, time).	Identify variables and attempt to control one of them in the preparation of a bush medicine (aloe or dill seed).	*Bush Medicine in Bahamian Folk Tradition*	Plausible variables identified.
Prepare a bush medicine.	Aloe, Dill Seed.	Preparation of either aloe or dill seed "medicine".	*Bush Medicine in Bahamian Folk Tradition*	Instructional steps followed.
Measure temperatures of medicine preparations.	For above preparation; to 1°C accuracy.	Measure and record temperatures (to 1°C) of medicine preparations.	Heating device, beaker, thermometer, aloe/dill seed.	Accuracy of measurements.
Measure time (minutes) taken for correct preparation of bush medicines.	Time (minutes) for aloe or dill seed preparation.	Measure time (minutes) taken for correct preparation of bush medicines.		Time correctly measured.
Measure dosage.	Teaspoonful, tablespoonful, ¼ cup etc.	Measure suggested dosage.	Set of measuring spoons, measuring cup (with gradation).	Accuracy of measurements.

SCOPE OF WORK
GRADE: 7
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: BUSH MEDICINES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a flow chart showing stages in the preparation of a bush medicine.		Make a flow chart showing stages in the preparation of a bush medicine.		Rubric for assessing visual aids.
Suggest a natural additive to make a bush medicine more appealing.	Salt, spice etc.	Suggest a natural additive to make a bush medicine more appealing.		Plausibility of suggested additives and reasons.
Decide whether or not to use specified bush medicines.	Any two of the "medicines" named in the unit.	Based on information in textbooks and oral testimonies, decide whether or not to use specified bush medicines.		Plausible reasons given to support stated opinion.
Conduct research to find additional bush medicines and/or home remedies used for the diseases/ disorders studied.		Conduct research to find additional bush medicines and/or home remedies used for the diseases/disorders studied.	Library, bush medicine resource books.	Rubric for assessing research.
Describe the effects of land development in The Bahamas on the availability of plants used for bush medicine.		• List the habitats of plants studied (bush medicine). • Describe the effects of land development in The Bahamas on the availability of plants used for bush medicine.		Number of plants in habitats identified as at risk or cleared (less plants on islands or on fewer islands).

SCOPE OF WORK
GRADE: 7
STRAND: FIRST AID AND SAFETY

TOPIC: FIRST AID/THE SKELETAL/MUSCULAR SYSTEMS DURATION: 2 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Define First Aid.	• First Aid is the initial care given to a casualty before professional help arrives. • It can come from a member of the family, a friend, or a stranger who happens to be on the spot, but the help they give can literally mean the difference between life and death.	• Utilize a schematic map to activate prior knowledge of the definition of First Aid. • Brainstorming.	*American Red Cross Community First Aid and Safety*.	Definition
Describe the importance of First Aid.	• First Aid is provided to a person immediately following an accident or onset of illness to decrease complications and to offer psychological (emotional) and physical comfort. • It is performed to decrease the individual's **pain** and suffering until **emergency medical technicians** (EMTs) or other health care givers arrive on the scene.	• Brainstorming. • Write a short story to explain the term First Aid.	*American Red Cross Community First Aid and Safety.*	Number of valid points, persuasiveness in showing importance.

SCOPE OF WORK
GRADE: 7
STRAND: FIRST AID AND SAFETY

TOPIC: FIRST AID/THE SKELETAL/MUSCULAR SYSTEMS

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use bandages correctly to immobilize an injured bone.	A broken bone should be immobilized via splint including the joint above and below the break. A splint to immobilize a joint should include the bones above and below the joint. A triangular bandage tied as a sling is used to immobilize and support an injured arm.	◆ Demonstrate how to tie a sling. ◆ Demonstrate how to make a splint for the ankle or forearm.	Triangular bandages, towels, wooden ½ metre ruler/piece of wood. *American Red Cross Society Community First Aid and Safety*	Sling and splint correctly made. Correct identification of signs that indicate the need for a splint.
Demonstrate the proper care of a fracture.	1. If needed, immobilize the broken bone with a splint. 2. Apply ice packs to reduce pain and swelling.	Give students a worksheet that will describe scenarios of injuries and They would have to 1. Suggest the first aid measures to treat the injury. 2. Predict any further injuries that may be incurred based on victim's signs and the environment.	*American Red Cross Community First Aid and Safety*. First Aid Trainer, Nurse.	Completion of scenario worksheet. Correctly concludes the type of First Aid measure to be used.
Demonstrate the proper care of a dislocation.	Support the joint; do not put pressure on the joint.	Demonstrate the proper care of a dislocation.		Correct technique used.

SCOPE OF WORK
GRADE: 7
STRAND: FIRST AID AND SAFETY

TOPIC: FIRST AID

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make oral and dramatic presentations on the correct way to treat sprains and strains.	1. **P**rotect the injury 2. **R**est the injury for a day or two 3. **I**ce the injury 4. **C**ompress the injury by tightly wrapping it with an elastic bandage 5. **E**levate the injury to reduce swelling, especially if the injury is to an arm or leg. **Remember acronym P.R.I.C.E**	Make oral and dramatic presentations detailing the correct way to treat sprains and strains.	*American Red Cross Community First Aid and Safety*	Rubric for assessing presentations.
Recognize the relationship between immobilizing a victim and causing less harm.		Discuss the "pros" and "cons" of immobilizing a victim.		Number and validity of reasons given to immobilize a victim.
Formulate a hypothesis as to a treatment for an injury described in a case study.	• Broken bones • Sprain • Strain	Formulate a hypothesis as to a treatment for an injury described in a care study.	Photographs, written scenarios.	Clearly stated hypothesis with valid reasons.
Predict any further injuries that may be incurred based on a patient's signs and the environment.	Further dislocation, strain fracture, cuts.	Predict any further injuries that may be incurred based on a patient's signs and the environment.	Photographs, written scenarios.	Clearly states valid predictions.
		Draw a conclusion on the types of injuries sustained based on the nature of an accident, information given and observations made.	Photographs, written scenarios.	Clearly states conclusion based on observations/information.

SCOPE OF WORK
GRADE: 7
STRAND: FIRST AID AND SAFETY

TOPIC: FIRST AID

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Demonstrate the proper care of a dislocation.	1. Call 911 before you begin treating someone who may have a dislocation, especially if the accident causing the injury may be life-threatening. 2. If there has been a serious injury, check the person's airway, breathing, and circulation. If necessary, begin rescue breathing, CPR or bleeding control. 3. If the skin is broken, take steps to prevent infection. Do not blow on the wound. Rinse the area gently to remove obvious dirt, but do not scrub or probe. Cover the area with sterile dressings before immobilizing the injury. 4. Splint the injury in the position in which you found it. Do not move the joint. Be sure to immobilize the area above and below the injured joint. 5. Check the person's blood circulation around the injury by pressing firmly on the skin in the affected area. 6. Apply ice packs to ease pain and swelling.	Give students a worksheet that will describe scenarios of injuries and they would have to 1. Suggest the First Aid measures to treat the injury. 2. Predict any further injuries that may be incurred based on the victim's signs and the environment.	*American Red Cross Community First Aid and Safety* First Aid Trainer or Nurse.	Take steps to prevent shock. Correct steps and technique.

SCOPE OF WORK
GRADE: 7
STRAND: FIRST AID AND SAFETY

TOPIC: PEDESTRIAN SAFETY DURATION: 3 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Identify a road pedestrian crossing.	Black and white stripes commonly called “zebra crossing”.	Identify a diagram or photograph of a road pedestrian crossing.	Road Traffic pamphlet	Worksheet - diagrams
Design a poster to show correct practice in crossing a road.	Cross only at points on the road where view is unobstructed, on pedestrian crossings, at corners or straight road. Look right, left, right before crossing. Do not loiter while crossing.	Design a poster to show correct practice in crossing a road.	Road Traffic pamphlet	Rubric for assessing visual aids.
Demonstrate the correct way to cross dual carriageways and roundabouts.	Treat as two separate crossings i.e. to the roundabout/first one-way road then cross from the roundabout/second one-way road as the final crossing.	Demonstrate the correct way to cross dual carriageways and roundabouts.	Models, diagrams.	Correct steps
Demonstrate safety rules for walking.	Walk facing oncoming traffic (right) except where the sidewalk is only on the left. Walk single-file; do not wander onto the road, wear light colour clothing at night. Hold young children and pets (dogs on leash) by the hand and keep them on the inside (away from the road).	Demonstrate safety rules for walking through a skit.	Road Traffic pamphlet	Rubric for assessing oral presentations.
Make drawings to show guidelines for pedestrians using the road.	As above.	Make drawings to show guidelines for pedestrians using the road.	Road Traffic pamphlet	Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 7
STRAND: FIRST AID AND SAFETY

TOPIC: PEDESTRIAN SAFETY

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make an oral presentation describing five safety rules of walking.	As for previous learner outcome.	Make an oral presentation describing five safety rules of walking.		Rubric for assessing oral presentations.
Demonstrate safe practices when using the road as a pedestrian.		Demonstrate and make a commitment to use safe practices when using the road as a pedestrian.		Long-term behaviour.
Use visual aids to identify incorrect use of roads by pedestrians.	Walking tree-abreast, crossing on bends or behind an obstruction (van), playing on the road, walking on the same side as traffic.	Use visual aids to identify incorrect use of roads by pedestrians.		Rubric for assessing visual aids.
Use a helmet (cyclist).		Cyclist commit to wearing a helmet while cycling.		Long-term behaviour.
Make a rap, poem or song to highlight safety rules for cyclists (bicycle or motor cycle).	Working brakes, working front white light, back red reflector lights and pedal reflectors, ride on the left, wear light colours/ fluorescent/reflective at night, do not hold onto moving vehicles, do not try stunts on the road, do not swerve in front of a moving vehicle, wear helmet.	Make a rap, poem or song skit/PowerPoint, oral presentation to illustrate safety rules for cyclists (bicycle or motor cycle).	Road Traffic pamphlet	Rubric for assessing oral presentations.

SCOPE OF WORK
GRADE: 7
STRAND: FIRST AID AND SAFETY

TOPIC: ROAD SAFETY DURATION: 7 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use knowledge of safety rules to make wise choices as a cyclist.		Use knowledge of safety rules to make wise choices as a cyclist.		Long-term behaviour.
Conduct a survey to determine the most common cause of accidents among teenagers on roads or sporting facilities in the settlement/area/island.	Bruises, broken legs/arms, sprains.	• Design questionnaire. • Identify target group. • Conduct survey.		Rubric for assessing investigations (survey).
Make a poster or brochure showing accident prevention tips for children and teenage road users.	Previous rules. Do not: play on or near the road, chase a ball or pet into the road, "pop". Be aware of "bad" driving.	Make a poster or brochure showing accident prevention tips for children and teenage road users.	Information from Road Traffic Department/local police.	Rubric for assessing visual aids.
Use appropriate seat belts correctly to strap persons of various age groups in a vehicle.	Children: under six months, under 40 pounds, under 80 pounds, over 80 pounds through adults.	• Identify appropriate seat belts correctly to strap persons of various age groups in a vehicle. • Use the appropriate seat belt.	Information from Road Traffic Department/local police.	Long-term behaviour.
Demonstrate safe practices as a passenger in a vehicle.	Enter and exit a vehicle that is stationary, exit on the (left) sidewalk-side, use seat belt, avoid distracting the driver, abstain from playing or "fooling around".	Use a skit to demonstrate safe practices as a passenger in a vehicle.	Road Traffic pamphlet	Rubric for assessing oral presentations.
Identify vehicle and drivers' (hand) signals.	Slow down, right & left turns (right and left-hand drive).	Identify vehicle and drivers' (hand) signals on diagrams.	Road Traffic pamphlet	Correct identification of drivers' hand signals.

SCOPE OF WORK
GRADE: 7
STRAND: FIRST AID AND SAFETY

TOPIC: ROAD SAFETY

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Demonstrate the use of hand signals used by drivers.		Demonstrate hand signals: slow down, right & left turns (right and left-hand drive).	Road Traffic pamphlet	Correct demonstration of drivers' hand signals.
Use knowledge of driver's hand and car signals to make wise choices as a pedestrian**.**		Use knowledge of driver's hand and car signals to make wise choices as a pedestrian**.**		Short and Long-term behaviour.
Observe indicators of curves in the road.	Obstructed view on one side, solid white line in the middle of the road, solid white line curves, round red sign with symbol U.	• Observe indicators of curves in the road. • Make visual aids to show the road and road sign for curves.	Diagrams, photographs, posters.	Rubric for assessing visual aids.
Classify road signs.	Blue signs show information; round ones show speed limit; square give children at play. Red signs give warning: triangle advise e.g. road crossing, crossroad, T-junction; square shows caution road works, narrowing road.	• Observe a variety of road signs. • Classify road signs.	Diagrams, photographs, models, posters.	Correct classification with plausible reasons.
Recognize the relationship between speed and damage caused in vehicular accidents.	Speed (20, 30, 50, 65, 75 miles/hr) and braking distances for each, force of impact for each, damage to small, middle and large vehicle for each, kind of injuries to persons in small and middle (SUV) size vehicles for each speed.	• Research the braking distance for vehicles traveling at different speed, the types of damage to vehicles and the types of injuries sustained by persons for each speed. • Make a table showing information from the research. • Describe the relationship between speed and damage caused in vehicular accidents.	Information from Road Traffic Department/local police.	Relationship clearly shown with correct information.

SCOPE OF WORK
GRADE: 7
STRAND: FIRST AID AND SAFETY

TOPIC: ROAD SAFETY

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use visual aids to identify incorrect use of roads by drivers.	Absence of signaling for slowing, stopping, turns; excessive speed; overtaking on solid line; overtaking on curves; double parking; too close to vehicle in front; talking on cell/mobile phones; use of earphones; ignoring amber and red traffic lights; ignoring pedestrian crossings; overtaking without a clear view; "jumping" at a four-way stop.	Use visual aids to identify incorrect use of roads by drivers.	Photographs; drawings, worksheet.	Number of incorrect uses of the road that are correctly identified.
Make a poster or brochure showing accident prevention tips for adult road users.	Same as for pedestrians, drivers.	Make a poster or brochure showing accident prevention tips for adult road users.	Road Traffic pamphlet	Rubric for assessing visual aids.
Conduct research to determine the types of road accidents that occur in The Bahamas.	Between vehicles (cars, SUV's, trucks, trailers); vehicle and motorcycle or bicycle; vehicle and pedestrian; vehicle and object (tree, wall etc.); motorcycle/bicycle and object vehicle overturn; weather-caused (fog, rain); spills.	Conduct research to determine the types of road accidents that occur in The Bahamas.	Police Department (Road Traffic, local clinic).	Rubric for assessing conducting research.

SCOPE OF WORK
GRADE: 7
STRAND: FIRST AID AND SAFETY

TOPIC: ROAD SAFETY

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Conduct research to determine the causes of road accidents in The Bahamas.	Excessive speed, drunk drivers, inattentative drivers, pedestrians' fault; obstructed view (motorcyclists); poor lighting at night; inadequate signage; faulty vehicle/cycle.	Conduct research to determine the causes of road accidents in The Bahamas.	As for previous learner outcome.	Rubric for assessing conducting research.
Construct a bar graph of the main causes of road accidents in The Bahamas.		Construct a bar graph of the main causes of road accidents in The Bahamas.		Rubric for processing data.
Formulate a hypothesis on the effect a mandatory decrease in the number of vehicles on New Providence would have on the health of people.	Carbon dioxide, carbon monoxide & other noxious gases in exhaust fumes.	Formulate a hypothesis on the effect a mandatory decrease in the number of vehicles on New Providence would have on the health of people.		Clearly stated plausible hypothesis with plausible reasons.
Formulate a hypothesis on the cause of the largest amount of accidents among teenagers in The Bahamas.		Formulate a hypothesis on the cause of the largest amount of accidents among teenagers on roads in The Bahamas.		Clearly stated plausible hypothesis with plausible reasons.
Suggest ways that might prevent accidents on roads in The Bahamas.		• Think, pair, share • Class compile a list		Number of plausible suggestions made.

SCOPE OF WORK
GRADE: 7
STRAND: FIRST AID AND SAFETY

TOPIC: RECREATIONAL SAFETY DURATION: 5 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Identify recreational activities.	Recreation – hobby or activities of interest and enjoyment undertaken during leisure time. Examples: walking, swimming, drawing, playing music, dancing, sports, electronics/video games, fishing.	• Brainstorm the meaning of the term recreation. • Create concept map of recreation/recreational activities.		Number of recreational activities identified.
Identify designated recreational areas.	Public: parks, beaches Private: skating rinks, sporting areas, clubs	• List recreational areas in the area/settlement/island.		Percentage of identified of the available recreational areas.
Identify warning/danger signs on property.	Signs: Beware, Danger	• Identify flash cards that show traditional danger signs. • Design a warning poster.		Number of signs correctly identified.
Observe flaws in playground equipment.	Broken chains/missing links in swings¸ bent or leaning poles/climbers, insufficient sand in landing box, rocky surface under or near to landing area.	• Examine photographs or scenarios. • Identify potential hazards.	Worksheet	Number of hazards correctly identified.
Identify potential accidents caused by dangling wires, following balls onto road, fireworks, barbecues, throwing events.	Dangling wires – burns, shock, electrocution. Running onto the road – slip and fall, hit by cyclist, hit by vehicle, cause vehicle to hit something or someone else. Fireworks – burns, bush fires, injuries e.g. eye Barbecues – burns Throwing events, body injuries.	• Brainstorming in small groups or pairs. • Discussion and collate a list. • Make an information pamphlet/brochure identifying potential accidents caused by dangling wires, following balls onto road, fireworks, barbecues, throwing events.		Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 7
STRAND: FIRST AID AND SAFETY

TOPIC: RECREATIONAL SAFETY

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe licence (vehicle/aeroplane) numbers.	Aeroplanes and vehicles are identified by their licence numbers.	Students view numbers on flash cards for a few seconds (size of licence plates) then try to recall the numbers after a few seconds.	Flash cards	Number of licence numbers correctly identified.
Identify classes/groups of unsafe features of the outdoor environment.	Plants, cavernous rocky substrate, smooth/slippery rocks (shoreline), fencing, oil/gasoline.	Identify classes/groups of unsafe features of the outdoor environment.		Logical classification using valid criteria.
Draw a conclusion on the nature of a playground accident based on information and observation.	Scenarios: swinging, see-saw, trampoline, broken tree limbs, rocky surface near a slide.	Draw a conclusion on the nature of a playground accident based on information and observation.	Worksheet	Clearly stated logical conclusion based on reasons/observations given.
Use knowledge of safety rules while observing and playing sports.	Safety rules on playing fields as well as on sporting facilities.	• Create an artifact showing safety rules for sports. • Resolve to use the safety rules.	Publications from sporting authorities.	Rubric for assessing models.
Find out the cause of the largest number of accidents among teenagers on sporting facilities in The Bahamas.		Find out the cause of the largest number of accidents among teenagers on sporting facilities in The Bahamas.		Rubric for assessing investigations.
Suggest ways that might prevent accidents on sporting facilities in The Bahamas.		Suggest ways that might prevent accidents on sporting facilities in The Bahamas.		Plausibility of suggestions identified.

SCOPE OF WORK
GRADE: 7
STRAND: ENVIRONMENTAL HEALTH

TOPIC: POLLUTION DURATION: 11 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Classify components of the environment as biotic or abiotic.	Non-living factors: sunlight, water, rock/soil, minerals, fertilizers and pollutants (glass, plastic, cellophane, Styrofoam and PVC are abiotic components). Living/dead components: animals, plants, fungi, bacteria, humus, faeces, wood, cardboard and paper are biotic.	• In pairs, review definitions of living and non-living things. • Observe a photo of a community with pollutants. • Draw a table to classify things as biotic or abiotic.	*Human and Social Biology for the Tropics, CXC Human and Social Biology*	Matrix – number of components observed and correctly listed as biotic or abiotic.
Identify and name common pollutants.	Fumes – industrial, vehicular/vessel, burning trash Smoke – cigarette, combustion Chemicals – fertilizers, paints, batteries, Heat – industry, Materials – Styrofoam, plastic, glass.	• Brainstorming & list pollutants. • Observe video clip/photos. • Complete worksheet.	Worksheet *Human and Social Biology for the Tropics, CXC Human and Social Biology*	Pollutants correctly identified and named.
Classify pollutants as solid, liquid and gaseous.	Gases - CFC's, carbon monoxide, carbon dioxide, nitrous oxide, propane. Liquids – paint, thinner, petroleum, kerosene, sewage effluent. Solids – sewage, soot (smoke), asbestos, fertilizers, containers (metal, glass, plastic, rubber, Styrofoam).	• Brainstorm definition of pollution. • Brainstorm items that may be termed pollutants. • Create a matrix classifying the identified pollutants according to the states of matter.	*Human and Social Biology for the Tropics, CXC Human and Social Biology*	Matrix – number of pollutants identified and correctly listed according to the state of matter.
Describe two sources of pollution found in the environment.	Sewage, farms, gardens, vehicles, fires, industry, cleaning materials.	• Identify the source for each pollutant named above. • Describe the source for each of two pollutants.	*Human and Social Biology for CSEC, Human and Social Biology for the Tropics, CXC Human and Social Biology*	Sources of pollution correctly identified with named pollutants from each source.

SCOPE OF WORK
GRADE: 7
STRAND: ENVIRONMENTAL HEALTH

TOPIC: POLLUTION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Draw a conclusion about a person's health based on their living environment.	Neighbouring factories – increased risk of respiratory diseases; farmland and fresh, stagnant water – increase risk of waterborne diseases.	• Observe photographs of different living environments. • Draw a conclusion about a person's health based on their living environment.	*Human & Social Biology*	Clearly stated conclusion based on observations.
Draw conclusions about diseases identified in different environments based on the type of pollutants shown.	Example: lung cancer, cigarette smokers.	• Observe photographs of different living environments. • Draw a conclusion about possible diseases developed based on their living environment.		Clearly stated conclusion based on observations.
Suggest reasons why three named illnesses are linked to pollution.	Emphysema Sinusitis Diarrhea Cholera	• Identify three illnesses related to food/water ingested, respiratory system or associated with pests (rodents and insects). • Suggest reasons why three named illnesses are linked to pollution.		Plausibility of reasons and logic applied in formulating suggestions.
Design pamphlets that have an anti-pollution focus.		Design and make a pamphlet that has an anti-pollution focus.		Rubric for assessing visual presentations.
Make an oral presentation on the effects of land pollutants on the health of humans.	Litter attracts rodents and insect pests that transmit pathogens. Heavy metals can pollute underground water and become absorbed into the food chain.	Make an oral presentation on the effects of land pollutants on the health of humans.		Rubric for assessing oral presentations.

SCOPE OF WORK
GRADE: 7
STRAND: ENVIRONMENTAL HEALTH

TOPIC: POLLUTION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Write an infomercial for television highlighting the effects of common land pollutants on the health of humans.	As above.	Write an infomercial for television highlighting the effects of common land pollutants on the health of humans.		Rubric for assessing visual presentations.
Write a skit about the sources and effects of the greenhouse gas carbon dioxide.	Combustion of fossil fuels and most living things and derivatives, produce carbon dioxide. Carbon dioxide forms a layer above the earth's surface which traps infra red rays causing increase in temperature.	Write a skit about the source and effects of the greenhouse gas carbon dioxide.	Chart – Carbon Cycle	Rubric for assessing oral presentations.
Write a personal pledge to reduce the production of carbon dioxide.	Wastage if electricity, burning garbage, delayed vehicle servicing, reduce use of gasoline, use of solar panels.	Write a personal pledge to reduce the production of carbon dioxide.		Clearly stated pledge that reduces carbon dioxide emissions and is realistic/ "doable".
Explain the expected relationship between population increase and pollution.	Most pollutants are due to humans. The larger the number of humans the larger the production of waste/pollutants – directly proportional.	• Apportion a percentage of pollutants identified that is generated by people. • Explain the expected relationship between population increase and pollution.		Relationship clearly described with plausible reasons.

SCOPE OF WORK
GRADE: 7
STRAND: ENVIRONMENTAL HEALTH

TOPIC: POLLUTION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Recognize the need to develop more health awareness programmes as pollution increases.		• Brainstorm reasons for persons polluting the environment. • Brainstorm, then list in priority order, means to encourage people to decrease pollution. • Justify the need to develop more health awareness programmes as pollution increases.		Number and validity of points made and reasons that justify the need to develop more health awareness programmes as pollution increases.
Measure the pH of water samples from various sources.	Examples: potable, well, sea, pond/lake, swamp bottled, reservoir/tank. Pollutants that would make the water acidic or basic.	• Measure the pH of water samples from various sources. • Record the pH reading of the water samples.	Universal indicator paper	Accuracy of pH readings.
Make an oral presentation on the effects of water pollutants on the health of humans.		Make an oral presentation on the effects of water pollutants on the health of humans.		Rubric for assessing oral presentations.
Predict the effects of long-term marine pollution on the environment and economy of The Bahamas.	Increase in plant life/flora, eutrophication, decreased numbers of fisheries resources (edible), foul odor from the water, debris and dead organisms wash onto shoreline/beach, decrease or end of tourism.	• Predict the effects of long-term marine pollution on the environment of The Bahamas. • Predict the effects of long-term marine pollution on the economy of The Bahamas.		Plausibility of predictions with valid/logical reasons.
Make a jingle or acronym to highlight guidelines for keeping the coastline (including the marine environment) clean.		Make a jingle or acronym to highlight guidelines for keeping the coastline (including the marine environment) clean.		Number of valid points included, “appeal” .

SCOPE OF WORK
GRADE: 7
STRAND: ENVIRONMENTAL HEALTH

TOPIC: POLLUTION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use information from research to predict the length of time and amount of money it takes to clean different size environments of litter/pollutants.	Backyard, school's playground, roadside verge, vacant lot used as a dump, swamp/lake.	• Find out the cost: of garbage bags, renting a truck, wages, no. of persons, time taken. • Estimate the amount of pollution in each environment, the amount of material needed. • Number of persons and time needed. • Predict the length of time and amount of money it takes to clean the different environments of litter/pollutants.		Plausibility of predictions with valid/logical reasons.
Construct a bar graph showing the amounts of pollutants on a park or other public area.	Examples of possible pollutants: glass, plastic, cardboard, wood, styrofoam, wire, metal containers, clothing.	• Field trip to beach for clean up. • Collect and count the total number of items of each type. • Record the data in a table. • Draw a bar graph showing the amounts of pollutants.	Graph paper, data from clean-up campaign.	Rubric for assessing field trip. Rubric for assessing collecting and processing data.
Predict effects on the environment that can be caused by a build up of various types of pollutants.	Habitat for rodents and insects, toxins released into the soil, dogs scatter litter.	Predict effects on the environment that can be caused by a build up of various types of pollutants.		Plausibility of predictions with valid/logical reasons.
Use a survey to determine the frequency of garbage collection per month in their community.		• Develop a simple questionnaire. • Identify number and location of persons to respond. • Use a survey to determine the frequency of garbage collection per month in their community.	Questionnaire	Rubric for conducting an investigation (research).

SCOPE OF WORK
GRADE: 7
STRAND: ENVIRONMENTAL HEALTH

TOPIC: POLLUTION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use data from a coastal clean up to determine the five most common sea pollutants.	Examples of possible pollutants: glass, plastic, cardboard, wood, Styrofoam, wire, metal containers, clothing, nylon line, fragments of rope or net.	• Collect and count the total number of items of each type. • Record the data in a table. • Identify the five most common sea pollutants.	BNT data	Rubric for assessing collection of data.
Draw a bar graph to show the occurrence of the five most common marine pollutants.		Construct a bar graph to show the occurrence of the five most common marine pollutants.	Graph paper	Rubric for assessing processing data (graphs).
Construct a pie chart of the percentage of five common pollutants found locally in the sea, lake/pond or well water.		• Brainstorm pollutants found locally in the sea, lake/pond or well water. • List the pollutants in order of amount likely to be found in one of the aquatic environments. • Construct a pie chart of the percentage of five common pollutants found in the selected environment.		Rubric for assessing processing data (graphs).
Formulate a hypothesis on the effects on fish caused by changing the salinity of the water in an aquarium.		Formulate a hypothesis on the effects on fish caused by changing the salinity of the water in the aquarium.		Clearly stated hypothesis with plausible reasons.

SCOPE OF WORK
GRADE: 7
STRAND: ENVIRONMENTAL HEALTH

TOPIC: POLLUTION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Identify factors that contribute to the spread of a named disease.	Example: influenza – spitting on the ground, coughing and sneezing without covering the mouth; closed environments, crowding.	• Identify one of the diseases studied. • List the factors that contribute to the spread of a named disease.	*Human and Social Biology for the Tropics, CXC Human and Social Biology*	Number and validity of factors identified.
Make a model of a clean environment and a polluted environment.		Make a model of a clean environment and a polluted environment.		Rubric for assessing models.
Construct a model or computer-designed graphic of an environment that *can be* affected by biotic and abiotic factors.		• Identify an environment that *can be* affected by biotic and abiotic factors. • Construct a model or computer-designed graphic of the environment before and after being affected by either biotic or an abiotic factor.		Rubric for assessing models.
Explain how behaviour and attitude have changed towards pollutants in the local environment.		• Brainstorm how behaviour and attitude have changed towards pollutants in the local environment in the past 20 years. • State reasons for the change in pollutants (types and amount) • State possible reasons for the change in behaviour and attitude.		Validity of changes cited, plausibility of reasons given.

SCOPE OF WORK
GRADE: 7
STRAND: ENVIRONMENTAL HEALTH

TOPIC: POLLUTION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Conduct a sample survey to determine the level of awareness of Bahamians to global pollution.	Examples: greenhouse gas, gas emissions, marine pollution, radioactive pollution.	• Identify the basic points that relate to the main issues of global pollution. • Develop a questionnaire to determine the level of awareness of Bahamians to global pollution. • Conduct a sample survey to determine the level of awareness of Bahamians to global pollution. • Draw a conclusion on the level of awareness of Bahamians to global pollution.		Rubric for assessing investigations.
Find out the effects of chlorofluorocarbons (CFC's) on the ozone layer.	CFC's destroy the ozone layer, consequently, harmful u.v. radiation from the sun penetrates through to earth. Increases the probability of skin cancer.	Conduct research to find out the effects of chlorofluorocarbons (CFC's) on the ozone layer.	*Human and Social Biology for the Tropics, CXC Human and Social Biology,* resource books	Rubric for assessing conducting research.
Form a conclusion whether humans have more negative than positive effects on their environment/ecosystem.	Removal of trees, excavation, filling in swamps/wetlands, spraying pests, planting ornamentals and food crops, fertilizers.	• Identify two local environments. • List the positive and negative effects of humans on each of the environments. • Form a conclusion as to whether humans have more negative than positive effects on their environment/ ecosystem.		Clearly stated, valid conclusion based on valid effects correctly classified.

SCOPE OF WORK
GRADE: 8
STRAND: HEALTHY LIVING

TOPIC: ANGER DURATION: 3 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Classify anger.	Mild irritation and increasing in degrees of anger to rage.	Role play		Rubric for assessing oral presentations.
Identify "triggers" of anger.	Anger triggers are things that make people angry, triggers can be classified as a situation, a person or a thing • Being teased • Bullied • Belittled • Being cheated or betrayed etc.	• Discussion. • Draw cartoons of different types of triggers. • List personal triggers.	Classroom Guidance From A to Z. By: Kirby, Becky (2007). Marco Product Inc. 1443 Old York Road Warminster, PA 18974. Analysing Anger Triggers http://www.additionalneeds.net/Anger_Management/triggers.htm	Rubric for assessing visual aids.
Identify situations that require one to adopt practices involved in anger management.	Case studies and scenarios as above.	Discussion and comic strips (above).		Causative situations correctly identified.
Make an oral presentation on triggers that induce anger.	Personal triggers recorded and additional information from research.	Make an oral presentation on triggers that induce anger.	As above.	Rubric for assessing oral presentations.
Recognize and explain the relationship between "anger triggers" and "anger".	**Triggers** can be things, situations or persons that make you angry, and **Anger** is an emotion that can be induced by triggers.	Discussion. Construct Venn Diagram comparing anger and triggers of anger.	Oxford Dictionary Analysing Anger Triggers http://www.additionalneeds.net/Anger_Management/triggers.htm	Rubric for assessing visual aids.
Use a scale between 1 and 10 to determine the level of control based on given scenarios.		• In groups, discuss four scenarios and give a rating to each. • Compare the ratings given by groups.	Index cards with scenarios	Consensus on ratings.

SCOPE OF WORK
GRADE: 8
STRAND: HEALTHY LIVING

TOPIC: ANGER MANAGEMENT

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Construct a model that identifies steps involved in managing anger.	Steps in model: 1. Trigger 2. Arousal of anger 3. Evaluation 4. Experiences 5. Expressive patterns 6. Consequences	Construct a model that identifies steps involved in managing anger.	The Anger Management Centre Therapy Model http://www.angertherapy.co.uk/pages/the-programme/anger-model.php	Rubric for assessing models.
Demonstrate the value of being able to manage/control anger.	• Can save life • Diffuse conflict • Solve conflict without violence	Think-pair-share Discussion List benefits of being able to manage/control one's anger.		Number of valid benefits listed.
Find out additional ways to reduce anger.		Interviews Conduct research Record information	Questionnaire Library, Internet.	Number of plausible ways to reduce anger.
Justify "the tone of voice relates to expressions of anger and violence".	Tone of voice can arouse anger as it becomes a trigger during an argument. Body language also can serve as a trigger for anger.	Discussion Role-play/skit		Rubric for assessing oral presentations.
Use statistics to predict the number of students that could be saved from injury in five years, with exposure to good anger management skills.		View statistics of students or young people injured as a result of confrontations in anger. Predict the number of students that could be saved from injury in five years with good anger management skills.		Plausible prediction related to statistics.

SCOPE OF WORK
GRADE: 8
STRAND: HEALTHY LIVING

TOPIC: DECISION MAKING DURATION: 2 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Recognize the importance of self awareness.	Knowing one's self-values, beliefs, feelings, interests, fears, personality, likes/dislikes.	Discussion Journaling	What do you stand for? For Teens: A Guide To Building Character.	Number of points made to support importance of self awareness.
Construct a model showing steps in goal setting.	1. Decide on your goal 2. Short term/long term 3. Should be achievable 4. Should be realistic 5. Measurable NB: Think of obstacles that will hinder you from reaching your goal/s. S.M.A.R.T. Goals setting can be used.	Construct model, showing steps in goal setting using 3 personal goals.	*Classroom Guidance from A - Z*	Rubric for assessing models.
Recognize the relationship between decisions made and their impact on one's lifestyle.	Decisions can have negative or positive affect on lifestyle e.g. dropping out of school, teenage parenting, discipline in sports, developing hobbies, civic involvement, regular exercise, drug abuse, healthy diets, criminal record.	Discussion of several decisions made by teenagers. Identify five decisions made by teenagers, list possible effects of each decision, rate the importance of the effects on their future. Put information in table.	*Perspectives on Health*	Correct information with plausible reasons in matrix.
Demonstrate the importance of wise decision making during a life time.	Present students with real life scenarios for different age groups (20+, 40's, 50's and 60 year olds).	Develop scenarios or find out issues that challenge persons in those age categories. Discuss the available choices and the effects of a decision/choice.		Plausible issues raised with logical choices and effects identified.
Pose a question on the effectiveness of making decisions and setting goals.		Formulate a question that extends information/knowledge gained on the effectiveness of making decisions and/or setting goals.		Answer to question extends knowledge of individual/class.

SCOPE OF WORK
GRADE: 8
STRAND: HEALTHY LIVING

TOPIC: SKIN CARE DURATION: 4 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a model of the human skin (LS).	Epidermis, dermis, hair follicle, sweat gland, sebaceous gland, blood capillaries.	Observe a diagram of the human skin (LS). Make a model of the human skin (LS).	Chart	Rubric for assessing models.
Identify sources of body odour.	Body odor occurs when bacteria come into contact with sweat.	Discussion Identify sweat glands and pores. Describe why regular washing eliminates body odour.	*Perspectives on Health*	Clear, logical explanation.
Use correct names of toiletries used to reduce sweating and underarm odours.	• Soap • Deodorant • Antiperspirant	Discussion with power point presentation. Distinguish between deodorant and antiperspirant. Make a visual aid showing and identifying a variety of toiletries used to reduce sweating and underarm odours.	Oxford Dictionary	Rubric for assessing visual aid.
Identify and adopt practices to maintain pleasant body odour.	• Daily baths • Use of toiletries • Brushing and flossing of teeth daily	Make up a rap song about toiletries and their uses.		Rubric for assessing oral presentations.

SCOPE OF WORK
GRADE: 8
STRAND: HEALTHY LIVING

TOPIC: SKIN CARE

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Identify and adopt practices to keep hair healthy.	Frequent washing, combing, brushing, conditioning, treatment, avoid harsh chemicals.	Guest speaker. Identify and adopt practices to keep hair healthy.	Beautician	Long-term behaviour.
Identify and adopt practices to keep skin healthy.	Frequent bathing, using moisturizer, refraining from excessive sponging of the face.	Guest speaker. Identify and adopt practices to keep skin healthy.	Beautician or nurse	Long-term behaviour.
Make a brochure identifying organisms and diseases spread by poor skin and hair hygiene.	Bacteria: Impetigo, boils, acne Fungus: Athletes foot, ringworms Insect: Body/ Hair lice (Pediculus)	Make a brochure identifying organisms and diseases spread by poor skin and hair hygiene.	*Perspectives on Health*	Rubric for assessing visual aids.
Make an oral presentation on the importance of proper genital, armpits, skin and hair hygiene.		Make an oral presentation on the importance of proper genital, armpits, skin and hair hygiene.	*Human Form and Function* Internet	Rubric for assessing oral presentations.
Classify common diseases spread by poor hygiene.	• Virus: colds & flus • Bacteria: strep throat • Fungus: ringworm, athletes foot	Research the pathogens causing common diseases that are spread by poor hygiene. Classify the diseases according to the type of pathogens causing them.		Number of common diseases correctly identified; correct classification.

SCOPE OF WORK
GRADE: 8
STRAND: HEALTHY LIVING

TOPIC: SKIN CARE

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Recognize and explain the relationship between poor skin hygiene and skin infection.	Lack of proper skin hygiene creates a conducive environment for bacteria to live. Direct relationship.	Discussion View pictures of skin infections/ disorders due to poor skin hygiene. Describe the relationship between poor skin hygiene and skin infection.	*Perspectives on Health*	Direct relationship shown, correct explanations.
Read body temperature to 0.5°C/F.		Read body temperature to 0.5°C/F	clinical thermometers	Accuracy in measuring.
Find out the latest cream/ointment/ spray used to treat a fungal skin infection.	Example: • Lamisil antifungal spray	• Research the Internet. • Interview local doctors or nurses. • Write a report.	Internet Local doctors or nurses	Rubric for conducting investigations.

SCOPE OF WORK
GRADE: 8
STRAND: FOOD

TOPIC: FOOD PREPARATION DURATION: 7 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Explain the benefits of cooking food.	Improves digestibility, destroys microbes/germs, makes nutritive value available in edible form, preserves food, destroys natural toxins.	Role – play expert presenter(s).	*Home Economics A Caribbean Approach Book 3*	Correct information.
Conduct a survey among classmates to determine the three most popular methods of preparing meats.	Boiling, poaching, steaming, stewing, pressure cooking, deep fat frying, frying, baking, barbecuing/grilling, roasting, microwave.	Conduct a survey among classmates to determine the three most popular methods of preparing meats.	*Home Economics A Caribbean Approach Book 3*	Rubric for conducting investigations.
Classify foods as containing water or fat-soluble nutrients.	Vitamin C is water soluble; Vitamins D and E are fat-soluble.	Read information to determine which foods contain water or fat-soluble nutrients. Construct a matrix to show this information for common foods.	*Home Economics A Caribbean Approach Book 3* *Human & Social Biology for the Tropics* Food labels, magazines, news articles	Correct information in matrix.
Identify foods rich in LD cholesterol.	Low density cholesterol is more common in animal products. Tends to be deposited as a fatty material on the inside wall of blood vessels eventually causing them to become narrower and clogged. Leads to heart problems.	Read resource materials to identify foods rich in LD Cholesterol. Make a visual aid giving caution to the over-use of foods rich in LD cholesterol and suggesting substitute HD cholesterol foods.		Rubric for assessing visual aids.
Identify methods of food preparation that add little or no cholesterol.	Boiling, baking, grilling, pressure cooking, microwave.	Think-pair-share Worksheet	Worksheet	Correct information.
Design an investigation to show the relationship between certain methods of food preparation and an increase in (cholesterol) fat content.		Design an investigation to show the relationship between certain methods of food preparation and an increase in (cholesterol) fat content.	*Human & Social Biology for the Tropics*	Rubric for assessing conducting investigations.

SCOPE OF WORK
GRADE: 8
STRAND: FOOD

TOPIC: FOOD PREPARATION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Recognize the relationship between some methods of food preparation and an increase in cholesterol content.		Recognize the relationship between some methods of food preparation and an increase in cholesterol content.		Relationship clearly shown, correct information.
Compare the caloric value of preparing a meat using four different methods.	Boiling, poaching, steaming, stewing, pressure cooking, deep fat frying, frying, baking, barbecuing/grilling, roasting, microwave. Caloric (calories) value increases with addition of oils, fats and carbohydrates.	Select four methods of preparing meats. Research the method of preparation and compare the extent to which carbohydrates and fats are added during preparation – rank the methods.	Worksheet (above).	Correct ranking.
Design an investigation to show the relationship between certain methods of food preparation and increased calories.		Design an investigation to show the relationship between certain methods of food preparation and increased calories.	Home Economics resource books, library.	Rubric for assessing conducting investigations.
Recognize the relationship between certain methods of food preparation and increased calories.	Information as for previous learner outcome.	Recognize the relationship between certain methods of food preparation and increased calories.	As above.	Relationships clearly shown with supporting reasons.
Use the same food to compare food preparation methods.		Select a meat. Compare the difference in calories and cholesterol added for each method. Identify the best method of preparation with reasons.		Valid comparisons. Valid reasons to support selected best method.

SCOPE OF WORK
GRADE: 8
STRAND: FOOD

TOPIC: FOOD PREPARATION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Design an investigation to show the relationship between certain methods of food preparation and the nutritional value of the food.		Design an investigation to show the relationship between certain methods of food preparation and the nutritional value of the food.	*Home Economics A Caribbean Approach Book 3*	Rubric for assessing conducting investigations.
Recognize the relationship between some methods of food preparation and a decrease in the nutritional value of the food.	Loss of water or fat-soluble nutrients.	Construct a graphic organizer to show the relative decrease in the nutritional value of the food based on methods of food preparation.	*Home Economics A Caribbean Approach Book 3*	Rubric for assessing visual aids.
Recognize the relationship between some methods of food preparation and a negative effect on maintaining BMI and dietary related disorders.	Methods of food preparation that add cholesterol to the food cause an increase in BMI and cardio-vascular diseases/disorders.	Recognize the relationship between some methods of food preparation and a negative effect on maintaining BMI and dietary related disorders.		Relationship clearly shown with correct reasons.
Use a thermometer correctly and safely to take the temperature of food being boiled, fried and steamed.	Avoid putting thermometer directly over heat source, read while in food. Avoid being burnt.	Use a thermometer correctly and safely to take the temperature of food being boiled, fried and steamed.	Thermometers	Rubric for correct and safe use of apparatus and equipment.
Measure the temperature of food.	Accuracy to 1°C.	Measure the temperature (to 1°C) of food.	Thermometers	Accuracy of measurements.
Identify improperly cooked meats.		Observe photographs of improperly cooked meats Identify and describe improperly cooked meats.	Photographs	Correct identification.

SCOPE OF WORK
GRADE: 8
STRAND: FOOD

TOPIC: FOOD PREPARATION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Select methods of food preparation which retain the food's nutritional value.	Steaming, stewing, baking, microwave.	Discussion. Review previous information then select methods of food preparation which retain the food's nutritional value.	Worksheet	Correct identification of food preparation.
Prepare a flyer or pamphlet to promote the use of two methods of food preparation that contribute to good health.		Prepare a flyer or pamphlet to promote the use of two methods of food preparation that contribute to good health.	Home Economics resource books	Rubric for assessing visual aids.
Participate in a debate comparing the value of different methods of food preparation and their contribution to good health.	Information studied previously.	Participate in a debate comparing the value of different methods of food preparation and their contribution to good health.	Home Economics resource books	Rubric for assessing oral presentations.
Formulate a hypothesis on using heat to tenderize meat.		Formulate a hypothesis on using heat to tenderize meat.	*Home Economics A Caribbean Approach Book 3*	Clearly stated plausible hypothesis with valid reasons.
Design, conduct and evaluate an investigation to determine whether heat has an effect on tenderizing meat.		Design, conduct and evaluate an investigation to determine whether heat has an effect on tenderizing meat.		Rubric for assessing conducting investigations.
Formulate a hypothesis on tenderizing meat by changing pH.		Formulate a hypothesis on tenderizing meat by changing pH.		Clearly stated plausible hypothesis with valid reasons.
Design and evaluate an investigation to show whether pH has an effect on tenderizing meat.		Design and evaluate an investigation to show whether pH has an effect on tenderizing meat.		Rubric for assessing conducting investigations.

SCOPE OF WORK
GRADE: 8
STRAND: FOOD

TOPIC: FOOD PREPARATION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Design/identify a method of food preparation which retains all nutrients.		Design a method or variation of food preparation which retains all nutrients.		Plausibility, evidence of critical thinking.
Read articles on methods of food preparation.		Read articles on methods of food preparation. Write a summary of two articles read to share with classmates.	Home Economics resource books, library, magazine articles, library, Internet.	Rubric for assessing oral presentations.
Review the nutritional value, appearance and cost of preparing a particular food in each of three methods.	Boiling, poaching, steaming, stewing, pressure cooking, deep fat frying, frying, baking, barbecuing/grilling, roasting, microwave.	Select three methods of food preparation. Use a matrix to compare the nutritional value, appearance and cost of preparing a particular food in each of three methods.		Comparison with correct information.
Pose a question of interest related to food preparation and conduct relevant research.		Pose a question of interest related to food preparation. Conduct relevant research.		Clearly phrased question, evidence of critical thinking. Rubric for assessing conducting investigations/research.
Suggest how restaurants and cooks could help to improve the health of people in The Bahamas.		Prepare a letter offering suggestions how restaurants and cooks could help to improve the health of people in The Bahamas.		Number of valid points addressed, evidence of critical thinking, creativity, persuasiveness.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: THE CIRCULATORY SYSTEM DURATION: 13 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Evaluate the importance of the functions of blood.	Maintains temperature, fights infections, transports materials.	◆ Brainstorm the functions of blood. ◆ Write a few paragraphs evaluating the importance of the functions of blood.	*Human Form & Function*	Communication of information.
Read body temperature (clinical thermometer) to 0.5°C/F.	The liquid in the thermometer rises as it comes into contact with the body.	Demonstrate use of thermometer. Measure body temperature.	Clinical thermometers.	Use of apparatus, accuracy of measurement.
Use a microscope to identify a red blood cell.	Size, shape, colour.	Identify a red blood cell.	Charts, diagrams, model, compound microscope, prepared slide.	Observations made, identification.
Describe features of the red blood cell.	Size, shape, colour.	Describe features of red blood cell. Suggest reasons for the appearance and colour of cells.	Charts, diagrams, model.	Description
Make models of blood cells.	Red and white blood cells (erythrocytes, leucocytes and phagocytes).	Make models of blood cells using easily available materials to compare the size, shape and appearance.		Rubric for assessing models.
Use a microscope to identify white blood cells.	Size, shape, colour.	Identify a white blood cell.	Prepared slides, charts, diagrams, model.	Observations made, Identification.
Differentiate how lymphocytes and phagocytes work.	Phagocytes surround and ingest the causative organism/cell, lymphocytes produce a chemical to prevent the organism from functioning.	View documentary. Compare functions of white blood cells.	Textbooks, charts, video clips.	Differences clearly stated.
Recognize and explain the relationship between the presence of infection and increased white blood cell production.	Amount, shape/appearance of blood cells, infection stimulates production of white blood cells.	List common diseases or disorders of blood. View documentary.	Video clip, textbooks.	Relationship clearly shown.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: THE CIRCULATORY SYSTEM (BLOOD)

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Explain the relationship of the structure of blood cells to their function.	Size, shape – bi-concave shape gives increased surface area for transportation of oxygen, amoeboid shape – engulfs bacteria.	Observe cells and form inferences. Discussion. View documentary.	Video clip, diagrams of red and white blood cells.	Plausible relationships clearly stated.
Make models of blood cells.	Red/white blood cells, platelets.	Make models of blood cells.	Cotton, cardboard, paper, glue, scissors.	Rubric for assessing models.
Perform a demonstration showing the action of platelets in blood clotting.	Platelets help to seal wounds and stop excess bleeding. Platelets cause fibres to be made that form criss-cross into a mesh. Blood cells cannot escape through the mesh and get stuck forming a clot which dries into a scab.	View video clip. Read a simplified version of the process of blood clotting. Perform a skit.	Video clip, *Human & Social Biology for the Tropics; Human From & Function*	Rubric for assessing visual presentations.
Make a flyer showing the role and importance of blood plasma.	Functions of blood plasma.	Make a flyer.	Cardboard, paper, glue, scissors, markers.	Rubric for assessing visual aids.
Make a diagram showing the composition of blood.	Red and white blood cells, platelets and plasma.	Draw and label diagrams showing the relative composition of blood (types of blood cells and plasma).	Graph paper, construction paper, glue, scissors, data.	Correct relative amounts of blood components clearly shown.
Draw a conclusion about the condition of a person based on the blood composition given.	Relative composition of blood cells, too few rbcs – anaemia, too many wbcs infection, leukemia.	Observe composition of blood in different scenarios. Draw a conclusion about the condition of the person in each case.	Diagrams.	Conclusions drawn.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: THE CIRCULATORY SYSTEM (BLOOD GROUPS)

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Plan an investigation to determine a person's blood group.	A, B, AB, O	Group blood.	Blood grouping kit (artificial blood), gloves.	Rubric for assessing planning an investigation.
Design a pamphlet to educate the public on the importance of blood typing for transfusions.	Compatibility matrix/table. Incompatible blood groups cause clotting and eventual death.	Conduct literary research. Design pamphlet.	*Human & Social Biology for the Tropics* Literary material, computers, paper, markers.	Rubric for assessing visual aids.
Formulate a hypothesis as to whether there is an advantage in having a particular blood group.	Universal donor/recipient. Age, race, country, profession, level of education.	Formulate a hypothesis as to whether there is an advantage in having a particular blood group. List possible advantages and disadvantages of having certain blood groups. Discussion.	Data of blood types for known persons.	Plausible hypothesis clearly stated.
Take a survey of blood groups.	A, B, AB, O	Compile data from the surveys (grade level, school or community).	Surveys	Collection and recording of data.
Determine the percentage of each blood group in the population surveyed.	A, B, AB, O	Calculate percentages.	Calculators	Processing of data.
Construct a bar graph using data of students' blood groups.	Blood groups	Compile, interpret data. Construct graph.	Markers, chart papers, graph paper, data of blood groups from the survey.	Rubric for assessing graphs.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: THE CIRCULATORY SYSTEM (BLOOD GROUPS)

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use statistics of blood groups in the grade to predict what the ratio would be in the next generation.	A, B, AB, O	Make predictions by analyzing statistics.	Statistical data.	Plausible predictions based on data.
Suggest reasons for the results of the data collected on blood groups.	A, B, AB, O	Suggest reasons for the results of the data collected on blood groups.	Data	Plausible suggestions that are logical outcomes from the data.
Plan and conduct an investigation to determine whether there is an advantage in having a particular blood group.	A, B, AB, O	Compare advantages and disadvantages of having certain blood groups.	Data (blood groups and professions) on a number of persons of various backgrounds.	Rubric for assessing investigations.
Use information researched to describe how knowledge, attitudes and behaviours toward blood transfusions have changed over time.	Age, race, country, profession, level of education.	Conduct literary research. Write a brief essay describing how knowledge, attitudes and behaviours toward blood transfusions have changed over time.	Internet & resource book articles.	Rubric for assessing conducting research.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: THE HEART DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe and identify the parts of a mammalian heart.	Septum, right/left ventricles, right/left auricles, aorta, pulmonary vein/artery, valves, vena cava.	Identify parts of the mammalian heart.	Mammalian heart (cow, sheep, pig, goat), gloves, plastic aprons.	Observations made. Main parts correctly identified.
Make an annotated diagram of the heart.	Atria/auricles, ventricles, vena cava, pulmonary vein/artery, aorta, septum, valves.	Draw and label diagrams.	Charts, diagrams, textbooks.	Accuracy of drawing and notes.
Formulate a hypothesis as to whether the number of chambers in a heart is related to its efficiency.	Number of heart chambers.	List advantages and disadvantages of having many/few heart chambers.	Charts, diagrams of vertebrates with different number of chambers.	Plausible hypotheses, clearly stated.
Plan an investigation to determine whether the number of chambers in a heart is related to its efficiency.	Heart chambers.	Literary research. Plan an experiment to compare efficiency of hearts.	Articles in resource books.	Rubric for assessing planning investigations.
Explain the relationship between diet and proper functioning of the heart.	Excessive intake of foods rich in cholesterol/saturated fat contribute to heart attack.	Oral presentation. View documentary.	Video clip. Articles on cholesterol – foods with a high content, effects on the heart.	Relationship correctly and clearly shown.
Draw a conclusion about the plausible condition of a person's heart, based on their diet.	Relative composition of fat in diet, frequency of eating foods with a high cholesterol content.	Observe food residues.	Photographs of fruits, vegetables, fried foods. Foods high in cholesterol, clogged arteries.	Conclusions drawn.
Find out the latest methods in treating heart conditions (surgery [by-pass, pace makers]).	Murmurs, hole, palpitations, blocked artery.	Conduct literary research.	Internet, magazines, newspapers, radio and television programmes.	Rubric for assessing conduction research.
Identify and adopt practices to maintain the health of the heart.	Diet low in cholesterol, high in vegetables, fruit, beans, exercise.	Create a brochure urging peers to adopt practices to ensure healthy heart.	Guest speaker (dietician, fitness instructor).	Application of principles – long-term behaviour.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: BLOOD VESSELS DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Classify blood vessels according to their function.	Arteries – take blood away from the heart, capillaries – allow gaseous exchange, veins – take blood to the heart.	Compare functions of blood vessels. List features that enable vessels to carry out specific functions.	Chart of Circulatory System.	Blood vessels correctly identified/classified.
Use correct names for common blood vessels.	Aorta, vena cava, pulmonary vein/artery, hepatic, carotid, renal, femoral, coronary vein/artery.	Label blood vessels.	Chart and diagrams of Circulatory System.	Vessels referred to using correct names.
Observe the thinness of a capillary wall.	One-cell thick.	Observe prepared slides. Observe diagrams. Make a sketch diagram showing the thinness of the capillary wall.	Prepared slides, diagrams and charts.	Accuracy of diagram.
Observe structural differences between arteries & veins.	Compare: diameter, thickness of walls, elasticity.	Construct a matrix to show comparisons.	Chart paper, diagrams.	Accuracy of information and comparison.
Differentiate between diagrams of cross-section of three types of blood vessels.	Arteries, capillaries, veins – diameters artery and vein are wide, capillary narrow, thickness of walls arteries are thick, veins not thick and capillaries are thin, and appearance, valves in veins.	Classify blood vessels according to diameter, thickness of walls, and appearance.	Charts, diagrams.	Blood vessels correctly classified based on diagrams.
Recognize and explain the relationship between the thickness of walls of blood vessels to the pressure of blood.	Blood vessels closer to the heart have thick walls to withstand the pressure of blood being pumped from the heart.	Experiment: investigate effects of thickness of walls of a tube and its effectiveness in withstanding water pressure. Oral presentation.	Tape recorder, camcorder, literary material, hose, water.	Rubric for assessing presentation/investigations.
Recognize and explain the relationship between the presence of valves and low blood pressure.	Blood flowing under low pressure might flow backwards; valves prevent this.	Observe TS and LS vein showing valves.	Charts, diagrams, prepared slides.	Recognition of relationship.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: BLOOD VESSELS

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe differences of healthy & clogged arteries by comparing diagrams.	Appearance, diameters, clogging agent.	Compare diagrams of clogged/unclogged blood vessels.	Charts, textbooks.	Accuracy of observations described.
Construct a functional model with the characteristics of an "aorta".	Size, shape, texture.	Construct a functional model with the characteristics of an "aorta".	Glue, synthetic material, tubes.	Rubric for assessing models.
Identify practices that promote a healthy circulatory system.	Diet, exercise.	Create a brochure urging peers to adopt practices to ensure healthy heart. Pursue these practices.	Guest speaker (dietician, fitness instructor).	Rubric for assessing visual aids. Long-term behaviour.
Demonstrate the movement of blood through the heart.	Vena cava → right auricle → right ventricle → pulmonary artery → lungs → pulmonary vein →left auricle → left ventricle → aorta	Demonstrate (electronically, model or drama) the movement of blood through the heart.	Newspapers, cardboard, markers, straws, liquid.	Rubric for assessing models/visual presentations.
Demonstrate the relationship between heartbeat phases and the movement of blood through the heart.	Diastole – movement from atria to ventricles. Systole – movement from ventricles out of heart and veins into atria.	Observe video clip/chart diagrams. Make a visual presentation showing the relationship between heartbeat phases and the movement of blood through the heart.	Model of heart, tubing, coloured liquid.	Rubric for assessing visual presentations.
Explain what a pulse is.	The spurt of blood through arteries corresponding to systoles forms the pulse. Pulses are detected in arteries that are superficial.	Feel the heart beat. Feel the carotid and radial pulses Explain what a pulse is.	*Human Forma and Function*	Accuracy of information.
Predict how exercise would affect pulse rate.	Rigorous exercise requires more oxygen; hence the heartbeat increases to supply more blood with oxygen.	Listen to heartbeat. Take pulse before and after exercise.	Wrist, middle and index finger, stethoscope.	Predictions made.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: PULSE

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Plan and conduct an investigation to determine how exercise affects pulse rate.	As for pervious learner outcome.	Group discussion. Plan/conduct experiment. Compare pulse rate of peers before and after exercise.	Textbooks, Resource books, stopwatch.	Rubric for assessing conducting investigations.
Take the pulse or heartbeat for one minute.	Number of pulses in one minute.	Count number of pulses in given time.	Stopwatch	Collection and recording of data.
Observe the difference in pulse rate before & after exercise.	Beats per minute.	Take pulse of at least three (3) persons before and after exercise.	Wrist, middle and index fingers, stopwatch.	Differences clearly shown.
Construct a graph to show the difference in pulse rate before and after exercise.	Bar graph	Construct a graph.	Graph paper, construction paper, glue, scissors, data.	Rubric for assessing processing data.
Recognize and control variables when taking pulse rates.	Exercise, anxiety, age, gender.	Take pulse rate of peers before and after activity.	Stopwatch	Variables identified and all but one controlled.
Plan an investigation to determine whether pulse rate depends on an environmental factor.	Radial pulse. Temperature and humidity directly affect pulse rate.	Plan an investigation to determine whether pulse rate depends on an environmental factor.	Stopwatch	Rubric for assessing investigations.
Make a model of the double circulatory system.	Structures, path of blood.	Make a model of the double circulatory system.	Textbooks, resource books, string, yarn, sanitary cups, tape, glue, tubing, straws.	Rubric for assessing models.
Make an oral presentation describing the double circulation.	The heart is divided into two halves, each half working as a separate pump. One side of the heart pumps blood to the lungs and back to the heart. The other side of the heart pumps blood to all other parts of the body and back to the heart.	Make an oral presentation describing the double circulation.	Textbooks, resource books.	Rubric for assessing oral presentations.
Pose a question on the circulatory system which extends knowledge.	Circulatory systems.	Pose a question on the circulatory system which extends knowledge.	Vocabulary, notes.	Validity of the question and linkage to content studied.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: THE RESPIRATORY SYSTEM DURATION: 8 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
State the function of the respiratory system and define breathing.	Respiratory system ensures that cells are provided with oxygen for respiration and energy production.	Brainstorming and discussion.	Textbooks and resource books.	Oral statements.
Use correct names for parts of the respiratory system.	Trachea, pharynx, larynx, epiglottis, bronchi, bronchial tubes, bronchioles, pleural membranes, diaphragm, alveoli.	Activities to match names to structures.	Diagrams, labels, puzzles, flash cards, electronic games.	Number of parts correctly identified.
Make an annotated diagram of the respiratory system.	Functions for each part named above.	Make an annotated diagram of the respiratory system.	Diagrams of the respiratory system.	Number of correct notations written.
Recognize and explain the difference in diameter of air tubes from the trachea to the alveoli.	State the diameter of trachea, bronchus (left and right), bronchial tubes, bronchioles.	Create model using clay, showing how the diameter becomes smaller and smaller in the lower respiratory passages.	Clay	Rubric for assessing models.
Use a microscope to observe an alveolus.	Observe the thin epithelium of the alveolus A capillary surrounds the alveolus. Oxygen diffuses out of the alveolus into the capillary and carbon dioxide diffuse into the alveolus from the capillary.	Use a microscope to observe an alveolus. Use clay material to create a model of the alveolus.	Microscope, prepared slide, clay.	Rubric for assessing use of microscope (apparatus and materials). Rubric for assessing models.
Observe chest movements during breathing.	Describe the mechanics of breathing: contractions of diaphragm and intercostal muscles, movement of diaphragm downward & ribcage up and outward, increase cavity air pulled in. Opposite for exhalation.	Observe chest movements associated with breathing. Allow students to measure the length of time that they can hold their breath. Describe what happens during breathing.	Stopwatch	Accuracy of description.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: THE RESPIRATORY SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a model of the respiratory system.	Parts of the System. Trachea, bronchi, lungs, rib cage, diaphragm.	Make a model of the respiratory system.	Plastic cups, balloons, straws, rubber bands, scissors, tape.	Rubric for assessing models.
Observe what actions cause the balloons to inflate in a model respiratory system.	Increasing the volume of the cavity by pulling down on the balloon at the base of the cup causes air to move into the little balloons in the cup and this inflates them.	Pull down on the balloon that represents the diaphragm at the base of the cups to inflate the smaller balloons that represent the lungs.	Plastic cups, balloons, straws, rubber bands, scissors, tape.	Functionality of the model.
Construct a functional model with the features of a larynx.	Identify the location and explain the function of the vocal cords. Relate parts to their function.	Create a model using various materials.	Latex/meta/clay/plastic, strings, elastic bands.	Rubric for assessing models.
Make an oral presentation describing breathing.	Describe the flow of air from the nostrils to the alveolus. Describe the mechanics of breathing and the role of respiratory muscles.	Make an oral presentation describing breathing.	Computer, LCD projector, slides.	Rubric for assessing models.
Demonstrate gaseous exchange.		Demonstrate (electronically, model or drama) gaseous exchange and transportation of oxygen and carbon dioxide by the blood.	Textbooks, resource books.	Accuracy and application of the principle of gaseous exchange.
Recognize the relationship between the structure of the alveoli, capillaries and cells to gaseous exchange.	Alveoli, capillaries and cells have thin membranes that allow for the exchange of gases.	Experiment to demonstrate the process of diffusion.	Perfume, potassium permanganate in water.	Description of the movement from area of more outward to less.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: THE RESPIRATORY SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Explain the relationship between the circulatory system and the respiratory system.	Respiratory system brings gases into and out of the body and the circulatory system transports the gases to and from the tissues.	Make a visual display to show the relationship between the circulatory system and the respiratory system.	Cards, etc.	Rubric for assessing visual aids, relationship clearly shown.
Use a word equation to summarize cellular aerobic respiration.	Glucose and oxygen react to produce carbon dioxide, water and energy.	Brainstorm an equation. Write word equation identifying the reactants and products of the reaction.	Textbooks	Correct expression of word equation.
Predict the effect particular factors might have on breathing rate.	Factors such as exercise, emotions such as fear, anger increase breathing rates.	Predict the effect particular factors might have on breathing rate.	Stopwatch	Plausibility of prediction.
Formulate a hypothesis as to whether breathing rate varies with exercise, age, gender or size.	Breathing rate varies with age, size and exercise.	Formulate a hypothesis as to whether breathing rate varies with exercise, age, gender or size.	Textbooks, resource books.	Plausibility and clarity of hypothesis.
Recognize and control variables when taking breathing rates.	Variables – anxiety/emotions, activity/exercise, weight, age, temperature.	Identify variables. Control variables during breathing investigations.		Realistic variables identified and all but one controlled.
Plan an investigation to determine whether breathing rate depends on an environmental factor.	Environmental factors – temperature, humidity.	Plan an investigation to determine whether breathing rate depends on an environmental factor.		Rubric for assessing investigations.
Design and conduct an experiment to show that activity has an effect on breathing rate.	Breathing is a mechanical process which is increased by an increase in exercise or activity.	Record breathing rate before and after exercise on a variety of subjects.	20 subjects of approximately the same age and size.	Rubric for assessing investigations.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: THE RESPIRATORY SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use stopwatch/clock to measure breathing rate.	State the normal breathing rate for humans. Describe factors that can affect the breathing rate.	Students measure the breathing rate of students.	Stopwatch.	Uses stopwatch correctly.
Take breathing rate for 30 seconds.		Measure and record the number of breaths in 30 seconds. Repeat.	Stopwatch.	Measure accurately and recorded clearly.
Calculate breathing rates.	Conversion of the number of breaths per 30 seconds to per minute.	Multiply the readings in 30 seconds by 2.		Rubric for processing data.
Find the average breathing rate per minute per person, for a given number of people.	Average breathing rate – adding all the breathing rates and divide the number of breathing rates recorded.	Measure the breathing rate of 10 students in the class. Calculate the average breathing rate for the 10 students.	Stopwatch (as above).	Rubric for processing data.
Construct pie graphs showing the composition of inhaled and exhaled air.	Inhaled air has more oxygen (20%), less carbon dioxide (0.04%) and exhaled air has more carbon dioxide (4%) and less oxygen (16%). Nitrogen, hydrogen, water vapour.	Draw, label and colour pie graph.		Rubric for assessing processing data.
Use apparatus and materials to safely compare the carbon dioxide content in inhaled and exhaled air.	Boiling tubes, straws, limewater.	Use apparatus and materials to safely compare the carbon dioxide content in inhaled and exhaled air.	Boiling tubes, straws, limewater.	Correct use of apparatus and materials.
Use limewater to test for carbon dioxide.	Carbon dioxide turns colourless lime water cloudy or milky. As above.	Use limewater to test for carbon dioxide.	As above.	Rubric for assessing investigations.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: THE RESPIRATORY SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Draw a conclusion about the relative composition of carbon dioxide in inhaled and exhaled air.	Cellular respiration produces carbon dioxide which increases concentration in exhaled air when compared to inhaled air.	As above.	Air, exhaled air, lime water as above.	Valid conclusion based on observations, well-stated.
Make observations from comparing photographs of lungs of non-smokers and smokers.	The lungs of non-smokers are pink and spongy; those of smokers are dark/black with large spaces/alveoli.	Observe pictures showing the lungs of smokers and non-smokers.	Internet, charts, textbooks, resource books.	Accuracy of observations made.
Identify situations that necessitate and adopt the practice of wearing a mask to protect the nose.	Toxic fumes, fire/smoke, landscaping – mowing, masonry, saw-dust.	Brainstorming Research	Library, Internet.	Number of situations correctly identified.
Avoid smoking.	Smoking causes cancer and other respiratory diseases.	Research the affects of smoking on health.	Internet	Rubric for assessing research. Long-term behaviour.
Find out the components in vehicle exhaust fumes and their effects on humans.	Carbon monoxide interferes with the blood's ability to carry oxygen. Nitrogen oxides damage the lungs and may cause cancer. Volatile organic compounds that cause cancer. Smoke which causes respiratory problems and cancer.	Research the components of vehicle exhaust fumes. Research the affects of these components on health. Contribution of exhaust fumes to air pollution.	Textbooks, resource books, library, Internet.	Rubric for assessing conducting research.
Compare the efficiency and effectiveness of breathing through the nose versus the mouth.	Hairs filter, mucus traps particles, cilia beat mucus to pharynx to be swallowed, capillaries in lining warm air, mucus moistens air. Mouth – not moistened, warmed, filtered or cleaned.	Think-pair-share Discussion Construct Venn diagram		Number of points included and accuracy of Venn diagram.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: THE SKIN DURATION: 2 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make an annotated diagram of the skin.	The skin is an excretory organ and a sense organ. Epidermis, dermis, subcutaneous fat, hair, sweat gland, nerve endings, sebaceous glands.	Make an annotated diagram of the skin.	Diagrams of skin, chart, textbook.	Accuracy of diagram and notes.
Evaluate the extent to which the skin is adapted to carry out its functions.	Excretion – increased surface area sweat glands & surrounded by capillaries; Protection – epidermis & malpighian layer; cooling – large surface area & capillaries close to surface.	Research the functions of the skin (excretion, temperature regulation and protection). Write a short essay describing the extent to which the skin is adapted to carry out its functions.	Text, Internet.	Number of valid points and persuasiveness of the essay.
Use a microscope to identify structures of the skin.	Identify various glands and blood vessels.	Use microscope to view a prepared slide showing structures of the skin. Make a sketch to show the structures observed.	Microscopes, slides showing skin structures.	Correct use of apparatus and materials.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: EXCRETORY SYSTEM DURATION: 5 lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use correct names for parts of the urinary system.	Kidneys, ureter, urethra, bladder, renal arteries and renal veins.	Complete word search activity. Label diagram.	Chart showing urinary system, flash cards.	Correct labeling of diagram.
Make an annotated diagram of the urinary system.	As above.	Write notes beside the labels on the diagram of urinary system.	Color pencils, pencil, chart of urinary system, textbooks, resource books.	Accuracy of information used as notes.
Construct a model showing the features of a kidney.	Identify the different parts of the kidney (cortex, medulla, pelvis) and location of the kidney.	Create a model of the kidney using clay.	Clay	Rubric for assessing models.
Make a model of the urinary system.	Describe the function of the urinary system	Create model of urinary system using clay.	Clay	Rubric for assessing models.
Formulate a hypothesis as to whether increased fluid intake causes increased urinary or fluid output.	Increased fluid intake results in increased urinary output.	Formulate a hypothesis as to whether increased fluid intake causes increased urinary or fluid output.	Internet, text.	Plausible hypothesis clearly stated.
Plan an investigation to determine whether fluid intake affects fluid output.	The kidney regulates and maintains the water balance of the body. Water balance occurs when the intake of water equals the output of water.	Measure and record fluid intake and output of taking in various amounts of water in one day.	Graduated (measuring) container, urine (personal at home), chart for recording information.	Rubric for assessing investigations.
Measure fluid intake and fluid output for a 24 hour period.	Fluid intake consists of all fluids ingested and fluid output includes all fluids egested or vomited.	Measure fluid intake and fluid output for a 24 hour period using oneself as the subject.	Measuring container, urine, chart for recording information.	Accuracy of measurements.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: ECRETORY SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Construct a bar graph to show the relationship between fluid intake and fluid output.		Use data from students or resource books to construct a bar graph to show the fluid intake and fluid output.		Rubric for assessing processing data (graphs).
Drink required quantity of water to facilitate proper functioning of the kidneys.	Water is important for healthy kidneys.	Drink required quantity of water to facilitate proper functioning of the kidneys.		Long-term behaviour.
Draw a conclusion about the condition of a person based on the presence or absence of sugar in their urine.	Sugar is not a normal constituent of urine. If it is present, it indicates that the person might be suffering from a disease called diabetes.	Research to find out information about diabetes and symptoms of diabetes. Also to discover the relationship between diabetes and kidney failure.	Cases (composition/test results) given.	Valid conclusion based on data and clearly stated.
Draw a conclusion about the condition of a person based on the color of their urine (dark or light).	Dark urine may indicate insufficient water intake. It may also be a symptom of a disease.	Research to find out the diseases that might cause a person's urine to be dark or light.	Coloured photographs of different urine samples.	Valid conclusion based on data and clearly stated.
Pose a question on the excretory system which extends knowledge.		Pose a question on the excretory system which extends knowledge.		Validity of question, relevance of content to content studied.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: REPRODUCTION DURATION: 8 LESSONS

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe structures of the male reproductive system.	Testicles, sperm ducts/tubes, prostate gland, scrotum, urethra.	Observe structures of the male reproductive system from diagrams.	*Human Form & Function* charts	Correct identification of male reproductive organs.
Use correct names for parts of the male reproductive system.	As above.	Labeling diagrams, quizzes, puzzles.	*Human Form & Function*	Correct identification of male reproductive organs.
Make an annotated diagram of the male reproductive system.	Note the function of each of the labeled structures.	Labeling diagrams.	*Human Form & Function*	Correct notations.
Describe features of the sperm cell that make it efficient at carrying out its job.	Description of sperm cell specialization, i.e. tail for swimming, numerous mitochondria for energy production.	Oral presentations.	*Human Form & Function*	Accurate description of specialization of sperm cell.
Observe structures of the female reproductive system (by viewing diagrams).	Female and reproductive organs in humans.	As per the learner outcomes, viewing diagrams; also simulations and animal dissection demonstrated by instructor.	*Human Form & Function*	Correct identification of female reproductive organs.
Use correct names for parts of the female reproductive system.	Nomenclature of female reproductive organs in humans.	Labeling diagrams, quizzes, oral presentations.	*Human Form & Function*	Correct identification of female reproductive organs.
Make an annotated diagram of the female reproductive system.	Scientific names for parts of the female reproductive anatomy in humans.	Labeling diagrams.	*Human Form & Function*	Correct labeling of female reproductive organs.
Describe features of the ovum cell that make it efficient at carrying out its job.	Description of sperm cell specialization, i.e. flagella (tail) for swimming, numerous mitochondria for energy production.	Oral presentations.	*Human Form & Function*	Accurate description of specialization of ovum cell.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: PUBERTY & MENSTRUAL CYCLE

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Identify and adopt practices that promote health and hygiene of reproductive organs.	Description of hygienic practices relating to reproductive organs, i.e. proper & frequent washing.	Brainstorming Discussion Guest speaker Make a flyer showing tips for the health and hygiene of reproductive organs.		Rubric for assessing visual aids.
Describe the secondary sexual characteristics of males.	Facial and pubic hair, hair in armpits & torso, broadened shoulders, muscular arms, voice deepens, nocturnal emissions.	Identify the secondary sexual characteristics of males. Describe the secondary sexual characteristics of males.	*Human & Social Biology for the Tropics*	Number of characteristics identified and clearly described.
Describe the secondary sexual characteristics of females.	Broadening of hips, development of breasts, onset of menstrual cycle/period, pubic hair and hair in armpits.	Identify the secondary sexual characteristics of females. Describe the secondary sexual characteristics of females.	*Human & Social Biology for the Tropics*	Number of characteristics identified and clearly described.
Relate secondary sexual characteristics, puberty and hormones.	The roles of oestrogen & testosterone in the development of secondary sexual characteristics in females & males respectively. Oestrogen and testosterone initiate the maturation of ova and sperms beginning at puberty.	Brainstorm meaning of puberty. Relate sexual maturity (puberty) to the release of hormones. Relate the importance of secondary sexual characteristics to finding a mate/mating. Relate hormones to puberty.	*Perspectives on Health*	Relationships clearly shown.
Explain the fertile years.	Between puberty and menopause in females – during these years ova/gametes are being produced.	Discuss the significance of puberty and menopause. Identify or calculate the fertile years for women whose data is given.	*Human & Social Biology for the Tropics*	Fertile years correctly identified with correct reasons for selection.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: PUBERTY & MENSTRUAL CYCLE

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make an oral presentation describing the menstrual cycle.	Stages in the menstrual cycle, i.e. ovum development, thickening of uterine wall, ovulation, and menstruation, oestrogen and progesterone.	Make an oral/visual presentation describing the menstrual cycle.	*Human Form & Function* *Human & Social Biology for the Tropics* *Perspectives on Health*	Rubric for making visual presentations.
Use a calendar to determine the forecasted next ovulation period and menstruation based on information given.	Day 1 is first day of period – last day is day before next period begins. No. of days = menstrual cycle. Days 1-5: Menstruation Days 6-14:ovum development & Repair of uterine wall Days 14-18: Ovulation Days 18-26: Continued thickening of uterine wall (if ovum fertilized) 26 – 28 breakdown of uterine lining (ovum not fertilized) menses – day 1 **length of menstrual cycle varies from person to person**.	Use a calendar to determine the menstrual cycle length, the forecasted next ovulation period and menstruation based on information given.	*Human Form & Function* *Perspectives on Health*	Number of dates and cycles correctly determined.
Read body temperature to 0.5°C/F	Correct use of thermometer.	Reading of body temperatures.	Clinical thermometers.	Accurate reading of body temperature to 0.5°C/F
Draw a conclusion about a point in a woman's menstrual cycle, based on hormone levels.	High progesterone levels as indication of pregnancy, high oestrogen level is indication of onset of ovulation.	Use fictional scenarios to identify stages of menstrual cycle based on hormone levels given.	*Human Form & Function* *Perspectives on Health*	Correct identification of stages in menstrual cycle, based only on hormone levels given.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: CONCEPTION & PREGNANCY DURATION: 6 LESSONS

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Draw a conclusion about the plausibility of a woman being pregnant, based on the level of progesterone indicated.	High progesterone levels as indication of pregnancy.	Draw conclusion about the possibility and justify by alluding to hormone levels, in fictional scenarios given.	*Human Form & Function*	Accurate prediction about the plausibility of pregnancy, based only on hormone levels given.
Draw a conclusion about the possibility of conception at various points in the menstrual cycle.	Conception most likely during ovulation because an ovum is available for fertilization.	Draw a conclusion about the possibility of conception at various points in the menstrual cycle.	*Perspectives on Health* *Human Form & Function*	Accurate prediction about the plausibility of pregnancy.
Recognize and explain the relationship between amenorrhea (retained uterine lining) and pregnancy.	In the event of pregnancy, the yellow body continues releasing progesterone, causing, the uterine lining to continue to thicken and stay in place so that implantation can occur. Consequently, periods are missed if a woman becomes pregnant.	Explain the relationship between amenorrhea (retained uterine lining) and pregnancy.	*Human Form & Function*	Accurate analysis of scenarios given.
Recognize and explain the relationship between emotional state & healthy/regular menstrual cycle.	Menstrual Cycle is affected (length, regularity & quantity) by physical sickness or emotional stress.	Conclusive analysis of fictional scenarios.	*Human Form & Function*	Relationship shown between physical health and regular menstruation; emotional well-being and regular menstruation.
Make an annotated diagram of a foetus in amniotic fluid.	Functions of each labeled part: amniotic sac/amnion, amniotic fluid, placenta, foetus, and umbilical cord.	Make an annotated diagram of fetus in amniotic sac.	*Human Form & Function*	Accuracy of notations, clarity of diagram.
Describe the position of foetus in the uterus prior to birth.	Downward facing position of foetus in preparation for birth.	Descriptive writing.	*Human Form &Function*	Accurate and detailed description of foetal position.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: ANTE AND POSTNATAL CARE

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Construct a model with features of an amniotic sac.	Amniotic sac contains amniotic fluid, which absorbs shock, protects foetus from shock & bruises, and enables foetus to move about.	Group project to construct product with features of amniotic sac (shock absorption, protection).	*Human Form & Function*	Rubric for assessing models.
Evaluate the importance of amniotic fluid.	Amniotic sac contains amniotic fluid, which absorbs shock, protects foetus from shock & bruises, and enables foetus to move about.	Research the functions of amniotic fluid. Explain the importance of amniotic fluid.	*Human Form & Function*	Accurate description of the functions and importance of amniotic fluid.
Predict the effect of alcohol and drug use on a foetus.	Drugs such as marijuana, alcohol, cocaine, & nicotine can cause miscarriage, premature birth, dependence of the baby on said drug, withdrawal and other circumstances such as brain damage and heart damage, physical deformities, mental retardation, low birth weight, and learning disorders.	Predict the effect of alcohol and drug use on a foetus.	*Perspectives on Health*	Plausible predictions with appropriate reasons.
Make a presentation about the stages of birth.	Stages of birth including the breaking of water, contractions & dilation, crowning, afterbirth.	Make an oral/visual presentation.	*Human Form & Function*	Rubric for assessing presentations.
Formulate a hypothesis as to whether utilizing ante and post natal care are advantageous for mother and child.	Processes involved in ante and postnatal care, including: diet, weighing; blood pressure checks; blood, urine, hormonal & vaginal tests in antenatal care; blood tests and examination of the baby in postnatal care.	Formulate a hypothesis as to whether utilizing ante and post natal care are advantageous for mother and child.	*Human Form & Function*	Plausible hypothesis clearly stated.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: ANTE AND POSTNATAL CARE

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Predict the effect of skipping ante and postnatal care on both the mother and child.	As for previous learner outcome.	Predict the effect of skipping ante and postnatal care on both the mother and child.	*Human Form & Function*	Plausible predictions with reasons.
Recognize and explain the relationship between ante and post natal care and health of mother and child.	The role of ante and postnatal care in preserving the health of mother and child. Deficiency in ante and postnatal care has a higher risk for illness in mother and/or child.	Conduct interviews of mothers who did and did not use ante and postnatal care. Interview nurses at clinics. Write a report about information from the interviews.	Resource persons within community *Human Form & Function*	Rubric for conducting investigations; relationship clearly explained.
Evaluate the importance of ante & postnatal care.	As above.	Make a brochure evaluating the "pros and cons" of ante & post natal care to show their importance.	*Human Form & Function*	Valid points made, persuasiveness in showing the importance.
Communicate, orally or through drama, the procedures and importance of both ante and postnatal care.	As above.	Dramatic presentation to demonstrate procedures carried out & their importance.	*Human Form & Function*	Rubric for assessing oral presentations.
Make a model of apparatus used in ante or postnatal clinics.	Apparatus utilized in ante and post natal clinics.	Groups build model of chosen apparatus utilized in clinic & describe the same, orally, in class.	Clinics	Rubric for assessing models.
Find out the latest procedures in ante and postnatal care.	Current developments in ante and postnatal care.	Research project.	Resource persons within the community. The Internet.	Project detailing latest procedures in ante and postnatal care.
Predict the effect of using milk formulas to replace breast milk on the health of baby and its bonding with mother.	Breast milk gives nutrients, antibodies, prevents diahorrea, bonding, and shrinkage of uterus (weight loss) for mother.	Discussion of the benefits of breastfeeding. Predict the effect of using milk formulas to replace breast milk on the health of baby and its bonding with mother.	Resource persons within the community, e.g. nurses *Perspectives on Health* *Human Form & Function*	Plausible predictions based on benefits of breastfeeding.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: BREAST FEEDING

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Formulate a hypothesis as to whether there are advantages in breast feeding for mother and child.	Benefits of breast feeding including bonding and antibodies transferred for the baby and shrinkage of uterus (weight loss) for mother.	Formulate a hypothesis as to whether there are advantages in breast feeding for mother and child.		Formulation of logical hypothesis with justification.
Recognize and explain the relationship between breast feeding and susceptibility of baby to illnesses.	Breast fed babies as less susceptible to illnesses due to antibodies present in colostrums.	Same as above.	Resource persons within the community, e.g. nurses *Perspectives on Health* *Human Form & Function*	Accurate description of inverse relationship between breast feeding and frequency of illness.
Use information researched to describe how knowledge, attitudes and behaviours toward breast feeding have changed over time.	Breastfeeding used to be accepted practice. As women became a part of the professional workforce, practice declined. Recently health consciousness has increased and the acceptance of breastfeeding.	Conduct research – interviews or read newspapers and magazines.	Persons within the community Surveys Dept of Health	Rubric for conducting research and clarity in describing the findings.
Find out latest information on the advantages of breast feeding for mother and child.	Benefits of breast feeding in addition to those mentioned.	Conduct research to find out latest information on the advantages of breast feeding for mother and child.	The Internet, library, magazines, news articles Public Health Dept. /Ministry of Health.	Description of benefits discovered other than those discussed.
Recognize and explain the relationship between abstinence/using contraceptives and number of pregnancies recorded.	Contraceptives and their effectiveness in preventing pregnancy.	Analyse fictional/real statistics on contraceptive use and pregnancies/births over a number of years. Describe the relationship.	Statistics from Bahamas Family Planning, Dept. of Public Health, local clinics.	Accurate analysis of data, relationship clearly described and explained.
Evaluate the importance of family planning.	Meeting economic and social needs for individuals, families and the country.	Group discussions & presentations. Analysis of scenarios given.		Number of logical points made.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: CONTRACEPTIVES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Classify contraceptives.	Barrier – condoms, diaphragm; chemical – spermicides, IUD, pills, patch or surgical (tubular ligation, vasectomy.	Observe diagrams of contraceptives and procedures. Classify contraceptives in a matrix.	Photographs, textbooks, posters, artifacts.	Contraceptives correctly identified.
Formulate a hypothesis as to which contraceptive is most effective.	Relative effectiveness of various contraceptives.	Formulate a hypothesis as to which contraceptive is most effective. *Analysis of data in relation to number of pregnancies with the use of name contraceptives.*	Resource persons from community.	Plausible hypothesis clearly stated.
Identify and adopt practices to prevent unwanted pregnancy.	Importance of family planning.	Personal letter written to self detailing importance of family planning, abstinence, method of contraceptive chosen and reasons.	Notes, textbooks.	Long-term behaviour.
Suggest reasons for changes in the number of teenage pregnancy cases (if any) over the years.	Changes in the occurrence and frequency of teenage pregnancy – change in age to marry, availability of contraceptives, increased sexual activity.	Analyse data showing the number of teenage pregnancy over the years. Suggest reasons for changes in the number of teenage pregnancy cases (if any) over the years.	Data from Ministry of Health, clinics, Dept of Statistics.	Accurate and logical analysis of data, plausible suggestions offered.
Compare the effectiveness of various contraceptives.	Short or long-term use, used just prior to intercourse or in advanced, durability, allergic reactions, relative dependency on user's memory.	Discussion Use a graphic organizer to compare the effectiveness of various contraceptives.	*Biology for Life*	Accuracy of comparison, graphic organizer.
Evaluate the advantages and disadvantages of utilizing named contraceptives.	As above.	Prepare a brochure identifying an effective preferred contraceptive (based on data) and justify by listing advantages and disadvantages.	*Biology for Life*	Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: FAMILY PLANNING

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Suggest reasons for differences in contraceptive usage among different groupings.	Differences (frequency, number of users) in usage of contraceptives among persons of genders, various races, ages, and socio-economic status and religions/denominations.	Analysis of data, discussion. Suggest reasons for differences in contraceptive usage among various races, ages, socio-economic classes of persons.	Statistics given for differences among one grouping.	Accurate analysis of data, plausible reasons given related to the data.
Describe the economic and social implications of using or refraining from using contraceptives.	Cost of contraceptives versus the cost of raising a child, pregnancy causes less time and resources for personal goals, condoms prevent transmission of STIs.	Letter written to friend who is sexually active without contraceptives describing the economic and social implications of refraining from using contraceptives.		Number of valid points, persuasiveness and logic of argument.
Determine the percentage of a teenage population that • is sexually active • utilizes contraceptives.		Analysis of data to determine percentages.	Fictional or statistics (if available) for island or country.	Rubric for processing data.
Construct a bar graph to show numbers of persons in a teenage population that • is sexually active • utilizes contraceptives.		Analysis of data to construct bar graphs.	As above.	Rubric for processing data.

SCOPE OF WORK
GRADE: 8
STRAND: BODY SYSTEMS

TOPIC: SEXUALLY TRANSMITTED INFECTIONS DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use the statistics of STI infections recorded to predict future numbers after five years.		Analyse data. Make plausible predictions.	Data from local clinics, Department of Health, Department of Statistics.	Plausible predictions with justification.
Use the statistics of teenage pregnancy cases to predict future numbers after five years.		Analyse data. Make plausible predictions.	Data from local clinics, Department of Health, Department of Statistics.	Plausible predictions with justification.
Construct a bar graph of STI's recorded over the past decade.		Construct a bar graph of STI's recorded over the past decade.	As above.	Rubric for assessing processing data.
Recognize the relationship between unhealthy lifestyle practices and transmission of STI's.	STI transmission by unprotected sexual encounters, sexual promiscuity and sharing needles.	Create a poster to discourage persons from habits that would lead to STI infection.	*Human Form & Function* *Biology for Life*	Rubric for assessing visual aids.
Recognize and explain the relationship between education and number of STI's recorded.	STI infections should decrease as information campaigns increase.	Write a letter to the Ministers of Education and Health explaining the need for national education awareness on STI's.		Number of relevant, correct points and persuasiveness of the letter.
Suggest reasons for changes in STI contractions over the years.	Abstinence/sexual promiscuity, availability/use of condoms, education/propaganda.	Analysis of data. Suggest reasons for changes in STI contractions over the years.	Data from local clinics, Department of Health, Department of Statistics.	Plausible suggestions and related to statistics.
Identify and adopt practices to prevent contracting STI's.		Letter written to self detailing the practices to be adopted to prevent STI contraction.		Long-term behaviour.
Compose a personal pledge to not be a transmitter of an STI.		Compose a personal pledge to not be a transmitter of an STI (to be kept by students).	Cue cards/index cards.	Long-term behaviour.
Find out the latest information on treating named STI's.	Current information about treating STI's.	Find out the latest information on treating named STI.	Resource books, news articles, library, Internet, brochures from Ministry of Health.	Rubric for assessing conducting research.

SCOPE OF WORK
GRADE: 8
STRAND: DISEASES AND BUSH MEDICINE

TOPIC: DISEASES DURATION: 4 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Classify the diseases/disorders (as communicable, pathogenic, degenerative, inherited, vector-transmitted, allergic, and dietary).	Vectors (air, droplets, mosquitoes) Iron-deficiency anaemia, sickle-cell anaemia, leukemia, haemophilia, blood clots, hole-in-the heart, dengue fever, hypertension, low blood pressure, nose bleed, heat stroke Allergies – hay fever, asthma, bronchitis, pneumonia, laryngitis, sinusitis, influenza, colds, sore throat, tuberculosis, whooping cough, sun burn, rash, skin sores, scabies, ringworm, acne, athlete's foot, chicken pox, measles, urinary infections Cancer, irregular periods, menstrual cramps, infertility, STI's (gonorrhoea, syphilis, AIDS, herpes).	• Read text/resource books to find out information about the named diseases/disorders. • Classify the named diseases/disorders as communicable, pathogenic, degenerative, inherited, vector-transmitted, allergic, and dietary. • Complete a matrix showing the classification of the named diseases/disorders.	*Human Form and Function* Worksheet	Correct classification. Correct information, number of points included.
Predict the time for a given/named communicable disease to be transmitted through a population.	Influenza, dengue or tuberculosis – incubation period, means of transmission, number of persons possibly affected by one person.	Predict the time for a given/named (content) communicable disease to be transmitted through a population.		Plausible prediction with reasons.
Construct a model to show the spread of communicable diseases.		Construct a graphic organizer/model to show the spread of a communicable disease.	*Human Form and Function* *CXC Human and Social Biology*	Rubric for assessing visual aids or models.
Construct a model to show the transmission of pathogens by a vector.		Make a visual aid or a model to show the transmission of pathogens by a vector.	*Human Form and Function* *CXC Human and Social Biology*	Rubric for assessing visual aids or models.

SCOPE OF WORK
GRADE: 8
STRAND: DISEASES AND BUSH MEDICINE

TOPIC: DISEASES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Design a means of controlling a disease-bearing animal vector.	Mosquitoes breed in water – life history of the mosquito.	Design a means of controlling a disease-bearing animal vector.	Resource books.	Method clearly described, method based on life history/physiology /structure or habits of specific animal-bearing vector.
Demonstrate good hygiene practices as a means of preventing the spread of communicable diseases.	Cover mouth/face with disposable tissue or the crook of the elbow; spit in the commode; wash frequently and before eating; wash hands with soap under and around the nails for 2 ½ minutes; avoid collecting water as breeding areas for mosquitoes.	Demonstrate good practices: • Washing hands • Coughing/sneezing	Handouts from the Ministry of Health. *Human Form and Function CXC Human and Social Biology*	Correct demonstrations of good practices.
Read an article on a disease not studied in class from one of the categories: communicable, congenital, degenerative, pathogenic, inherited.		• Select a disease from the sections read related to the categories of diseases specified. • Read information about the disease. • Write a summary of basic information about the disease.		Correct information written clearly in own words.
Compare the advantages and disadvantages of chemical and biological methods for controlling disease-bearing animals.	Chemical advantages – fast, inexpensive, effective against large number; disadvantages – in food chain, side effects on environment. Biological – advantages: specific target, not poison the environment; disadvantages: become pests, costly, fewer pests destroyed in a short time.	• Identify advantages of chemical methods of control. • Identify disadvantages of chemical methods of control. • Identify advantages of biological methods of control. • Identify disadvantages of biological methods of control. • Complete a graphic organizer comparing the advantages and disadvantages of chemical and biological methods for controlling disease-bearing animals.	Library, agricultural science resource books.	Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 8
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: BUSH MEDICINES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use common names to identify bush medicines.	Asthma – bay lavender, life leaf; Sinus – garlic; Colds – aloe, bay geranium; Catnip, Cerasee, March-me-if-you-can; Fever – lime, banana, fever grass; Blisters – aloe; Burns – aloe; Cancer – Snake Root; Chicken Pox – Pound Cake Bush, White Sage; Measles – Salve Bush, white Sage; Sores & cuts – Aloe, Love Vine; Blood Pressure (low) – braziletto, Prince Wood bark; Blood Pressure (high) – Breadfruit, Sour Sop, white Sailor's Cap; Diabetes – Pound Cake bush, white Sailor's Cap; Menstruation – Rock Bush; Urination – Scourge Needle, Life Leaf, Five Fingers, Strong Back.	• Observe slide show or photographs. • Match names with photographs. • Complete word puzzles.	*Bush Medicine in Bahamian Folk Tradition* Photographs (PowerPoint Presentation). Specimens (plants/pieces).	Number of photographs correctly identified with common names.
Classify common plants used in the preparation of bush medicine.	Herbs, shrubs or trees; annuals, biennials, perennials; monocotyledons, dicotyledons Free-standing, climbers; Leaves white, thick, rough surface, shiny.	• Define each group title. • Classify each plant. • Make a table or graphic organizer to classify the plants above.	*Bush Medicine in Bahamian Folk Tradition* Photographs (PowerPoint Presentation). Specimens (plants/pieces).	Rubric for assessing visual aids (graphic organizer).
Relate the external features of plants used for bush medicine to their natural habitat.	Sandy – long roots, vines (soft stems). Rocky – short roots, small leaves.	• Observe photographs of plants in their habitat. • Observe plants. • Relate the external features of plants (above) to their natural habitat on a worksheet.	*Bush Medicine in Bahamian Folk Tradition* Photographs (PowerPoint Presentation). Specimens (plants/pieces). Worksheet.	Worksheet clear relationship between features and habitat.
Describe leaf presses made from plants used as bush medicine.	Leaves of plants (above), different shapes and sizes.	• Observe leaf presses made from plants. • Describe leaf presses made from plants.		Details given in descriptions.

SCOPE OF WORK
GRADE: 8
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: BUSH MEDICINES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Conduct a survey of the neighbourhood to determine the population of a given bush medicine, compile the data for several neighbourhoods and construct a graph to show the frequency of populations.	One of: Cerasee, fever grass; Pound Cake Bush, White Sage, Love Vine, Breadfruit, Sour Sop, Five Fingers.	• Select a bush medicine plant. • Conduct a survey of the neighbourhood to determine the population of a given bush medicine, compile the data for several neighbourhoods and construct a graph to show the frequency of populations.		Rubric for assessing collecting and processing data.
Formulate a hypothesis on how a bush might be prepared to treat a given illness.	One of: Fever – fever grass; Blisters – aloe; Chicken Pox – white Sage; Urination (bed wetting) – strong back.	Formulate a hypothesis on how a plant might be prepared to treat a given illness.		Clearly stated, plausible hypothesis.
Observe relevant part of plant to determine its suitability for use in preparation of "medicine".	As Above.	• Observe relevant part of the plant (selected above). • Describe its suitability for use in preparation of "medicine".	*Bush Medicine in Bahamian Folk Tradition*	Clear description and valid reasons for its suitability.
Select appropriate parts of plant to prepare "medicine".	For plant selected above.	Teacher demonstration of preparation of the "medicine".		
Observe the texture of paste or colour of solution to determine completion of preparation.	For plant selected above.	Observe the texture of paste or colour of solution at completion of preparation.		Description of colour and/or texture.
Draw a conclusion on the expiry date of given bush medicines based on the preparation to usage time.	For plant selected above.	Draw a conclusion on the expiry date of the selected bush medicine based on the preparation to usage time.		Logical, clearly stated conclusion.
Classify "medicines" based on the methods of preparation.	Boiling (to wash area or drink), beating (to apply to area), make a paste.	Create a table to classify all medicinal plants studied based on the methods of preparation.		Correct groupings of methods of preparation, number of plant preparations correctly classified.
Construct a table of photographs/drawings of plants and their uses.	Plants studied in the Unit.	• Construct a table of photographs/ drawings of plants, methods of preparation and their uses. • Match named bush medicines to the diseases/disorders that they are used to treat.		Number of bush medicines correctly matched with the diseases/disorders.

SCOPE OF WORK
GRADE: 8
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: BUSH MEDICINES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make charts, a video or Power Point production of four bush medicines and their method of preparation.	Plants studied in the Unit.	Make charts, a video or Power Point presentation of four bush medicines and their method of preparation.		Rubric for assessing visual presentations.
Make an oral presentation to show one disease/disorder and the bush medicines to treat it.	One of: Fever – fever grass; Blisters – aloe; Chicken Pox – white Sage; Urination (bed wetting) – strong back.	Make an oral presentation to show one disease/disorder and the bush medicines to treat it.	*Bush Medicine in Bahamian Folk Tradition*	Rubric for assessing oral presentations.
Predict effects of using medicine that is prepared incorrectly.	Example - e.g. paste for external use being ingested.	Predict effects of using medicine that is prepared incorrectly.		Plausible predication and reasons.
Predict the effects of giving a child the dosage of medicine as specified for an adult.		Predict the effects of giving a child the dosage of medicine as specified for an adult.		Plausible predication and reasons.
Recognize variables and attempt to control one of the variables in preparation of bush medicine.	Fever – lime, fever grass; Variables (temperature, amount of plant material, amount of water, time).	Identify variables and attempt to control one of them in the preparation of a bush medicine (aloe or dill seed).	*Bush Medicine in Bahamian Folk Tradition*	Plausible variables identified.
Prepare a bush medicine.	Lime, cerasee or love vine.	Preparation of either lime, fever grass “medicine”.	*Bush Medicine in Bahamian Folk Tradition*	Instructional steps followed.
Measure temperatures of medicine preparations.	For above preparation; to 1°C accuracy.	Measure and record temperatures (to 1°C) of medicine preparations.	Heating device, beaker, thermometer, aloe/dill seed.	Accuracy of measurements.
Measure time (minutes) taken for correct preparation of bush medicines.	Time (minutes) for cerasee or love vine preparation.	Measure time (minutes) taken for correct preparation of bush medicines.		Time correctly measured.
Measure dosage.	Teaspoonful, tablespoonful, ¼ cup etc.	Measure suggested dosage.	Set of measuring spoons, measuring cup (with gradation).	Accuracy of measurements.
Make a poster showing the bush medicine and the part of the body it is used to treat.	As above.	Make a poster showing the bush medicine and the part of the body it is used to treat.		Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 8
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: BUSH MEDICINES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Develop a gadget, instrument or apparatus to prepare a bush medicine.	A gadget that: cuts/chops, mashes, boils, strains plant material.	Develop a gadget, instrument or apparatus to prepare a bush medicine.		Rubric for assessing a model.
Decide whether or not to use specified bush medicines.	Any two of the "medicines" named in the unit.	Based on information in textbooks and oral testimonies, decide whether or not to use specified bush medicines.		Plausible reasons given to support stated opinion.
Conduct research to find home remedies used for the diseases/ disorders studied.		Conduct research to find home remedies used for the diseases/disorders studied.	Library, interviews.	Rubric for assessing research.
Conduct research to discover variations of plants used and/or methods of preparation in different islands of The Bahamas, Caribbean countries or parts of the world.		Conduct research to discover variations of plants used and/or methods of preparation in different islands of The Bahamas, Caribbean countries or parts of the world.		Rubric for assessing research.
Compare the effectiveness of the use of bush medicine with prescribed medicines.		• Interview persons who have used bush and prescribed medicines for an ailment. • Compile the information received. • Use a graphic organizer to compare the effectiveness of the use of bush medicine with prescribed medicines.		Number of interviews, clarity in recording information, points correctly entered in comparison.
Compare the side effects of the use of bush medicine with prescribed medicines.	• Hair Loss • Rash • Itchiness • Discomfort	• Interview persons who have used bush and prescribed medicines for an ailment. • Compile the information received. • Use a graphic organizer to compare the effects of the use of bush medicine with prescribed medicines.		Number of interviews, clarity in recording information, points correctly entered in comparison.

SCOPE OF WORK
GRADE: 8
STRAND: FIRST AID AND SAFETY

TOPIC: FIRST AID DURATION: 11 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Describe a soft tissue.	Layers of skin, fat and muscle beneath the skin.	Brainstorming. Observation of diagrams and charts.	First Aid books. Diagrams and charts showing L. S. skin and muscular system.	Correct identification and naming of soft tissue.
Observe the appearance of different types of burns (using pictures).	Superficial (first degree) – skin red and dry, possible swelling. Partial-thickness (second degree) – skin is red with blisters, swells & painful. Full-thickness (third degree) – destroys all layers of skin and any or all of the underlying structures, appears brown or black.	Observe the appearance of different types of burns in photographs. List and discuss scenarios that cause persons to get burns. Complete a matrix with classes of burns, their appearance (signs and symptoms) and possible causes.	*Community First Aid & Safety* Worksheet – matrix	Correct information in matrix.
Describe chemical, electrical and solar radiation burns.	Chemical – mainly superficial, burns for as long as in contact with chemical. Electrical – could vary from red to black depending on the strength of current. Sunburns – widespread redness sometimes causing blisters, skin feels hot.	Observe photographs/video clips. Complete matrix (as above).	*Practical First Aid* Worksheet – matrix	Correct information in matrix.
Recognize the relationship between the type of burn and rate of recovery.	Superficial burns – 5 – 6 days recovery; Partial-thickness – 3 to 4 weeks; Full-thickness – months. The deeper the tissues damaged, the longer the recovery period.	Write a song, rap or poem detailing the stories of three persons with first, second and third degree burns including the recovery time.		Rubric for assessing oral presentations.
Demonstrate the correct care of a burn.	Stop the burning – remove source or victim from source. Cool the burn. Cover the burn – dry, sterile dressings or clean cloth (loosely).	Demonstrate via role play, the correct care of a first, second and third degree burn victim (resulting from different causes).	*Community First Aid & Safety* *Practical First Aid*	Proper technique demonstrated.

SCOPE OF WORK
GRADE: 8
STRAND: FIRST AID AND SAFETY

TOPIC: FIRST AID

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use available source of fresh water to treat chemical burns.	Faucet/tap, hose, soaked cloths/towels, must be as quickly as possible – flush eye (if affected) with fresh, running water.	Role play	*Community First Aid & Safety*	Proper technique demonstrated.
Compile statistics for the number of persons treated in the local community clinic for burns during the past two years.		Interview a health care professional at a local clinic. Note statistics for the number of persons treated in the local community clinic for burns during the past year.	Guest speaker - health care professional or police officer.	Clear recording of data.
Observe the signs of four types of skin wounds.	Cuts (incision, laceration) – a break in the skin with either smooth or jaggered edges, bleeding accompanies. Avulsions – a cut with a portion of the skin or soft tissue is partially or completely removed may be seen as a gap or a flap, bleeding. Punctures – small, limited to the shape of the object used to pierce the skin, not much bleeding. Bruises (contusion) – appears red and may darken afterwards, usually swelling. Scrapes (abrasion) – top layer of skin scraped or rubbed away, exposed area in skin.	Observe the signs of four types of skin wounds. Compare the signs of the four types of skin wounds.	Photographs of types of skin wounds.	Correctly identify and classify types of skin wounds.

SCOPE OF WORK
GRADE: 8
STRAND: FIRST AID AND SAFETY

TOPIC: FIRST AID

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a brochure or oral presentation on types of wounds.	As for previous leaner outcome. Including methods of treatment.	Make a brochure or oral presentation on types of wounds.	*Community First Aid & Safety*	Rubric for assessing visual aids or oral presentations.
Demonstrate the correct care of an open wound.	Control bleeding, cover (apply dressing and bandage).	Demonstrate the correct care of an open wound.	*Community First Aid & Safety*	Correct techniques used.
Use dressing and bandages correctly to cover wounds.	As above.	As above.	*Community First Aid & Safety*	Correct use of dressing and bandages.
Demonstrate the correct use of a pressure bandage and elastic bandage.	Pressure bandage – roller bandage.	Demonstrate the correct use of a pressure bandage and elastic bandage applied to the forearm and leg.	*Community First Aid & Safety*	Correct techniques used.
Describe and identify examples of dressing and bandages used in a skit.	Dressings – paddings of gauze. Bandages – band-Aids, roller bandages & triangular bandages.	Make a visual aid (poster) with different dressings and bandages with labels showing their use. Visit to food store/pharmacy/ local clinic.	*Practical First Aid*	Rubric for assessing visual aids.
Predict the effect that extreme temperatures and humidity would have on the body.	Cramps in limbs, fatigue, cool, moist or pale skin, headache, nausea, dizziness, weakness, fainting, heatstroke, hyperthermia.	Predict the effect that extreme temperatures and humidity would have on the body.		Clearly stated valid predictions.
Draw conclusion on whether the victim is suffering from heatstroke based on signs displayed.	Red, hot dry skin; changes in consciousness; rapid, weak pulse; rapid, shallow breathing.	Review four scenarios of victims. Review the condition of heatstroke and its signs. Draw a conclusion as to whether the victim in each scenario is suffering from heatstroke.	*Community First Aid & Safety* *Practical First Aid*	Clearly stated valid conclusions based on information in scenarios.
Make an oral presentation on the causes and treatment of fainting.	Low blood pressure, blood not flowing properly to the brain, standing too long, too hot.		*Community First Aid & Safety* *Practical First Aid*	Rubric for assessing oral presentations.

SCOPE OF WORK
GRADE: 8
STRAND: FIRST AID AND SAFETY

TOPIC: FIRST AID

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Demonstrate the correct use of abdominal thrusts on a choking adult and infant.		Demonstrate the correct use of abdominal thrusts on a choking adult and infant.	*Community First Aid & Safety* *Practical First Aid*	Correct technique demonstrated.
Use the correct terms for the acronyms C.P.R and A.B.C's in First Aid.	C. P. R. – Cardio-pulmonary Resuscitation A. B. C. – Airway, Breathing, Circulation	Use the correct terms for the acronyms C.P.R and A.B.C's in a skit assessing a victim of an accident.	*Community First Aid & Safety* *Practical First Aid*	Correct use of acronyms and full terms.
Correctly measure the pulse and breathing of a victim.	Radial pulse (or carotid pulse)	Measure the pulse rate of a "victim" in role play. Measure the breathing rate of a "victim" in role play.	*Community First Aid & Safety* *Practical First Aid*	Correct technique and accurate measurement of pulse and breathing rates.
Record pulse rates for a period of time.	As above.	Measure and record the pulse rate of a "victim" in role play, at five minute intervals for 15 minutes. Note changes or anomalies.	*Community First Aid & Safety* *Practical First Aid*	Clear recording.
Interpret pulse rates and breathing rates to determine the condition of a patient.	Weak, slow pulse – internal bleeding. Rapid pulse – electrical "shock". Breathing emergencies – rapid, slow, deep or shallow breathing, gasping.	Interpret pulse rates and breathing rates to determine the possible condition of a patient.	*Community First Aid & Safety* *Practical First Aid*	Rubric for assessing data.
Use a mouth shield correctly.		Demonstrate the correct use of a mouth shield.		Correct application (to face) and use of mouth shield.

SCOPE OF WORK
GRADE: 8
STRAND: FIRST AID AND SAFETY

TOPIC: FIRST AID

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Demonstrate the correct way to perform rescue breathing and C.P.R.	First Aid books.	Demonstrate the correct way to perform rescue breathing and C.P.R.	*Community First Aid & Safety* *Practical First Aid*	Correct technique.
Make a device that aids in checking one of the areas of ABC.	Checking airways, breathing and pulse/heartbeat.	Make a device that aids in checking one of the areas of ABC.		Rubric for assessing models.
Formulate a hypothesis as to whether a suggested treatment would be appropriate for an injury described in a case study.		Formulate a hypothesis as to whether a suggested treatment would be appropriate for an injury described in a case study.		Clearly stated plausible hypothesis with correct reasons.
Compare the First Aid treatment with a commonly used home remedy for one of the injuries studied.		Discussion. Create a notice highlighting the importance of using correct First Aid treatment.	Nurse	Valid information.
Use information based on signs and symptoms given to make decisions for treatment of injuries.	Case scenarios.	Role play. Complete worksheets.	Index cards with scenarios.	Correct diagnoses, appropriate treatment selected, correct techniques used.

SCOPE OF WORK
GRADE: 8
STRAND: FIRST AID AND SAFETY

TOPIC: WATER SAFETY DURATION: 8 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe differences in colour of the sea.	Turquoise, emerald green – sand substrate, shallow water, blue – sea grass or rock substrate, deeper water; dark blue – very deep water	Observe differences in colour of the sea.	Photographs, video clips.	Accuracy of descriptions given to observations.
Recognize the relationship between darkness in sea colour with its depth.	The darker the colour the greater the depth.	Describe the relationship between darkness in sea colour with its depth.	Photographs, video clips.	Relationship shown as direct.
Identify a buoy.	Floatation device used as a marker in the waterways	Observe a variety of buoys. Discuss the function of buoys. Brainstorm uses for buoys.	Photographs, video clips, artifacts.	Correct identification.
Identify warning/danger signs in the marine environment.		Observe a variety of warning/danger signs. Discuss the function of warning/danger signs. Brainstorm uses for warning/danger signs.	Photographs, video clips, artifacts.	Correct identification.
Observe licence (vessels) numbers.	All boats should be registered and licensed. The registration/ licence number should be displayed.	Observe licence (vessels) numbers.	Photographs, video clips.	Identify the location of license or registration number.
Correctly make a distress signal that might be used on a boat.	Semaphore, flare, suitability for day and/or night.	Identify forms of distress signals. Describe how/use one to send a distress signal.	Semaphore flags, fluorescent flags, smoke signaller, flashlight, national flag, maritime flag.	Accuracy in making the signal.
Formulate a hypothesis on the cause of the largest number of accidents among teenagers in or near to the sea in The Bahamas.	Recreational use – sea-bathing, swimming, diving, water sports; others – fishing, boating accidents.	Formulate a hypothesis on the cause of the largest number of accidents among teenagers in or near to the sea in The Bahamas.		Clearly stated plausible hypothesis.

SCOPE OF WORK
GRADE: 8
STRAND: FIRST AID AND SAFETY

TOPIC: WATER SAFETY

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Conduct a survey to determine the most common cause of accidents among teenagers in or near to the sea in their settlement/area/island.	As for previous leaner outcome.	Brainstorm causes (from above). Discussion. Formulate survey instrument. Conduct a survey to determine the most common cause of accidents among teenagers in or near to the sea in their settlement/area/island.		Rubric for assessing investigations.
Draw a conclusion on the nature of a coastline accident based on information and observation.	Scenarios: cookout gas stove explosion, drowning – diving from dock onto rock, jet-ski collision, cut by a boat's propeller, tidal-pool/current, cramp from swimming.	Assess the scenario(s) given. Draw a conclusion on the nature of a coastline accident based on information and observation.	Index cards, photographs, video clips or PowerPoint Presentation.	Valid conclusion based on information given.
Draw conclusion on the types of injuries sustained based on the nature of the accident, information given and observations made.	As above.	Draw conclusion on the types of injuries sustained based on the nature of the accident, information given and observations made.	As above.	Valid conclusion based on information given.
Find out the cause of the largest number of accidents among children and teenagers in or near to the sea in The Bahamas.		Find out the cause of the largest number of accidents among children and teenagers in or near to the sea in The Bahamas.	Library, Ministry of Health facilities, Department of Statistics.	Correct information from reliable source.

SCOPE OF WORK
GRADE: 8
STRAND: FIRST AID AND SAFETY

TOPIC: WATER SAFETY

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a brochure showing safe practices when using the marine environment.	Avoid swimming after heavy meal, bare feet in polluted areas, tidal pools, spawning jellyfish, sharks; observe markers and signs, swim with buddy, know depth before diving, swim with-not against-current.	Discussion. Make a brochure showing safe practices when using the marine environment.		Rubric for assessing visual aids.
Create a poster/brochure on the do's and don'ts of swimming/ diving and boating.	As above.	Create a poster/brochure on the do's and don'ts of swimming/ diving and boating.		Rubric for assessing visual aids.
Make a brochure of "Do's and Don'ts" relative to safety in water sports/playing activities.		Make a brochure of "Do's and Don'ts" relative to safety in water sports/playing activities.		Rubric for assessing visual aids.
Conduct a survey of twenty-five young people and twenty-five adults to determine the extent to which safety rules are used while sea bathing, swimming and diving (beaches).		Prepare questionnaire. Conduct a survey of twenty-five young people and twenty-five adults to determine the extent to which safety rules are used while sea bathing, swimming and diving (beaches).		Rubric for assessing conducting investigations.
Utilize safe practices when sea bathing, swimming or diving.		Utilize safe practices when sea bathing, swimming or diving.		Long-term behaviour.
Use knowledge of safe practices when boating.	Extra fuel, life vests, (ship to shore) radio/phone, extra drinks (water), anchor to reach bottom, oars, no pranks, sun shades, sleeves, hat.	Use knowledge of safe practices when boating.		Long-term behaviour.

SCOPE OF WORK
GRADE: 8
STRAND: FIRST AID AND SAFETY

TOPIC: WATER SAFETY

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Suggest ways that might prevent accidents in or near to the sea in The Bahamas.	Markers to separate swimming areas from boating areas, guidelines for jet skis, boat lights at night.	Brainstorming		Plausible suggestions with logical reasons.
Use the correct names for types of fires.	Classes A – E (A – common combustibles, B – flammable liquids, C – electrical and electronic, D – combustible metals, E – high temperature oil and grease).	Complete a matrix showing types of fire, combustible material, extinguishing agent. Match name of type of fire to scenarios.	Index cards with scenarios (written or photographs).	Number of correct identifications.
Compile statistics of the number and types of fires on the island during the past year.		Compile statistics of the number and types of fires on the island during the past year.	Police Department, Island Administrator's office, Local Government representatives, or Fire Department or Department of Environmental Health.	Accuracy of statistics compiled and correct classification of the fires.
Demonstrate the importance of RACE in emergencies.	**R** – Rescue is always the first priority at every emergency. Safely evacuate all occupants or remove victims from the hazard zone. **A** – Alert the fire department immediately, no matter how small the fire may seem. All fires start small, and every second counts. A fire which starts in a few seconds could take hours to extinguish. **C** – Confinement. Close all doors, and windows on your way out to confine the fire to the room of origin or area of discovery. **E** – Extinguishment. Extinguish a small fire with the appropriate fire extinguisher.	Discussion. Write a plan for the use of RACE at home. Demonstrate (as far as possible) through role play the use of RACE.		Rubric for assessing oral presentations.

SCOPE OF WORK
GRADE: 8
STRAND: FIRST AID AND SAFETY

TOPIC: FIRE SAFETY DURATION: 8 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a visual presentation showing fire prevention tips.	Avoid overheating, pulling electrical cords, mixing explosive chemicals, hanging sleeves over fire, keep hair pulled back.	Make a visual presentation showing fire prevention tips.	Information sheets/brochures from Fire Department.	Rubric for assessing visual presentations.
Make a flyer or brochure showing the types of fire extinguishers.	Water, dry chemical, carbon dioxide, Halon, foam, Class K.	Observe various types of fire extinguishers. Make a flyer or brochure showing the types of fire extinguishers.	Brochures (fire extinguishers sold in stores), from Fire Department.	Rubric for assessing visual aids.
Find out information on new types of fire extinguishers or fire fighting methods.		Find out information on new types of fire extinguishers or fire fighting methods.	Library, Internet.	Number of sources reviewed, accuracy of information noted.
Demonstrate the correct use of a fire extinguisher using the acronym PASS.	**P** – Pull the pin **A** – Aim the nozzle at the base of the fire **S** – Squeeze the handle **S** – Sweep the nozzle side to side.	Demonstrate the correct use of a fire extinguisher using the acronym PASS.	Fire extinguishers.	Correct use of fire extinguisher.
Make a graphic model showing the steps in the use of PASS.	As above.	Make a graphic model showing the steps in the use of PASS.		Rubric for assessing models.
Explain the use of PASS in extinguishing a fire using a fire extinguisher.	Cutting off the air/oxygen supply at the base effectively extinguishers the fire.	Explain the use of PASS in extinguishing a fire using a fire extinguisher.	Worksheet	Correct application of science principle(s).
Make a brochure of “Do’s and Don’ts” relative to safety in sports/playing activities.		Brainstorm prevention of accidents on sports/playing field.	Information from Fire Department.	Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 8
STRAND: FIRST AID AND SAFETY

TOPIC: FIRE SAFETY

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a skit/ PowerPoint safety rules for fireworks, campfires and barbecues.	Keep in open area away from dried branches, keep supply of sand or water near, do not lean over inactive items, keep flammables away, keep fire manageable.	Make a skit/ PowerPoint safety rules for fireworks, campfires and barbecues.	Information from Fire Department.	Rubric for assessing oral presentations.
Draw a bar graph to compare either the number of cases of burns and choking or the causes of fire.		Draw a bar graph to compare either the number of cases of burns and choking or the causes of fire.	Information from Fire Department.	Rubric for processing data.
Make a graphic model showing the steps in rescuing a victim from a fire.	Importance of an evacuation plan, cover nose & mouth with wet cloth, keep close to floor, one arm under the arm pits, pull person along floor.	Make a graphic model showing the steps in rescuing a victim from a fire.	Information from Fire Department.	Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 8
STRAND: ENVIRONMENTAL HEALTH

TOPIC: DISEASE VECTORS DURATION: 8 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe and identify various vectors found in the community.	Vector transmits disease-causing pathogens e.g. mosquitoes, houseflies, birds, and rats.	• Observe photographs (showing garbage/waste) of the environment. • Identify vectors found in each photograph.	*Human and Social Biology for the Tropics, CXC Human and Social Biology*	Correct identification of vectors.
Differentiate between water, land and air-borne vectors.	Habitat for vectors.	Differentiate between vectors based on their habitat (land, water or air).	*Human and Social Biology for the Tropics, CXC Human and Social Biology*	Vectors correctly classified.
Classify pathogens as air, water or animal borne.	Pathogens (disease causing organisms e.g. viruses, bacteria, moulds/fungi).	• Find the names of common pathogens in the local community or The Bahamas. • Classify pathogens as air, water or animal borne.	*Human and Social Biology for the Tropics, CXC Human and Social Biology*	Correct classification of pathogens identified.
Use common names for common vectors and diseases studied.	*Aedes aegypti* (dengue), *Musa domestica* (food poisoning), cockroach, mosquitoes, houseflies, birds, and rats.	• Identify vectors in diagrams or photographs. • Spell the common names and scientific names (specified) for vectors studied.	*Human and Social Biology for the Tropics, CXC Human and Social Biology*	Names correctly matched ot vectors.
Use the Binomial System to classify vectors.	Full classification for Aedes and Musa (above).	• Research the classification of Aedes and Musa. • Record the Phylum, Class, Genus and Species for each.	Biology resource books.	Correct classification for Aedes and Musa.

SCOPE OF WORK
GRADE: 8
STRAND: ENVIRONMENTAL HEALTH

TOPIC: DISEASE VECTORS

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a model of the life cycle of a vector.	Anopheles or Aedes mosquito, Musa housefly.	Make a visual aid/model (with notations) showing the life cycle of a named vector.	*Human and Social Biology for the Tropics, CXC Human and Social Biology*	Rubric for assessing models.
Observe pests around scattered garbage.		• Examine photographs of areas with garbage. • Identify pests in the photographs.		Number of pests correctly identified.
Observe locations of waste disposal sites at school, home and the wider community.	Location of garbage/waste receptacles at home (front/back, covers or not, in permanent structure or not), at school (near classroom/food vendors) community (on sides of streets, parks, shopping areas).	• Observe locations of waste disposal sites at school, home and the wider community. • Record the observations. • Compare with other groups in the class.		Clear descriptions of locations along with a brief personal commentary.
Identify green waste.	Plant material – shavings from mowing lawns, tree branches, discarded fruit and vegetables, peels.	Brainstorm Classify photographs of green waste.	Photographs	Correct classification of examples of green waste.
Identify white waste.	Appliances and electronic equipment – air condition units, refrigerators, computers, stoves, microwaves, televisions, dryers etc.	Brainstorm Classify photographs of white waste.	Photographs	Correct classification of examples of green waste.

SCOPE OF WORK
GRADE: 8
STRAND: ENVIRONMENTAL HEALTH

TOPIC: WASTE DISPOSAL DURATION: 8 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Write an infomercial for television on the importance of disposing of "white" waste properly.	White waste tends to contain heavy metals, radioactive materials which should not be incinerated to avoid release of toxic fumes.	Write an infomercial for television on the importance of disposing of "white" waste properly.	Information from Department of Environmental Health Services (DEHS).	Rubric for assessing visual presentations.
Classify waste (green, white, household).	Household waste includes waste normally produced in and disposed of in the kitchen.	Classify waste as "green", "white", "household" or recyclable.	Worksheet with photographs.	Number of items correctly identified.
Identify harmful waste in and around the home.	Broken glass, empty small propane cylinders, insecticide cans, lighter fluid containers, acid containers, abandoned refrigerators, paint and thinner containers.	Brainstorming List harmful waste in and around the home.		Number of items correctly identified/listed.
Make a rap, song or poem about the effects of burning garbage at home.	Burning causes the release of carbon dioxide and possibly other toxins into the air to be carried over a distance. Aggravates asthma.	Make a rap, song or poem about the effects of burning garbage at home.		Rubric for assessing oral presentations.
Explain whether the banning of burning trash at home is justified or not.		• Research information related to effects of burning trash. • Participate in a general discussion or debate on whether the banning of burning trash at home is justified or not.	News articles, DEHS information.	Rubric for assessing oral presentations.

SCOPE OF WORK
GRADE: 8
STRAND: ENVIRONMENTAL HEALTH

TOPIC: WASTE DISPOSAL

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use common names for common pollutants studied.		Complete puzzles based on names of common pollutants.		Number of pollutants correctly identified.
Plan and conduct an investigation to determine which method of waste disposal is most effective for various pollutants.	Aluminium cans, bottles, plastic containers, air condition unit, spoilt vegetables, tree trimmings.	• Identify methods used to dispose of the pollutants locally. • Plan and conduct an investigation to determine which method of waste disposal for each type of pollutant.		Rubric for conducting investigations.
Measure the minimum legal distance between a cesspit and well.		Measure in the school yard the minimum distance that is allowed between a cesspit and well.	Department of Water & Sewerage	Accuracy of measurement.
Make a presentation on the effects of some pollutants on the water table.	Fertilizers, heavy metals (mercury).	Present to the class, as a part of a group, the effects of some pollutants on the water table.	Biology resource books.	Rubric for assessing presentations.
Formulate a hypothesis on whether incineration can be a feasible practice for solid waste disposal in The Bahamas.		Formulate a hypothesis on whether incineration can be a feasible practice for solid waste disposal in The Bahamas.		Clearly stated hypothesis with plausible/logical reasons.

SCOPE OF WORK
GRADE: 8
STRAND: ENVIRONMENTAL HEALTH

TOPIC: WASTE DISPOSAL

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Recognize the need to develop more effective means of waste disposal as population increases.	Efficiency of landfills relative to size of area, water table, length of use, capacity/volume.	• Discuss the benefits and any negative effects of methods used locally. • Discuss alternative methods of disposal. • Suggest which method of disposal will be most effective locally as the population increases.	Interview personnel DEHS, Internet.	Plausible suggestions with logical reasons.
Show the relationship between poor solid waste disposal practices and the population of disease-carrying agents.	Direct relationship Cockroaches, rodents, dogs, houseflies.	• Conduct interviews. • Observe photographs. • Describe the relationship between poor solid waste disposal practices and the population of disease-carrying agents.	Photographs, questionnaires.	Relationship clearly and correctly described.
Identify variables in an investigation to determine which type of organism is the most efficient at catching pests.	Example – frogs, lizards for houseflies in a sealed environment (large terrarium, same substrate, moisture, number of flies, temperature).	• Select a pest found around garbage. • Brainstorm organisms that feed on the pest. • Plan an investigation (including variables) to determine which type of organism is the most efficient at catching the pest.		Rubric for assessing investigations.
Utilize materials to construct an environmentally safe mouse trap.		Design and utilize materials to construct an environmentally safe mouse trap.		Rubric for assessing a model/product.
Make a model of a landfill.		Design and make a model of a landfill.	*Human and Social Biology for the Tropics, CXC Human and Social Biology*	Rubric for assessing models.

SCOPE OF WORK
GRADE: 8
STRAND: ENVIRONMENTAL HEALTH

TOPIC: WASTE DISPOSAL

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Research new techniques in handling and treating solid waste.		Research new techniques in handling and treating solid waste.	Library, magazines, Internet.	Rubric for conducting research.
Suggest reasons why waste collection, management and storage are not handled in the same manner on New Providence compared to most Family Islands.		• Find out the methods used for waste management and storage on New Providence and Family Islands. • Compare the frequency of garbage collection on New Providence and Family Islands. • Suggest reasons for any differences in waste collection, management and storage on New Providence compared to Family Islands.	Department of Environmental Health Services	Plausible reasons that are logical outcomes from the information reviewed.
Analyse the plausibility of using landfills to replace incineration throughout The Bahamas.	Preparation and maintenance of landfills for small communities.	• List points supporting the practicality of landfills on each island with communities. • List points supporting the practicality of incineration on each island with communities. • Compare the benefits and concerns for each method and make suggestions as to which method is more practical for each island.		Number of valid points made, correct comparisons and logical suggestions.

SCOPE OF WORK
GRADE: 9
UNIT: HEALTHY LIVING

TOPIC: STRESS MANAGEMENT DURATION: 8 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Identify situations/conditions that cause stress.	• Examinations • Broken relationships • Illness • Death • Too much responsibility • Loss of job • Financial hardship	Discussion Make a personal list of things that create stress at home, school and the community.	*Human Form and Function* Case studies/examples given	Stressful situations correctly identified.
Identify and adopt practices to reduce stress and related health problems.	Develop hobbies, regular exercise routine, engage in positive relationships, work within financial budget, no false expectations of others, avoid undue pressure to succeed; headaches, hypertension heart palpitations, ulcers, insomnia.	Identify stressful conditions. Identify causes of stress. Identify health problems related to stress. Make a visual aid/presentation to encourage persons to adopt practices to reduce stress and related health problems.		Rubric for assessing visual aids. Long-term behaviour.
Classify the effects of stress.	1. Anxiety state 2. Depression 3. Agitation 4. Behavioral disorder	Put into categories the effects of stress (based on causes, signs and symptoms). Role play		Correct classification.
Recognize and explain the relationship between stress and lifestyle.	Too many responsibilities or overwhelming situations/conditions create stressful lifestyle, spending beyond budget (“living beyond means”), too busy, missing deadlines, “living a double-life”, tardiness. Direct relationship.	Discussion Make a comic strip to explain the relationship between stress and one identified lifestyle.		Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 9
UNIT: HEALTHY LIVING

TOPIC: STRESS MANAGEMENT

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use a scale between 1and 10 to determine their level of ability to deal with a given stressful situation.	Examples: vehicle's motor "cuts off" on a busy corner, a pop quiz, caught telling a lie.	Each group given a different scenario to portray their ability to deal with it Students evaluate each group's skit.		Consensus of scores.
Construct a pyramid model with 5 levels to managing stress.	1. Identify the stress or problem 2. Reframe problem 3. Look at the big picture 4. Adjust your standards 5. Focus on the positive	Identify five levels of stress management. Construct a pyramid model with 5 levels to managing stress. Use model to reduce stressful scenarios in skits.	Stress Management: How to Reduce Prevent and Cope with Stress. By: Smith , Melinda et al http://www.helpguide.org/mental/stress_management_relief_coping.htm	Rubric for assessing visual aids.
Demonstrate ways to manage given real life stressful situations.	• Time Management • Exercise • Relaxation Therapy • Hobbies • Soothing music • Fun • Sleep	Role play	*Perspectives on Health* Internet	Rubric for assessing oral presentations.
Find out additional information about "stress" and "stress management".		Find out additional information about "stress" and "stress management".	Internet	Rubric for assessing conducting research.
Evaluate the quality of life without stress reduction skills.	• Lifestyle would be chaotic/ disorganized and not pleasant • Suicide increase • Psychosomatic disorders • Fear & anxiety states • Depression	Discussion Complete worksheet		Number of valid points, critical analysis.

SCOPE OF WORK
GRADE: 9
UNIT: HEALTHY LIVING

TOPIC: STRESS MANAGEMENT

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Demonstrate positive social/ communicative skills to maintain friendships with family and friends.	• A good listener • Express your self clearly and truthfully • Good eye contact • Honest • Kind and caring • Helpful • Able to say that you are sorry/ willing to compromise to diffuse conflict • Be friendly • Avoid judging others	• Discussion • Skits	*What do you stand for? For Teens: A Guide To Building Character.* Internet	Rubric for assessing oral presentations.

SCOPE OF WORK
GRADE: 9
UNIT: HEALTHY LIVING

TOPIC: COMMUNICATION SKILLS DURATION: 8 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Recognize the relationship between positive communication skills and maintaining a healthy relationship.	• Maintain long term friendship • Minimal/ avoidance of conflict • Increased harmony • Manage conflict resolution adequately • Able to express feelings in civil manner	Discussion Describe the relationship between positive communication skills and maintaining a healthy relationship. Perform skits to show the relationship between positive communication skills and maintaining a healthy relationship.	Interview adults, Internet.	Direct relationship shown. Rubric for assessing oral presentations.
Determine the effectiveness of positive skills for healthy relationships.	• Harmony/ • Respect • Lasting friendships • Trustworthy	Discussion of attributes that make healthy relationships and the absence or abuse of attributes that cause unhealthy relationships.	Internet	Valid attributes for healthy and negative attitudes and behaviours that cause unhealthy relationships.
Use a scale between 1 – 10 to determine their level of ability to maintain a friendship.	Attributes (above), relationships e.g. classmates, peers at church, youth group members, relatives.	Self evaluation using a worksheet.	Worksheet with criteria/attributes and various types of relationships.	Long-term behaviour.
Examine how changes in self and others impact relationships.	More emphasis on one or more of attributes (above). Improves/enhances relationships with family, friends and peers. Negative attitudes and behaviours – break/damage relationships.	Brainstorm Make a visual aid to show how positive and negative changes (attitudes and behaviour) impact relationships.	Internet	Rubric for assessing visual aids.
Predict the effects of stress management on the lives of students who are faced with emotional strain.	• Positive attitude • Prepared to deal with challenges • Manage time adequately • Balanced lifestyle (work and play) • Relax; pleasant; successful	Predict the effects of stress management on the lives of students who are faced with emotional strain.	*Perspectives on Health*	Valid prediction with logical reasons.

SCOPE OF WORK
GRADE: 9
STRAND: FOOD

TOPIC: FOOD PRESERVATION DURATION: 8 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Describe causes of food spoilage.	Micro-organisms action producing toxins, enzymes cause breakdown in food. Conditions needed – warmth (70°C), moisture, pH, food.	Discussion Reading in Content Area. Summarize causes of food spoilage.	*Home Economics A Caribbean Approach Book 3*	Correct content written clearly in own words.
Classify methods of preserving food.	Heating, freezing, drying/dehydrating, additives (sugar, salt, vinegar), bottling/canning, irradiation. Change in high temperatures kill microbes, low temperatures slow microbial activity. Microbes cannot live in dry conditions neither can enzymes function. Additives change the pH or concentration of the food environment to make it unfavourable for microbial activity. Irradiation and bottling/canning kills microbes.	Reading in Content Area Classify or group methods based on means of slowing spoilage.	*Home Economics A Caribbean Approach Book 3*	Correct grouping of methods.
Recognize the relationship between methods of food preservation and growth of microbes.	As above.	Orally describe the relationship between methods of food preservation and growth of microbes.		Relationships clearly shown.
Classify types of preservatives.	Change pH (vinegar, citric acid), change concentration (sugar, salt), other chemicals (e.g. to keep bread soft).	Classify preservatives based on how they inhibit spoilage.		Correct grouping of preservatives.
Observe ingredients used as food additive preservatives.	Vinegar, salt, sugar etc.	Observe ingredients (or photographs of them) used as food additive preservatives.	Variety of preservatives, photographs of uncommon preservatives	Description of common preservatives.

SCOPE OF WORK
GRADE: 9
STRAND: FOOD

TOPIC: FOOD PRESERVATION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a presentation on the positive and negative effects of commonly used methods of food preservation on maintaining good health.	Sugar negatively affects diabetics, salt negatively affects hypertensive persons, irradiation destroys some of the nutritive value of food.	Make a presentation on the positive and negative effects of commonly used methods of food preservation on maintaining good health.	*Home Economics A Caribbean Approach Book 3* *Human & Social Biology for the Caribbean*	Rubric for assessing presentations.
Design a pamphlet/brochure highlighting five rules for food storage.	Cool, dry, dark, ventilated conditions away from harmful chemicals (e.g. pesticides).	Design a pamphlet/brochure highlighting five rules for food storage.		Rubric for assessing visual aids.
Observe signs of food spoilage.	Unopened cans bulging, "furry" growth on food, "off" colour and/or odour, bubbles, foam.	Observe photographs of food spoilage. Make a fact/reference sheet to indicate signs of food spoilage.		Number of correct indicators shown.
Use petri dishes to prepare a culture from food samples.	A few drops from food sample placed on an agar plate will show microbial growth after a few days in the right conditions for growth.	Use petri dishes to set a culture from food samples. (To be monitored by teacher).	Agar gel, sterilized Petri dishes, inoculating needle.	Correct and safe use of apparatus and materials.
Recognize the importance of using sterile apparatus and instruments in preparations for culture growth.	Microbes are found almost everywhere, in order to show that microbes come from food and not apparatus, the instruments must be sterilized.	Describe a method of sterilization of apparatus. Explain why it is important to use sterile apparatus and instruments in preparations for culture growth.	*Human & Social Biology for the Caribbean*	Clear, valid explanations given.
Use a pH meter correctly and safely to measure the acidity of food.		Use a pH meter correctly and safely to measure the acidity of food.	pH meter	Correct and safe use of pH meter.
Measure the temperature of food.	Accuracy to 1°C.	Measure the temperature of food.	Thermometer	Accuracy

SCOPE OF WORK
GRADE: 9
STRAND: FOOD

TOPIC: FOOD PRESERVATION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Predict the effect of repeatedly changing the temperature of food on the growth of microbes.	Microbes grow quickly, microbes multiply quickly, food warms so microbes grow and reproduce forming toxins. Re-cooling food does not get rid of toxins formed. Food spoils could cause poisoning.	Predict the effect of repeatedly changing the temperature of food on the growth of microbes.	*Human & Social Biology for the Caribbean*	Logical prediction with valid reasons.
Predict the effect of opening, for a short time, a vacuum packed jar of preserves on the contents.	As above. Air contains microbes that enter and cause spoilage.	Predict the effect of opening, for a short time, a vacuum packed jar of preserves on the contents.	*Human & Social Biology for the Caribbean*	Logical prediction with valid reasons.
Make a visual presentation on the effects of microbes on food.		Make a visual presentation on the effects of microbes on food.		Rubric for assessing visual presentations.
Make a model showing the action of one method of food preservation.	Outline how the method of preservation reduces or eliminates microbes and their effects.	Make a model showing the action of one method of food preservation.		Rubric for assessing models.
Find the number of illnesses caused by food poisoning in the community during the past year.		Interview personnel at local clinic or review available data. Find the number of illnesses caused by food poisoning in the community during the past year.	Ministry of Health publications	Rubric for assessing conducting investigations/research.
Determine the percentage of illnesses caused by food poisoning in the community during the past year that were caused by food prepared outside of the home.		Use statistics provided to determine the percentage of illnesses caused by food poisoning in the community during the past year that were caused by food prepared outside of the home.		Rubric for assessing processing data.

SCOPE OF WORK
GRADE: 9
STRAND: FOOD

TOPIC: FOOD PRESERVATION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Compare the caloric, sugar or water difference in a food before and after preservation.	Compare fresh and preserved foods e.g. apples, pineapple, tamarind, banana (chips).	Check data for fresh food. Check data (book) or labels for preserved food. Suggest reason(s) for the difference.	Data from Caribbean Food and Nutritional Institute Food labels	Correct information.
Formulate a hypothesis on the method of food preservation, commonly used which causes the greatest longevity (shelf-life).	Drying, salting, boiling in sugar, canning/bottling.	Formulate a hypothesis on the method of food preservation, commonly used which causes the greatest longevity (shelf-life).	*Human & Social Biology for the Caribbean*	Clearly stated hypothesis with logical, valid reasons.
Design, conduct and evaluate an investigation to determine which method of food preservation, commonly used, causes maximum longevity.	As above.	Design, conduct and evaluate an investigation to determine which method of food preservation, commonly used, causes maximum longevity.		Rubric for assessing conducting investigations.
Design an investigation to show the relationship between methods of food preservation and growth of microbes.		Design an investigation to show the relationship between methods of food preservation and growth of microbes.	*Human & Social Biology for the Caribbean*	Rubric for assessing conducting investigations.
Use information on conditions needed for microbe growth to design a means of extending the shelf-life of a food, or a method of preserving a perishable food.	Warmth, moisture, correct pH.	Design a means of extending the shelf-life of a food, or a method of preserving a perishable food.	*Human & Social Biology for the Caribbean*	Evidence of critical thinking, creativity, relationship to conditions.

SCOPE OF WORK
GRADE: 9
STRAND: FOOD

TOPIC: FOOD PRESERVATION

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Select and use methods of food preservation that avoid unhealthy preservatives.	Freezing, vacuum-pack.	Select and use methods of food preservation that avoid unhealthy preservatives.		Long-term behaviour.
Make a model which shows healthy practices in food storage.	Cool, dry, ventilated, dark conditions with no harmful chemicals nearby.	Make a model which shows healthy practices in food storage.		Rubric for assessing models.
Use food storage practices that promote health.	As above.	Use food storage practices that promote health.		Long-term behaviour.
Find additional information on methods of food preservation and storage.		Conduct research to find additional information on methods of food preservation and storage.	Home Economics textbooks, magazines, news articles, resource books, Internet.	Rubric for assessing conducting investigations/research.
Pose a question of interest related to food preservation and storage and conduct relevant research.		Pose a question of interest related to food preservation and storage Conduct relevant research.	Magazines, news articles, resource books, Internet.	Evidence of critical thinking, relevance to food preservation or storage. Rubric for assessing/conducting investigations/research.

SCOPE OF WORK
GRADE: 9
STRAND: BODY SYSTEMS

TOPIC: NERVOUS SYSTEM DURATION: 8 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe a diagram of the nervous system.	Outline of human body with the central and peripheral nervous systems shown.	Observe a diagram of the nervous system. Describe the nervous system in relation to the body.	Charts, textbook, resource books.	All parts of the body with parts of the nervous system highlighted.
Form a hypothesis on the functions of the nervous system.	Receive information about the external or internal environment, process the information and signal appropriate responses.	Form a hypothesis on the functions of the nervous system.	Charts, textbook, resource books.	Validity of hypothesis.
Classify neurons according to their function.	Sensory neurones receive information from the internal and external environment and transmit the information to the central nervous system. Motor neurons take messages from the CNS to the response organs.	Read textbook and resource books. Record characteristics of sensory and motor neurons. Classify neurons as sensory or motor.	Textbook, resource books.	Correct criteria and classification of neurons.
Observe and describe differences in external appearance of motor and sensory neurons (by viewing diagrams).	Length of neurons, position of cell body, shape of cell body, position of dendrites.	Observe differences in external appearance of motor and sensory neurons. Construct a Venn Diagram to compare the appearance of sensory and motor neurons.	Charts, diagrams.	Correct information on Venn Diagram.
Make a model of a sensory and a motor neurone.	As above.	Make a model of a sensory and a motor neurone.	*Biology for Life*	Rubric for assessing models.

SCOPE OF WORK
GRADE: 9
STRAND: BODY SYSTEMS

TOPIC: NERVOUS SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Recognize the relationship between length of axon & amount of dendrites and efficiency of nervous signal transmissions.	Large number of dendrites/dendrons allow more information to be received and sent at once; longer axons allow movement of messages faster along neurone.	Brainstorm benefits of the appearance of dendrites and axons.	Charts, diagrams.	Relationship shown – logical reasons given.
Relate the outline structure of the central nervous system to its function.	CNS is the processing centre in the centre/median of the body. Brain – has most processing, occupies most of cranial cavity. Spinal cord – length services most of the body.	Describe the position of the CNS. Describe the shape of the CNS. Relate the position and shape of CNS to its function.	Charts, diagrams, textbook, resource books.	Relationship clearly shown using correct information.
Use correct names for parts of the brain.	Cerebrum, cerebellum, medulla oblongata, hypothalamus, pituitary gland.	Label a diagram of the external appearance of the brain. Label a diagram of a L S of the brain. Matching games.	Chart, textbook, resource books.	Correct use of names.
Predict the effect of damage to a named part of the brain.	**Cerebrum** – front – memory, back – sight, middle – trunk and limbs; **cerebellum** – balance; **medulla oblongata** – breathing.	Observe diagram of brain (map showing parts controlled by that area of the brain). Predict the effect of damage to a named part of the brain.	*Human & Social Biology for the Tropics*	Logical predictions based on information given.
Plan and conduct an investigation to determine if memory changes with age.		Plan and conduct an investigation to determine if memory changes with age.	Survey instruments, library, Internet	Rubric for conducting investigations.
Classify organs of the nervous system as "receptors" or "effectors".	Organs that receive information from the external environment – receptors (eye, ear, skin), those that respond to information received – effectors (biceps/triceps).	Brainstorm meaning of receptor and effector. Identify the sensory organs. Identify effector organs.	Chart, textbook, worksheet.	Organs correctly classified.

SCOPE OF WORK
GRADE: 9
STRAND: BODY SYSTEMS

TOPIC: NERVOUS SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Demonstrate (verbally or through drama) the path of a signal taken in a reflex arc.	Stimulus, sensory organ, sensory nerve (neurones), brain/spinal cord, motor nerve (neurons), effector organ, response.	Discuss examples of simple reflex actions. Observe a diagram showing the pathway of a message along a reflex arc. State the characteristics of reflex actions. Demonstrate the path of a signal taken in a reflex arc.	Chart of reflex arc, textbook, resource books.	Rubric for assessing presentations.
Predict the effect of age on reaction time.	Reaction time increases with age.	Predict the effect of age on reaction time.		Correct information to support valid prediction.
Plan and conduct an investigation to determine how age or gender affects reaction time.		Plan and conduct an investigation to determine how age or gender affects reaction time.		Rubric for assessing investigations.
Recognize and control variables when measuring reaction time.	Variables – age, gender, physical fitness, health, lifestyles (smoker, drug addiction), weight.	Brainstorm possible variables. Identify the variables to be controlled. Control the variables.		Number of valid variables identified and controlled.
Use apparatus to measure reaction time.	Stimulus (ruler, alarm), stopwatch.	Use apparatus to measure reaction time. Conduct an investigation to determine reaction time.		Correct use of apparatus.
Measure reaction time in seconds.		Measure reaction time in (fractions) seconds.	Stopwatch	Accuracy of measurement.
Make a presentation to explain the importance of reflex actions.	Automatic & fast prevents serious injuries.	Brainstorm and make a group presentation to explain the importance of reflex actions.	Textbook, resource books.	Rubric for assessing presentations.

SCOPE OF WORK
GRADE: 9
STRAND: BODY SYSTEMS

TOPIC: SKIN DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Predict what would happen if reflex actions were under our conscious control.	Longer time for response, possibly an inappropriate, inefficient or ineffective response selected.	Review common reflex actions Predict what would happen if reflex actions were under our conscious control.	Textbook, resource books.	Clearly stated, logical prediction.
Use correct names for parts of the skin.	Epidermis, dermis, sub-cutaneous fat, sweat gland, duct, pore; sebaceous gland, hair follicle, capillaries, sensory receptors.	Label diagrams of the skin. Matching games Complete puzzles	Chart, diagrams, textbook, resource books.	Number of parts of the skin correctly identified.
Recognize and explain the relationship between the amount of melanin and skin complexion.	Malpighian layer, melanin provides the colouration of skin.	Explain the difference in complexion of six persons based on the relative amount of melanin in their skin.	Resource books, photographs.	Relationship clearly shown and explained.
Recognize and explain the relationship between skin complexion and likelihood of acquiring skin cancer.	Melanin screens ultraviolet rays, more melanin less harmful rays penetrate skin to damage tissue or stimulate cancerous growths.	Discuss statistics of skin cancer in blacks versus white people. Discuss the protective role of melanin. Explain a possible relationship between skin colour and cancer.	As above, Internet, library.	Relationship clearly shown with logical reasons.
Predict how appearance and health of skin would be affected by excessive sponging.	Protective epidermis damaged, small, superficial capillaries damaged, natural skin oil removed, colour, dryness.	Predict how appearance and health of skin would be affected by excessive sponging.		Valid prediction based on logical reasons.

SCOPE OF WORK
GRADE: 9
STRAND: BODY SYSTEMS

TOPIC: THE EYE DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use correct names for parts of the eye.	Eyelid, lash, brow, tear gland, conjunctiva, cornea, iris, pupil, lens, retina, fovea, blind spot, choroid, sclera, optic nerve, muscles.	Label diagram Matching games Puzzles	Chart, diagrams, textbook, resource books.	Number of parts of the eye correctly identified.
Make an annotated diagram of the eye.	Function(s) of parts named above.	Make an annotated diagram of the eye.	Textbook, resource books, diagrams.	Correct notation of labeled parts.
Predict the effect of removing cones on sight.	Retina has light-sensitive cells, rods – dim light; cones- bright light & colour vision.	Discuss the role of light sensitive cells to vision. Predict the effect of removing cones on sight.		Plausible prediction.
Recognize and explain the relationship between accommodation and clear vision.	Accommodation – lens shortens and "bulges" curves outward in order to focus on objects that are close to the body. Convex lens converges light rays.	Observe the shape of a lens when focusing on distant object and on near object. Compare the shapes of the lenses.	Charts, diagrams, textbook, resource books.	Clear relationship shown between the shape of lenses, refraction of light rays and distance of objects.
Conduct a survey of persons wearing spectacles or contact lenses to determine the most common eye defect.	Myopia (shortsightedness), hypermetropia (long-sightedness), astigmatism (uneven cornea).	Conduct a survey of persons wearing spectacles or contact lenses to determine the most common eye defect.	Target group – students/young people, mixed age or senior citizens.	Rubric for assessing conducting investigations.
Describe the function of spectacles with concave and convex lenses.	Concave lens – diverges rays to focus rays in long eyeballs. Convex lens – converges rays to focus rays in short eyeballs.	Examine concave and convex lenses. Examine spectacles lenses Describe orally, the function of spectacles with concave and convex lenses.	Charts, diagrams, textbook, resource books, spectacles, convex lenses, concave lenses.	Functions of lenses in bending light correctly given.
Identify and adopt practices to preserve sight.	Rest, blinking, adequate lighting, adequate distance for near objects.	Brainstorming Adopt practices to preserve sight.		Number of practices correctly identified. Long-term behaviour.

SCOPE OF WORK
GRADE: 9
STRAND: BODY SYSTEMS

TOPIC: THE EAR DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use correct names for parts of the ear.	Pinna, auditory canal, ear drum (tympanum), malleus, incus, stapes, eusatchian tube, semi-circular canals, oval & round windows, cochlea, auditory nerve.	Label diagram Matching games Puzzles	Chart, diagrams, textbook, resource books.	Number of parts of the ear correctly identified.
Relate the functions of parts to their shape.	Functions of the parts above.	Observe the shapes of parts. Review the functions of parts. Relate the functions of parts to their shape.	Diagrams, model.	Relationship clearly shown between shape and function.
Demonstrate the process that brings about hearing.	Signal, tympanum, ossicles, oval window, cochlea, auditory nerve.	Demonstrate (verbally, model, or drama) the process that brings about hearing. Use a model to demonstrate how hearing occurs.	Model, textbook, resource books.	
Plan and conduct an investigation to determine if hearing deteriorates with age.		Plan and conduct an investigation to determine if hearing deteriorates with age.		Rubric for conducting investigation.
Recognize and control variables when measuring/testing hearing.	Gender, age, health.	Recognize and control variables when measuring/testing hearing.		Valid variables identified.
Formulate a hypothesis as to whether persons with larger pinnae hear better.	Pinnae collect sound waves.	Formulate a hypothesis as to whether persons with larger pinnae hear better.		Plausible hypothesis with logical reasons.
Plan and conduct an investigation to determine if size of pinna affects hearing.		Plan and conduct an investigation to determine if size of pinna affects hearing.		Rubric for assessing investigations.
Identify and adopt practices to preserve hearing.	Avoid: sharp objects in ear, loud sounds, sudden deep dives, blows to ears.	Identify practices to preserve hearing. Adopt practices to preserve hearing.		Number of practices correctly identified. Long-term behaviour.

SCOPE OF WORK
GRADE: 9
STRAND: BODY SYSTEMS

TOPIC: ENDOCRINE SYSTEM DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make an annotated diagram of the endocrine system.	The endocrine system regulates body activities and is made up of ductless glands that produce chemical messengers called hormones.	Make an annotated diagram of the endocrine system.	Computer and LCD projector, chart showing endocrine system, textbook.	Accuracy of notations.
Use correct names for common ductless glands.	Pituitary, hypothalamus, thyroid, adrenal, testicles, ovaries and pancreas.	As above. Crossword & word search puzzles.	As above, crossword puzzles, word search puzzles.	Number of names correctly used.
Make observations of endocrine glands after studying photographs.	Comparison of the location, shape and appearance of endocrine glands (above).	Use a matrix to compare the location, shape and appearance of endocrine glands.	Textbook, charts.	Number of correct entries in matrix.
Compare two types of glands.	Definition of gland and comparisons of ductless glands with those that have ducts.	Observe diagrams of ductless glands with those that have ducts. Make drawings to distinguish between the two types.	Diagrams, resource books, charts.	Rubric for assessing visual aids (similarities and differences shown).
Construct a table showing hormones and their functions.	Testosterone, oestrogen, thyroxine, adrenaline, insulin, growth hormone.	Create or construct a table showing hormones and their functions.	Textbook, resource books, charts.	Correct information in matrix.
Make a model of the endocrine system.	The endocrine glands are not connected, model will show location of glands in relation to the body outline.	Create model of endocrine system using clay.	Clay	Rubric for assessing models.
Make an oral presentation comparing the nervous and endocrine systems.	Both coordinate responses, differ in speed, structure, messengers/means of transmission.	Construct a Venn Diagram to compare the nervous and endocrine systems. Make an oral presentation comparing the nervous and endocrine systems.	Textbook, resource books, charts.	Rubric for assessing oral/visual presentations.

SCOPE OF WORK
GRADE: 9
STRAND: BODY SYSTEMS

TOPIC: ENDOCRINE SYSTEM

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Explain the relationship between blood glucose level and insulin.	Insulin is produced by the pancreas and it controls or regulates the blood glucose level.	Research to find out the normal blood glucose level (normal range). Find out what happens when the blood glucose level comes out of its normal range.	Textbook, resource books, magazines, library, Internet.	Relationship clearly shown.
Explain the effects of increased production of adrenalin and thyroxin on the heart or pulse rate.	Increased production of adrenalin and thyroxin both increase the heart or pulse rate.	Research to find out some symptoms associated with tachycardia.	Textbook, resource books, magazines, library, Internet.	Logical explanation using correct information.
Predict what will happen to the pulse rate if the thyroid gland was removed surgically.	Partial removal of the thyroid gland results in decreased production of thyroxin and decreased pulse or heart rate.	Predict what will happen to the pulse rate if the thyroid gland was removed surgically.	Textbook, resource books, magazines, library, Internet.	Valid prediction.
Predict what will happen if a diabetic was given too much insulin.	Too much insulin decreases blood sugar level and causes it to go below the normal range. Hypoglycaemia can be life threatening.	Predict what will happen if a diabetic was given too much insulin.	Textbook, resource books, magazines, library, Internet.	Valid prediction.
Formulate a hypothesis as to whether pulse rate decreases after thyroid removal.	Pulse rate decreases after thyroid removal.	Research to find out the range for the normal pulse. Find out other factors that affect pulse rate, such as age, emotion, exercise and disease.	Textbook, resource books, magazines, library, Internet.	Clearly stated plausible hypothesis.
Find out information on Hormone Replacement Therapy.	Tablets containing the hormone thyroxin can be given to patients when they do not produce any thyroxin because of thyroid removal.	Research to find out why patients need to be monitored by a physician when taking these tablets and why they need to take them consistently for the rest of their lives.	Textbook, resource books, magazines, library, Internet.	Rubric for conducting research.
Pose a question on the endocrine system which extends knowledge.		Pose a question on the endocrine system which extends knowledge.	Textbook, resource books, magazines, library, Internet.	Clearly phrased question based on information studied, extends knowledge.

SCOPE OF WORK
GRADE: 9
STRAND: DISEASES AND BUSH MEDICINE

TOPIC: DISEASES DURATION: 8 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Classify diseases and disorders.	Epilepsy, Parkinson's disease, dementia, headaches, cataract, colour blindness, glaucoma, conjunctivitis (pink eye), dizziness Goitre, diabetes.	• Read text/resource books to find out information about the named diseases/disorders. • Classify each named disease and disorder (as communicable, pathogenic, and congenital). • Complete a graphic organizer showing the classification.	Textbook, resource books.	Correct classification. Rubric for assessing visual aids.
Find out the latest techniques for treating/controlling (preventing) Alzheimer's.		Conduct research to find out the latest techniques for treating/controlling (preventing) Alzheimer's.	Library, Internet.	Rubric for conducting research.
Find out information as to whether diet and lifestyle contribute to diseases such as Alzheimer's.		Conduct research to find out information as to whether diet and lifestyle contribute to diseases such as Alzheimer's.	Resource books, library, Internet.	Rubric for conducting research.
Use information researched to describe how the brain changes with age.	The brain changes with age to contribute to conditions such as memory loss and Alzheimer's.	Note simply, changes that occur to the brain. Relate these changes to the aging process. Formulate a hypothesis about the change in the brain with age and the onset of certain disorders.	Prepared articles, diagrams.	Clearly stated hypothesis with plausible reasons.
Find out the latest methods for treating eye defects and diseases.	Myopia, conjunctivitis, astigmatism, displaced retina, laser surgery.	Conduct research to find out the latest methods for treating eye defects and diseases.	Textbook, resource books.	Rubric for conducting research.

SCOPE OF WORK
GRADE: 9
STRAND: DISEASES AND BUSH MEDICINE

TOPIC: DRUG USE AND ABUSE DURATION: 4 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Classify drugs as prescription or non-prescription drugs.	Definition of "drug". Prescription drugs/medicines are obtained by way of authorization (prescription) of a certified medical doctor. Non-prescription drugs are medicines that may be obtained without prescription.	• Brainstorm term "drugs". • Class – concept map. • Discuss advantages and disadvantages of access to non-prescription drugs. • Observe a variety of prescription and non-prescription drugs. • Classify drugs as prescription or non-prescription drugs.	Photographs or examples of drugs.	Number of drugs correctly classified.
Distinguish between the use and abuse of prescription drugs.	Prescription drugs are used when they are taken: for the reason specified, the quantity, timing and manner as specified. Any difference in use other than the prescription constitutes abuse.	• Think-pair-share. • In pairs, describe scenarios in which prescription drugs are abused. • Create a graphic organizer to distinguish between the use and abuse of prescription drugs.		Rubric for assessing visual aids.
Conduct an investigation to determine the relative use of non-prescription drugs.	A few examples of non-prescription drugs e.g. pain killers, cough mixtures.	• Design a questionnaire. • Identify the target group. • Conduct the survey. • Analyse the data. • Formulate a conclusion on the use of non-prescription drugs.	Photocopies	Rubric for assessing conducting investigations.
Observe the use of a breathalyzer.	Breathalyzers are used to determine relative intoxication (alcohol) level.	• Observe the use of a breathalyzer. • Describe the importance of a breathalyzer.	Video-clip	Clarity in description of the use of a breathalyzer and its importance.

SCOPE OF WORK
GRADE: 9
STRAND: DISEASES AND BUSH MEDICINE

TOPIC: DRUG USE AND ABUSE

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe the effects of alcohol abuse.	Impaired vision and increased response time cause accidents, accidents – injuries/death, impaired judgment – sexual encounters (STIs/pregnancy), victim of crime, increase in weight, cirrhosis, dementia.	• Discussion. • Observe a video. • Dramatize in a skit the effects of alcohol abuse. • Write a speech or design a visual aid to showing the effects of alcohol abuse to discourage young people from it.	Video Literature from Ministry of Health, Royal Bahamas Police Force	Rubric for assessing oral presentations.
Calculate the amount of alcohol that marks the legal limit for an adult.	*80 mg* – 10 cm^3 /10 ml alcohol = 1 unit	Calculate the amount of alcohol that marks the legal limit for an adult.	Human Form and Function	Correct calculations.
Relate the quantity of drugs consumed to their effects.		• Interpret a graph showing the risk of road accidents with increased alcohol content. • Describe the relationship between the risk of road accidents with increased alcohol content.	CXC Human and Social Biology	Relationship clearly and correctly explained.
Classify drugs based on their effects.	Stimulants – stimulate the nervous system (cocaine, caffeine), sedatives – slow the body functions (tranquillizers, sleeping pills), hallucinogens (marijuana, ecstasy), narcotics – opium derivatives that cause major social ills (morphine, heroin).	• Read articles about *commonly discussed* drugs. • Classify these drugs based on criteria given as: stimulants, sedatives, hallucinogens, narcotics.	Brochures, resource books Videos	Correct classification of drugs.

SCOPE OF WORK
GRADE: 9
STRAND: DISEASES AND BUSH MEDICINE

TOPIC: DRUG USE AND ABUSE

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Find out information about Drug-Free Achievers and Alcoholics Anonymous.	Drug-Free Achievers – designed to discourage young people from using illegal drugs and abusing legal drugs. Group setting. Alcoholics Anonymous (AA) – designed to assist recovering alcoholics remain alcohol-free. Group setting.	• Conduct research to find out information about Drug-Free Achievers and Alcoholics Anonymous. • Make a visual aid to promote AA. • Participate in a skit to promote Drug-Free Achievers.	Pamphlets – Ministry of Health Pamphlets – AA Library, Internet.	Rubric for assessing visual aids. Rubric for assessing oral presentations.
Plan a "town" meeting to discourage persons from drug abuse.	Age groups: pre-teens, teenagers, young adults, adults; gender grouping; venues: school, church, community centre, park, shopping plaza etc.	• Plan – target audience. • Identify venue. • Plan publicity. • Compile the relevant content. • Make oral/visual presentation.	Computer, LCD projector, visual aids, resource persons.	Rubric for assessing oral/visual presentations.
Debate the topic "social parties should be drug-free zones"	Include alcohol	Debate the topic "social parties should be drug-free zones".		Rubric for assessing oral presentations.
Conduct research to find out long-term effects of abuse of three drugs.		• Identify three drugs (commonly abused). • Conduct research to find out long-term effects of abuse of three drugs. • Make a jingle/song or poem to educate children and teenagers on these effects.		Rubric for assessing oral presentations.
Make a personal pledge to not practice drug abuse.		Write a personal pledge to not practice drug abuse.		

SCOPE OF WORK
GRADE: 9
STRAND: DISEASES AND BUSH MEDICINE

TOPIC: DISEASES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Find out information about Hormone Replacement Therapy.	Usually, artificial hormones given to females who have lost their ovaries.	Conduct research to Find out information about Hormone Replacement Therapy.	Clinics (local), Ministry of Health.	Rubric for assessing conducting research.
Read an article on a disease not studied in class from one of the categories: communicable, congenital, degenerative, pathogenic, inherited.		Read an article on a disease not studied in class from one of the categories: communicable, congenital, degenerative, pathogenic, inherited. Create a flyer or brochure on the disease to be studied.	Magazine articles, resource books, Internet.	Rubric for assessing visual aids.
Distinguish between the terms benign and malignant tumors.	Definitions – tumor, benign, malignant.		Resource books, materials from the Cancer Society, library.	Correct definitions.
Identify the more common sites for cancer.	Breast, prostate gland, cervix, ovary, lung, colon, throat, skin, brain, leukaemia.	Identify organs. On diagram indicate the percentage rate/frequency next to organ.	Resource books, materials from the Cancer Society, library.	Accuracy of information on diagram.
Identify most common forms of cancer in males in The Bahamas.	Prostate, lungs.	Observe photographs of normal and cancerous organs.	Resource books, materials from the Cancer Society, library.	Correctly identify the most common forms.
Identify the most common forms of cancer in females in The Bahamas.	Breast, cervical, ovarian.	Observe photographs of normal and cancerous organs.	Resource books, materials from the Cancer Society, library.	Correctly identify the most common forms.

SCOPE OF WORK
GRADE: 9
STRAND: DISEASES AND BUSH MEDICINE

TOPIC: DISEASES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Demonstrate how to make breast-examination.	Concentric circles from outside towards nipple, squeeze nipple – for males and females.	On a model, demonstrate how to make breast-examination.	Resource books, materials from the Cancer Society, library.	Correct motion shown.
Describe the signs and symptoms of prostate cancer.	Slow flow of urine stream.	Observe enlarged prostate gland. Brainstorm its effects. Read information. Make an annotated diagram.	Resource books, materials from the Cancer Society, library.	Rubric for assessing visual aids.
Make an infomercial on the importance of early detection in treatment of cancer.	PSA screening, pap smear, breast examinations, colon examinations; early detection before symptoms.	Make an infomercial on the importance of early detection in treatment of cancer.	Resource books, materials from the Cancer Society, library.	Rubric for assessing visual presentations.
State a hypothesis on the number of cases of cancer in The Bahamas.	Compare number of cases in The Bahamas with the number in Canada, USA, Barbados, Costa Rica.	State a hypothesis on the increase in the number of cases of cancer in The Bahamas.	Internet, Ministry of Health, Resource books, materials from the Cancer Society, library.	Clearly stated hypothesis with reasons.
Create a graphic organizer to compare common methods of treatment.	Radiation – use radiation to destroy cancerous cells; chemotherapy – use chemicals to destroy cancerous cells; surgery – remove cancerous cells.	Find out the main methods of treating cancers. Create a graphic organizer to compare common methods of treatment.	Resource books, materials from the Cancer Society, library.	Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 9
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: BUSH MEDICINES DURATION: 11 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use common names to identify bush medicines.	Diabetes – Aloe, White Sailor's Cap; Mumps – Catnip, white Sage; Tiredness – Madeira; Headache – castor oil, Breadfruit, Life Leaf, Match-Me-If-You-Can.	• Observe slide show or photographs. • Match names with photographs. • Complete word puzzles.	*Bush Medicine in Bahamian Folk Tradition* Photographs (PowerPoint Presentation) Specimens (plants/pieces)	Number of photographs correctly identified with common names.
Classify common plants used in the preparation of bush medicine.	Herbs, shrubs or trees; annuals, biennials, perennials; monocotyledons, dicotyledons;	• Define each group title. • Classify each plant. • Make a table or graphic organizer to classify the plants above.	*Bush Medicine in Bahamian Folk Tradition* Photographs (PowerPoint Presentation) Specimens (plants/pieces)	Rubric for assessing visual aids (graphic organizer).
Describe leaf presses made from plants used as bush medicine.	Leaves of plants (above), different shapes and sizes.	• Observe leaf presses made from plants. • Describe leaf presses made from plants.		Details given in descriptions.
Conduct a survey of the neighbourhood to determine the population of a given bush medicine, compile the data for several neighbourhoods and construct a graph to show the frequency of populations.	One of: Aloe, White Sailor's Cap, white Sage, Breadfruit, Life Leaf, Match-Me-If-You-Can.	• Select a bush medicine plant. • Conduct a survey of the neighbourhood to determine the population of a given bush medicine, compile the data for several neighbourhoods and construct a graph to show the frequency of populations.	*Bush Medicine in Bahamian Folk Tradition*	Rubric for assessing collecting and processing data.
Formulate a hypothesis on how a bush might be prepared to treat a given illness.	One of: Diabetes –White Sailor's Cap; Mumps – white Sage; Headache –Breadfruit, Match-Me-If-You-Can.	Formulate a hypothesis on how a bush might be prepared to treat a given illness.		Clearly stated, plausible hypothesis.

SCOPE OF WORK
GRADE: 9
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: BUSH MEDICINES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe relevant part of plant to determine its suitability for use in preparation of "medicine".	As for previous learner outcome.	• Observe relevant part of the plant (selected). • Describe its suitability for use in preparation of "medicine".		Clear description and valid reasons for its suitability.
Select appropriate parts of plants to prepare "medicine".	For plant selected above.	Teacher demonstration of preparation of the "medicine".		
Observe the texture of paste or colour of solution to determine completion of preparation.	For plant selected above.	Observe the texture of paste or colour of solution at completion of preparation.		Description of colour and/or texture.
Classify "medicines" based on the methods of preparation.	Boiling (to wash area or drink), beating (to apply to area), make a paste.	Create a table to classify all medicinal plants studied based on the methods of preparation.	*Bush Medicine in Bahamian Folk Tradition*	Correct groupings of methods of preparation, number of plant preparations correctly classified.
Describe the identified plants, their preparation and uses.		In the table above, add the use(s) for each medicinal preparation.	*Bush Medicine in Bahamian Folk Tradition*	Correct information in table.
Construct a table of photographs/drawings of plants and their uses.	Plants studied in the Unit.	• Construct a table of photographs/drawings of plants and their uses. • Match named bush medicines to the diseases/disorders that they are used to treat.		Number of bush medicines correctly matched with the diseases/disorders.
Make an oral presentation to show one disease/disorder and the bush medicines to treat it.	One of: Diabetes –White Sailor's Cap; Mumps – white Sage; Headache – Breadfruit, Life Leaf, Match-Me-If-You-Can.	Make an oral presentation to show one disease/disorder and the bush medicines to treat it.	*Bush Medicine in Bahamian Folk Tradition, Human and Social Biology for CXC*	Rubric for assessing oral presentations.

SCOPE OF WORK
GRADE: 9
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: BUSH MEDICINES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Recognize variables and attempt to control one of the variables in preparation of bush medicine.	Diabetes –White Sailor's Cap. Variables (temperature, amount of plant material, amount of water, time).	Identify variables and attempt to control one of them in the preparation of a bush medicine (White Sailor's Cap).	*Bush Medicine in Bahamian Folk Tradition*	Plausible variables identified.
Prepare a bush medicine.	One of: Breadfruit, Life Leaf, Match-Me-If-You-Can leaves (headache).	Preparation of Breadfruit, Life Leaf, or Match-Me-If-You-Can "medicine".	*Bush Medicine in Bahamian Folk Tradition*	Instructional steps followed.
Measure temperatures of medicine preparations.	For above preparation; to 1°C accuracy.	Measure and record temperatures (to 1°C) of medicine preparations.	Heating device, beaker, thermometer, White Sailor's Cap	Accuracy of measurements.
Measure time (minutes) taken for correct preparation of bush medicines.	Time (minutes) for White Sailor's Cap preparation.	Measure time (minutes) taken for correct preparation of bush medicines.	Stopwatch	Time correctly measured.
Measure dosage.	Teaspoonful, tablespoonful, ¼ cup etc.	Measure suggested dosage.	Set of measuring spoons, measuring cup (with gradation).	Accuracy of measurements.
Use knowledge of the effects of temperature and pressure on reactions to develop a more efficient/ effective means of preparing a bush medicine.	Increased pressure lowers boiling point.	Design a gadget, method of preparation or ingredient that would increase the efficiency and effectiveness of preparing a bush medicine.		Rubric for assessing model/planning an investigation.
Develop. a means of preserving and storing a bush medicine.		Suggest a means of preserving and storing a bush medicine.		Plausible suggestion and reasons.

SCOPE OF WORK
GRADE: 9
STRAND: DISEASES AND BUSH MEDICINES

TOPIC: BUSH MEDICINES

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Decide whether or not to use specified bush medicines.	Any two of the "medicines" named in the unit.	Based on information in textbooks and oral testimonies, decide whether or not to use specified bush medicines.		Plausible reasons given to support stated opinion.
Describe possible advantages and disadvantages of the use of bush medicines.	Advantages: inexpensive, easily prepared. Disadvantages: dosage is anecdotal, allergies, availability (seasonal), preparations must be used immediately.	• Brainstorming • Debate or discussion on advantages outweigh disadvantages. • Justify the inclusion of Bush Medicines in the curriculum.		Number of advantages and disadvantages indicated, logical presentation.
Conduct research to find home remedies used for the diseases/ disorders studied.		Conduct research to find home remedies used for the diseases/disorders studied.	Interviews, library.	Rubric for assessing research.
Conduct research to discover variations of plants used and/or methods of preparation in different islands of The Bahamas, Caribbean countries or parts of the world.		Conduct research to discover variations of plants used and/or methods of preparation in different islands of The Bahamas, Caribbean countries or parts of the world.	Interviews, library, Internet.	Rubric for assessing research.
Conduct a survey of 50 persons to determine the percentage of persons that use bush medicine.		• Conduct a survey of 50 persons to determine the percentage of persons that use bush medicine. • Calculate the percentage of adults surveyed that use bush medicine.	Questionnaire	Rubric for collecting and processing data.
Predict the effect that immigrants and or economic and technological development might have on popularity of using bush medicine.		Predict the effect that immigrants and or economic and technological development might have on popularity of using bush medicine.		Plausible predictions and reasons.

SCOPE OF WORK
GRADE: 9
STRAND: FIRST AID AND SAFETY

TOPIC: FIRST AID DURATION: 8 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Observe an accident scene to ensure that it is safe.	Free from damaged electrical wires, potential explosives, dripping unidentified liquids, burning beams, potential gas leaks.	Observe photographs/ diagrams of accident scenes; evaluate the level of safety to first aiders. Record relevant observations.	Photographs/diagrams showing different accident scenes.	Number and validity of observations.
Based on an assessment of the environment, decide whether or not to attempt to rescue and/or administer First Aid.	As above.	As above.	As above.	Correct decision with correct supporting reasons.
Make assessment observations to determine physical and personnel resources available to assist in rendering First Aid.	Number of persons, First Aid training, available materials that could be used for bandaging	Observe and record the number of potential first aiders and materials present that could be used for treatment.	As above.	
Use available materials correctly and safely in managing an accident scene.	Items that might be readily available for certain conditions e.g. during a softball game on the play field, electrical shock in beauty salon, beach picnic, signage.	Role play	Tree limbs/branches, clothing/shirts, bat.	Selection and appropriate use of "make shift" First Aid materials.
Based on information received and signs of the victim(s), prioritize the injuries to be treated.	• Airway, Breathing, Circulation • Severe bleeding • Broken bones • Any other injuries	Observe photographs/diagrams of accident scenes. List the injuries observed, in order of priority for treatment.	*Practical First Aid* Worksheet	Injuries correctly prioritized.
Formulate a visual model /schematic of the steps to be taken in managing the scene of an accident.	• Assess the immediate environment around the accident. • Check that casualty is not exposed to further danger. • Prioritize injuries to be treated. • Send for medical assistance. • Check for casualty's history, signs and symptoms.	Discussion Design a visual model /schematic of the steps to be taken in managing the scene of an accident.	*Practical First Aid*	Rubric for assessing visual aids.

SCOPE OF WORK
GRADE: 9
STRAND: FIRST AID AND SAFETY

TOPIC: FIRST AID

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a flyer with the steps to take in managing an accident scene.	As for previous learner outcome.	Make a flyer with the steps to take in managing an accident scene.	*Practical First Aid*	Rubric for assessing visual aids.
Use available materials and items to safely move a victim from danger.	NOTE special precautions that relate to electrical shocks.	Brainstorm & discussion (what items could be used in various scenarios). Role Play		Plausible matching.
Show the relationship between immobilizing a victim and preventing more harm.	An injured limb left to move could increase the severity of the injury, damage other soft tissue.	Explain orally. Using props, demonstrate the relationship between immobilizing a victim and preventing more harm.	*Community First Aid & Safety* *Practical First Aid*	Relationship clearly explained and demonstrated.
Design a device that would assist in transporting a victim or to be used at the scene of an accident.		Design a device that would assist in transporting a victim or to be used at the scene of an accident.		Suitability of design for its purpose.
Draw conclusion on the types of injuries sustained based on the nature of the accident, information given and observations made.	To include: burns, fractures, choking.	Observe diagrams/photographs. Review information given. Draw conclusion on the types of injuries sustained.	*Community First Aid & Safety* *Practical First Aid*	Plausible conclusion based on valid observations and data.
Use the eye wash fountain.		Identify the nearest eyewash fountain. Demonstrate its proper use.		Correct use.
Observe signs of a victim.	Deformities of limbs, colouration of skin, dryness of skin, perspiration, responsiveness, pupil size, pulse rate, breathing, shape of wounds, colour of burn, swelling.	Observe signs of a victim shown on photographs. List signs observed.	Photographs of victims of accidents.	Number of signs correctly identified.

SCOPE OF WORK
GRADE: 9
STRAND: FIRST AID AND SAFETY

TOPIC: FIRST AID

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Use signs of a victim to identify shock.	Restlessness, or irritability, different level of consciousness, pale, cool, moist skin, rapid breathing, rapid pulse.	Observe signs from photographs, diagrams. Review signs given.	*Community First Aid & Safety* *Practical First Aid*	Correctly identify signs of shock.
Make an oral presentation on the causes and signs of shock.	Cause – severe bleeding.	Make an oral presentation on the causes and signs of shock.	*Community First Aid & Safety* *Practical First Aid*	Rubric for assessing oral presentations.
Use a skit or make a PowerPoint presentation to describe immediate care of shock.	Put victim in comfortable position, control bleeding, help victim restore normal body temperature, elevate legs, do not give anything to eat or drink, call emergency help.	Use a skit or make a PowerPoint presentation to describe immediate care of shock.	*Community First Aid & Safety*	Rubric for assessing presentations.
Demonstrate correctly placing a victim in the recovery position.		Demonstrate correctly placing a victim in the recovery position.	*Community First Aid & Safety* *Practical First Aid*	Correct technique used.
Predict the effect of shock on the body over a long period.	Muscles in limbs begin to die, the brain starts to shut-down followed by the heart ending in death.	Predict the effect of shock on the body over a long period.	*Community First Aid & Safety*	Valid predictions with logical reasons.
Explain conditions in which moving the victim will be necessary.	Dangerous environment – in path of vehicles, fire, possibility of explosion.	Brainstorm possible conditions. Discuss the conditions offered. Rate the conditions (1 – 10) as a threat to the victim.	*Community First Aid & Safety* *Practical First Aid*	Valid conditions and plausible rating.
Make an infomercial on the signs and symptoms of a stroke.	Sagging on one side of face or body, numbness, slurred speech, inability to raise both arms, a symmetrical or limited smile.	Make an infomercial on the signs and symptoms of a stroke.	Information from local health care providers (nurses).	Rubric for assessing visual presentations.

SCOPE OF WORK
GRADE: 9
STRAND: FIRST AID AND SAFETY

TOPIC: FIRST AID

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a brochure on the signs and symptoms of a heart attack.	Profuse sweating, pain along jawline or down one arm.	Make a brochure on the signs and symptoms of a heart attack.	Information from local health care providers (nurses).	Rubric for assessing visual aids.
Formulate a hypothesis concerning the availability of trained first aiders.	People do not understand the importance of First Aid, First Aid courses are not readily available, persons are reluctant to practice First Aid, there are few trainers.	Formulate a hypothesis concerning the availability of trained first aiders.	Local Red Cross Society personnel.	Clearly stated plausible hypothesis with logical reasons.
Conduct a survey of students in the school who are trained in First Aid.		Conduct a survey of students in the school who are trained in First Aid.	Questionnaire	Rubric for assessing investigations.
Calculate the ratio of students who are trained in First Aid to the student population.		Calculate the ratio of students who are trained in First Aid to the student population.		Rubric for assessing processing data.
Take a survey of the adults to determine the ratio of persons trained in First Aid to the number of persons who frequent that place.	Adults in the community, church, or who frequent a local popular location.	Take a survey of the adults to determine the ratio of persons trained in First Aid to the number of persons who frequent that place.		Rubric for assessing investigations.
Suggest ways that might prevent accidents in or around the home or gardens (farms) in The Bahamas.	Handles of pots on fire turned inward, no slippery floors, no lit candles near open windows or curtains, cleaning agents stored on high shelves or locked cupboards, rough surface in bath tub, no wet hands on electrical appliances, no exposed wires, flammable items away from fires; sharp implements should be stored sharp edges covered, fertilizers stored in cupboards in shed.	Brainstorm (small groups) Suggest ways that might prevent accidents in or around the home or gardens (farms) in The Bahamas.	Tips for Safety in: kitchen, bathroom, garden.	Number of valid methods or practices to prevent accidents happening in or around the home.

SCOPE OF WORK
GRADE: 9
STRAND: FIRST AID AND SAFETY

TOPIC: SAFETY DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Formulate a hypothesis on the cause of the largest number of accidents among teenagers in or around the home or gardens (farms) in The Bahamas.	As for previous learner outcome.	Formulate a hypothesis on the cause of the largest number of accidents among teenagers in or around the home or gardens (farms) in The Bahamas.		Valid hypothesis with logical reasons.
Conduct a survey to determine the most common cause of accidents among teenagers in or around the home or gardens/farms in the settlement/area/island.		In pairs, design a questionnaire. Conduct a survey to determine the most common cause of accidents among teenagers in or around the home or gardens/farms in the settlement/area/island.	Questionnaire, information from Health Clinics or facilities.	Rubric for assessing conducting investigations.
Find out the cause of the largest number of accidents among children in or around the home or gardens (farms) in The Bahamas.		In pairs, design a questionnaire. Conduct a survey to determine the most common cause of accidents among young children in or around the home or gardens/farms in the settlement/area/island.	Questionnaire, information from Health Clinics or facilities.	Rubric for assessing conducting investigations.
Classify potentially hazardous household chemicals.	Dish washing liquid, cleaning agents, lighter fluids, disinfectants.	Classify chemicals as toxic, alkaline, corrosive or flammable. Classify chemicals in matrix.		Correct classification of chemicals.
Draw a conclusion on the nature of an electrical or chemical accident based on information and observation.	Electrical appliances/wires, burns, bottles or containers (containing chemicals) with special labeling, evidence of burns, corrosion, explosion.	Observe scenarios (written or pictorial). Draw a conclusion on the nature of an electrical or chemical accident.	Index cards with description or photographs/diagrams of accidents or victims and environment.	Accidents correctly classified.
Make an oral/visual presentation showing safety precautions for hurricanes.	Store canned food & fresh water, avoid dangling wires, do not walk about unnecessarily during hurricane, not near trees during lightning, boil water after hurricane.	Brainstorm Make an oral/visual presentation showing safety precautions for hurricanes.	Hurricane Tips from: Ministry of Health, insurance companies, daily newspapers.	Rubric for assessing presentations.

SCOPE OF WORK
GRADE: 9
STRAND: ENVIRONMENTAL HEALTH

TOPIC: CONSERVATION DURATION: 8 Lessons

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make an advertisement or skit about the importance of keeping The Bahamas ***"Clean, Green and Pristine".***	No litter, green spaces, increased plants, native plants, preservation of natural environment as "untouched".	• Discussion of the theme "Clean, Green & Pristine". • Brainstorm ideas to implement the theme.	Department of Environmental Health Services Biology resource books	Rubric for assessing oral/visual presentations.
Predict the effects of a clean environment on students' attitude and behaviour.	Easier to add litter to an already littered site. Students display more positive attitudes and behaviour in a clean environment.	Predict the effects of a clean environment on students' attitude and behaviour.		Clearly stated logical prediction with plausible reasons.
Predict the effects of urbanization on ecosystems and natural flora and fauna.	More natural ecosystems destroyed (pine forests, coppice, scrubland, some mangroves) reduce the numbers of flora and fauna as are destroyed. Increase in number of buildings, roads etc.	Predict the effects of urbanization on ecosystems and natural flora and fauna.	Bahamas National Trust publications.	Clearly stated logical prediction with plausible reasons.
State a hypothesis on the effects of urbanization on the well fields.	Increased population causes greater demand for land for buildings, more pressure not to reserve land for well fields. Greater risk of pollution of well fields. Reduction of available unpolluted water.	State a hypothesis on the effects of urbanization on the well fields.	Water and Sewerage Department information.	Clearly stated plausible hypothesis.
Construct a model plant for recycling waste (one component).	Paper, styrofoam, cardboard, bottles, aluminium, plastic.	• Identify a waste to be recycled. • Research methods of recycling that waste. • Design and construct a model plant for recycling the waste.	Library, magazines, Internet.	Rubric for assessing models.

SCOPE OF WORK
GRADE: 9
STRAND: ENVIRONMENTAL HEALTH

TOPIC: RECYCLING WASTE DURATION:

LEARNER OUTCOMES	CONTENT	ACTIVITIES	RESOURCES	METHOD OF ASSESSMENT
Make a press for recycling paper.		Make a press for recycling paper.		Rubric for assessing models/ products.
Engage in good environmental stewardship practices at home, the park, beach, in the water and along the roadside.		Demonstrate (skits) good environmental stewardship practices at home, the park, beach, in the water and along the roadside.		Rubric for assessing oral presentations.
Find out the effects of named invasive species on the health of humans in The Bahamas.	Lionfish	• Identify common invasive species. • Find out any negative effects these species may have on the health of humans.	Bahamas National Trust publications.	Number of species correctly identified as invasive; negative effects on the health of humans correctly matched.
Compile a list of synthetic recyclable items used in the environment.	Styrofoam, plastic.	• List common synthetic materials. • Identify which materials can be used in recycling.	Internet	Number of materials correctly identified.
Suggest advantages and disadvantages of recycling.	Reduce litter.	Brainstorm List advantages of recycling. List disadvantages of recycling.	Biology resource books.	Venn diagram
Explain the extent to which sorting waste for disposal and recycling waste improves health of the environment.	Paper (reduces litter), aluminium cans (reduces litter) used cooking oil, plastics, household garbage, green waste (mixture in hot temperatures cause methane gas).	• List categories for sorting garbage. • Brainstorm reasons for sorting each component. • Find out negative effects of not sorting.	DEHS information.	Correct reasons.

APPENDIX I
RUBRIC FOR ASSESSMENT

What is a Rubric?

Rubric – a set of guidelines for assessment which states the characteristics and/or dimensions being assessed with clear performance criteria and a rating scale. – *Policy on Assessment and Evaluation published by the Scarborough Board of Education, 1977.*

A scoring rubric consists of:

- A fixed scale
- A list of characteristics/criteria describing performance for each of the points on a scale.
- Clear performance targets for students.

How to design a Rubric

- Select a result/results based on a learner outcome that will be assessed.
- Describe a superior performance.
- Describe a low-level performance.
- Set different level performances between the high and low level performances described.
- Explain the scoring criteria to students.
- Use examples to assist students in using the rubric as a means of demonstrating their understanding.

Examples of a Rubric are included in this document to assist teachers in effectively using alternative methods of assessment. However, the use of a Rubric is not limited to the categories shown. Teachers are encouraged to develop similar Rubrics for results of learner outcomes or student activities that are not included. Similarly, teachers will develop score sheets based on the criteria. An example is shown.

RUBRIC SCORE SHEET FOR VISUAL AIDS

Students' Names or Groups	Visual appeal	Use of space	Comprehension of assignment	Content (information)	Language	Effectiveness in making a point	Creativity	TOTAL	Percentage

GENERAL RUBRIC FOR VISUAL AIDS
(posters, pamphlets/brochures, fliers, PowerPoint presentations)

Criteria	Exemplary 4	Proficient 3	Satisfactory 2	Incomplete/ Below standard 1	Unsatisfactory U
Visual appeal	Very attractive colour scheme, bold, easily-read writing, very attractive and appropriate graphics.	Attractive colour scheme, legible writing, attractive and appropriate graphics.	More than one colour font, legible writing, a graphic used.	One colour font, legible writing.	One colour font, font is not easily read.
Use of space	Visual display effectively covers at least 90% of the space available.	Visual display effectively covers approximately 75% of the space available.	Visual display covers approximately 67% of the space available.	Visual display covers 50 – 66% of the space available.	Visual display covers less than 50% of the space available.
Comprehension of assignment	Display shows an excellent understanding of the intent and focus of the assignment.	Display shows a good understanding of the intent and focus of the assignment.	Display shows some understanding of the assignment.	Display is related to the topic but does not satisfy the focus of the assignment.	Apparent misunderstanding of the assignment.
Content (information)	Includes the necessary information, avoids unnecessary information, information is correct and current.	Includes the necessary information, information is correct, also includes unnecessary information.	Information included is correct. However, only some of that needed is included along with some unnecessary information.	Less than 50% of the required information is included.	Insufficient information, some information included is incorrect.
Language	Vocabulary ideally suited for target group, correct grammar and spelling.	Vocabulary appropriate for target group, correct grammar and spelling.	Correct grammar and spelling.	Grammatical or spelling errors.	Grammatical and spelling errors.
Effectiveness in making a point	Display is very effective in marketing its message.	Display strongly makes a point.	Display makes a point (covers its theme).	Information does not show connection.	No evidence of structure or sequence.
Creativity	A very high level of creativity shown in visual appearance as well as in the message.	A good standard of creativity shown in visual appearance as well as in the message.	Some creativity shown in visual appearance as well as in the message.	Creativity shown in visual appearance or in the message.	Little or no evidence of creativity.
Grade	A 86 – 100	B 71 – 85	C 56 – 70	D 41 – 55	F 40 and lower

GENERAL RUBRIC FOR ORAL PRESENTATIONS

(rap, song, poem, speech)

Criteria	Exemplary 4	Proficient 3	Satisfactory 2	Incomplete/ Below standard 1	Unsatisfactory U
Preparedness	Completely prepared and had obviously rehearsed.	Seemed well-prepared but could have spent more time rehearsing.	Somewhat prepared, but seems not to have rehearsed.	Did not seem prepared to present.	Appeared to have made no effort to prepare.
Sound appeal	Very attractive beat or rhythm used with outstanding variations of voice intonation and volume.	Attractive beat or rhythm used with good variations of voice intonation and volume.	Consistent beat or rhythm used with variations of voice intonation or volume.	Consistent beat or rhythm used with no variations in voice intonation and volume.	Lyrics were presented with no accompanying sounds.
Time/length	Duration was for the required time.	Duration was longer or shorter than the time allotted by 0 – 20% of duration.	Duration was longer or shorter than the time allotted by 21 – 30% of duration.	Duration was longer or shorter than the time allotted by 31 – 40% of duration.	Duration was longer or shorter than the time allotted by 41 – 67% of duration.
Enthusiasm	Facial expressions and body language evoked a strong interest in and enthusiasm from the audience.	Facial expressions and body language sometimes evoked a strong interest in and enthusiasm from the audience.	Facial expressions and body language were used to spark interest and enthusiasm from the audience but the expressions seemed faked.	Very little use of facial expressions and body language. Did not evoke interest or enthusiasm from the audience.	Little enthusiasm was shown by the presenter(s).
Content (information)	Included the necessary information which was correct and current. Unnecessary information was not included.	Included the necessary information which was correct. Unnecessary information was not included.	Information included was correct. However, it included necessary as well as some unnecessary information.	Less than 50% of the required information was included.	Insufficient information was given, some of which was incorrect.
Language	Speaks clearly and distinctly throughout the presentation; does not mispronounce words.	Speaks clearly and distinctly throughout the presentation; mispronounced one or two words.	Speaks clearly and distinctly for most of the presentation; mispronounces key vocabulary or makes one or two grammatical errors.	Mumbles at one or two points; more than two grammatical errors.	Mumbles most of the presentation; mispronunciation and grammatical errors.
Effectiveness in making a point	Song etc. was very effective in marketing its message.	Song etc. made a point strongly.	Song etc. made a point related to the topic.	Information in the song etc. was disjointed.	Lyrics did not portray a theme.
Creativity	A very high level of creativity shown in sound appeal as well as in the message.	A good standard of creativity shown in sound appeal as well as in the message.	Some creativity shown in sound appeal as well as in the message.	Creativity shown in sound appeal or in the message.	Little or no evidence of creativity shown.
Grade	A 86 – 100	B 71 – 85	C 56 – 70	D 41 – 55	F 40 and lower

GENERAL RUBRIC FOR RESEARCH PROJECTS
(surveys, research information)

Criteria	Exemplary 4	Proficient 3	Satisfactory 2	Incomplete/ Below standard 1	Unsatisfactory U
Information sources	Used a variety of relevant sources (three or more different types and several of each type of source). Cited all sources.	Used many sources of two types. Cited all sources.	Used many sources of one type (e.g. textbooks, Internet, journals, magazines, questionnaires). Sources were referenced.	Two or three sources were used.	One source used and referenced.
Sources had data to support claims	All sources (but one) had data to support claims.	Most sources had data to support claims.	Some sources had data to support claims.	One source had data to support claims.	No source had data to support claims.
Extracted relevant information	All information extracted was relevant to the topic.	All information extracted was relevant to the topic. However, no information was given for one aspect.	Some relevant and some irrelevant information was extracted.	Little relevant information was extracted.	Little information was extracted; it was mainly irrelevant.
Paraphrased information	All information extracted was paraphrased and well-written.	Most information was paraphrased and well-written.	Some information was paraphrased. However, copied portions were not indicated.	Most information was copied from sources.	All information was copied from sources.
Organized information	Information was very clearly and sequentially organized. The position was logically stated with supporting data. Alternative points of view were included.	Information is clearly and sequentially organized. Logically stated position with supporting data.	Information was clearly and sequentially organized.	Information was sequentially organized.	Information was written haphazardly.
Synthesized	Project clearly and articulately showed: problem, hypothesis, method of research, literature reviewed, findings, analysis of findings, position.	Project showed: problem, hypothesis, method of research, literature reviewed, findings, analysis of findings, position.	Project showed problem, hypothesis, method of research, literature reviewed, findings, analysis of findings, position (one missing).	Project showed problem, hypothesis, method of research, findings.	Notes shown on aspects of the project.
Grade	A 86 – 100	B 71 – 85	C 56 – 70	D 41 – 55	F 40 and lower

GENERAL RUBRIC FOR INVESTIGATIONS
(experiments, experimental report)

Criteria	Exemplary 4	Proficient 3	Satisfactory 2	Incomplete/ Below Standard 1	Unsatisfactory U
Hypothesis	Correct purpose and explanation of purpose were clearly stated.	Correct purpose was clearly stated.	States a purpose that is correct.	States a purpose that is incorrect.	States a purpose that is incorrect and irrelevant.
Sequence	Aim, Apparatus, Materials, Procedure, Observations, Results, Conclusion (given in sequence).	One (sub-heading) missing or out of sequence.	Two (sub-headings) missing or out of sequence.	One missing and two out of sequence.	More than two missing or out of sequence.
Procedure/Method	Clear step-by-step description of experimental procedures; labeled diagrams used.	Step-by-step description written description with one step missing, labeled diagrams included.	Two steps missing or diagrams not labeled.	An account written which includes most steps but not clearly and sequentially recorded.	A few steps are recorded.
Observations	All observations made and recorded in a clear format.	All obvious observations made and recorded in a clear format.	One obvious observation missing; clear format for recording.	Two observations missing or format for recording is not clear.	More than two observations missing.
Results	All data clearly recorded with units to the highest level of accuracy.	One reading missing; data clearly recorded with units to the highest level of accuracy.	Readings not to highest level of accuracy but all recorded with units in a clear format.	Readings not to highest level of accuracy and not recorded clearly.	A few readings recorded with no units.
Conclusion	Conclusion is logically drawn from data and stated as a relationship – in general terms.	Logical conclusion drawn, general reference to data, stated as a summary conclusion.	Logical conclusion but not connected to data. Written as a series of statements.	Obvious conclusion drawn, not connected to data, hypothesis or aim.	Results stated as a conclusion.
Handles apparatus and materials	Handles apparatus correctly, handles materials appropriately and safely; no help needed.	Handles apparatus correctly, handles materials appropriately and safely; one or two reminders given.	Handles apparatus correctly, handles materials appropriately; one or two reminders given.	Handles apparatus or materials correctly; two or three reminders given.	Uses apparatus and materials with much assistance given.
Error	Identifies all main sources of error and explains effect on results.	Identifies all but one main source of error and explains effect on results.	Identifies sources of error.	Suggests possibility of error but identifies no sources.	Does not address Possibility of error.
Grade	A 86 – 100	B 71 – 85	C 56 – 70	D 41 – 55	F 40 and lower

Reference: www.accessexcellence.org

GENERAL RUBRIC FOR FIELD WORK
(field trips)

Criteria	Exemplary 4	Proficient 3	Satisfactory 2	Incomplete/ Below standard 1	Unsatisfactory U
Organization/ systematic investigation	Read and comprehended instructions first. Gathered the necessary equipment. Organized functions/tasks for group members. Worked systematically.	Read and comprehended instructions first. Gathered the necessary equipment. Organize functions/tasks for group members.	Read instructions first. Gathered the necessary equipment. Group worked together.	Read instructions, gathered equipment. Members of the group performed tasks but not in sequence.	Did not participate or individuals in the group performed tasks randomly/haphazardly.
Following instructions	Followed all instructions. Made adaptations when necessary.	Followed all instructions except one.	Followed most instructions.	Followed some instructions.	Failed to follow most instructions.
Use of equipment	Used equipment safely and correctly without additional assistance.	Used equipment safely and correctly with some assistance (reminders).	Used equipment safely but with much assistance needed.	Used equipment correctly but unsafely.	Did not use all equipment correctly and no evidence of safety techniques used.
Collection of data	Required number of readings taken – additional done to verify anomalies. Readings all taken at required time/place etc.	Required number of readings taken. Readings all taken at required time/place etc.	Most of the required number of readings taken. Readings all taken at required time/place etc.	Some of the number of readings taken. Readings for some intervals missing.	Few readings were taken. Readings were not at regular intervals.
Observations	All possible observations made and described in detail.	Most observations made in detail and the others as obvious observations.	Some observations made in detail.	Most observations made as general or obvious observations.	Few, obvious observations made.
Teamwork	Performed all assigned duties efficiently. Supported other group members. Readily provided additional assistance as was needed.	Performed all assigned duties efficiently. Supported other group members.	Performed all assigned duties.	Performed most assigned duties. Worked independently.	Performed few duties. Did not support other group members. Refused to perform additional tasks.
Safety	Adhered to all rules of conduct. Reminded others to keep the rules.	Adhered to all rules of conduct.	Adhered to most rules of conduct.	Caused another student to break a rule.	Action(s) responsible for jeopardizing the safety of another participant.
Sensitivity to the environment	Demonstrated sensitivity to the environment at all times and reminded others to do so.	Demonstrated sensitivity to the environment at all times.	Demonstrated sensitivity to the environment most times.	Required frequent reminders to avoid negatively impacting the environment.	Actions caused a negative reaction or damage to the environment.
Grade	A 86 – 100	B 71 – 85	C 56 – 70	D 41 – 55	F 40 and lower

GENERAL RUBRIC FOR MODELS

Criteria	Exemplary 4	Proficient 3	Satisfactory 2	Incomplete/ Below standard 1	Unsatisfactory U
Representation of Components	Included all the necessary components, no unnecessary or unrelated parts were included. Components accurately represented (appearance) object.	Included all the necessary components, no unnecessary or unrelated parts were included. Components did not accurately represent the object.	Included some of the necessary components, no unnecessary or unrelated parts were included. Components accurately represented the object.	Included few of the necessary components, or unnecessary or unrelated parts were included. Components did not accurately represent the object.	Incomplete model or model did not accurately represent the object.
Proportions of Components	All components made in correct (proportional) dimensions. All components made in correct proportion to each other and the overall model.	All components made in correct (proportional) dimensions. Some components made in correct proportion to each other and the overall model.	Some components made in correct (proportional) dimensions. Some components made in correct proportion to each other and the overall model.	Few components made in correct (proportional) dimensions. Components were not in correct proportion to each other or to the overall model.	Components not made in correct proportions.
Materials Used	All materials used were appropriate, non-hazardous, inexpensive and easily available.	All materials used were appropriate, non-hazardous and inexpensive.	Some materials used were appropriate.	Few materials used were appropriate.	Some materials used were inappropriate and at least one was unsafe.
Construction	Much care taken in the construction process. The model was neat, durable and well-fitted.	Much care taken in the construction process. The model was neat and well-fitted but not durable.	The structure was fairly well-fitted and neat.	The structure was fairly well-fitted.	The structure was falling apart and untidy.
Overall Appearance	Very attractive colour scheme used. Bold, easily-read writing used. Structure was appropriate size.	Attractive colour scheme used. Structure was appropriate size.	More than one colour used. Font used was legible. Structure was appropriate size.	One colour used. Structure was very small or too large.	No attempt to make the structure attractive.
Creativity	A very high level of creativity shown in visual appearance as well as in the message.	A good standard of creativity shown in visual appearance as well as in the message.	Some creativity shown in visual appearance as well as in the message.	Creativity shown in visual appearance or in the message.	Little or no evidence of creativity.
Information Displayed	Includes the necessary information, avoids unnecessary information, information is correct and current.	Includes the necessary information, information is correct; also includes unnecessary information.	Information included is correct. However, only some of that needed is included along with some unnecessary information.	Less than 50% of the required information is included.	Insufficient information; some information included is incorrect.
Grade	A 86 – 100	B 71 – 85	C 56 – 70	D 41 – 55	F 40 and lower

APPENDIX II
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APPENDIX III
SUPPLIES FOR JUNIOR HIGH SCHOOL HEALTH SCIENCE
(Class of 24 students)

Item No.	Quantity	Description
	1	Human Torso model, anatomical torso, half-size, eleven piece, dissectable model
	1	Half-scale Human Skeleton model
	3	Eye model, 6 part, 5 x life size
	3	Ear model, x 5
	3	Kidney model with adrenal gland, 2 part
	3	Heart, basic model
	3	Model of Human set of permanent teeth
	1	Skin section model
	2	Stethoscope
	2	Sphygmomanometer, aneroid
	1	Blood Typing Kit (artificial blood samples)
	4	Dissecting Kits, basic
	8	Dissecting pans with wax
	24	Magnifier, folding, pocket, double lens
	12	Microscopes, compound, light x4, x10, x42
	2	Biology slide set (50 slides)
	8	Prepared slides of bone tissue
	8	Prepared slides of cartilage tissue
	8	Prepared slides of muscle tissue
	12	Ruler, measuring tape
	2	Bathroom scales
	4	BMI chart
	1	Poster showing muscular injuries
	1	Poster of malnutrition
	24	Scissors
	24	Glue
	4	Triple beam balance
	12	Beakers, 600 ml
	12	Beakers, 400 ml
	24	Beakers, 250 ml

SUPPLIES FOR JUNIOR HIGH SCHOOL HEALTH SCIENCE

Item No.	Quantity	Description
	1	Poster showing LS Skin
	1	Poster showing specialized cells
	1	Poster showing cell organization
	1	Poster showing male reproductive system
	1	Poster showing female reproductive system
	1	Poster showing stages of pregnancy
	1	Poster showing secondary sexual characteristics
	1	Poster showing contraceptives
	1	Poster showing nerves and nerve cells
	1	Poster showing the central nervous system
	1	Poster showing the peripheral nervous system
	1	Poster showing a reflex arc
	1	Poster showing endocrine system
	1	Poster showing long-, short-sightedness and corrections with lenses
	1	Poster showing Fire Safety
	1	Poster showing Hurricane Safety tips
	1	Poster showing Chemical Safety
	1	Poster showing First Aid Procedures
	1	Poster showing Landfill
	1	Poster showing Sorting Garbage
	1	Poster showing Drug Abuse
	1	Posters showing bone injuries
	1	Poster showing Muscular System
	1	Poster/model showing joint and antagonistic muscles
	1	Poster showing effects of bad posture
	1	Poster showing internal features of canine/incisor and pre-molar/molar, caries
	1	Poster showing Digestive System
	1	Poster showing Circulatory System
	1	Poster showing the Respiratory System
	1	Poster showing Water Pollution & Pollutants
	1	Poster showing Air Pollution & Pollutants
	1	Video/DVD Human Circulatory System
	1	Video/DVD Deficiency Diseases
	1	Video/DVD Sexually Transmitted Infections
	1	Video/DVD Fire Safety
	1	Video/DVD Pollution
	1	Video/DVD Effects of Drug Abuse

SUPPLIES FOR JUNIOR HIGH SCHOOL HEALTH SCIENCE

Item No.	Quantity	Description
	12	Spotting tiles
	24	Medicine droppers
	4	Stopwatches
	1	Wall clocks (showing seconds)
	100	Test tubes
	4 pks.	Filter paper
	1	Laptop
	1	LCD projector
	1	VCR
	1	Television
	1	Chart of food pyramid
	1	Chart of food drum
	6 sets	Measuring cups
	6 sets	Measuring spoons
	1	Poster of deficiency diseases
	1	Chart of L. S. Tooth
		Pig tripe
	1 roll	String
		Plasticene
	2	Hot plate
	1pk.	Wire gauze pads

SUPPLIES FOR JUNIOR HIGH SCHOOL HEALTH SCIENCE

Item No.	Quantity	Description
	250 ml	Iodine solution
	1 L	Ethanol
	2 L	Lime water

SUPPLIES FOR JUNIOR HIGH SCHOOL HEALTH SCIENCE

Item No.	Quantity	Description
	12	Human & Social Biology for the Tropics – P. Gadd
	12	Human & Social Biology for CXC
	24	Practical First Aid
	12	Bush Medicine in Bahamian Folk Tradition – Martha Hanna-Smith
	8	Home Economics A Caribbean Approach Book 1
	8	Home Economics A Caribbean Approach Book 3

APPENDIX IV
PREREQUISITES FOR SEVENTH GRADE HEALTH SCIENCE

KNOWLEDGE

Students should be able to:

- State a definition for hygiene – identify/name basic good hygiene practices.
- Identify basic emotions (anger, joy, sorrow, hurt, excitement, fear).
- Define cell.
- Sate the three parts of the cell (membrane, cytoplasm, nucleus).
- Identify the human body cavities and diaphragm.
- Name the main organs in the body cavities (brain, lungs, stomach, kidneys, urinary bladder, heart, intestines) – state their main function & identify diagrams of the organs.
- Sate and define the seven characteristics of living things.
- Describe the functions of teeth.
- Describe the four types of teeth (external appearance), their function, number and location.
- State the composition of the two sets of teeth.
- Describe good dental/oral hygiene.
- Identify five senses and sense organs.
- Explain the concept of grouping.
- Identify the basic parts of a flowering plant (roots, stem, leaf with stalk, buds [leaf and flower], flower fruit, seed) large variety.
- Identify and use names for common herbaceous plants.
- Identify and use names for common shrubs and trees.
- State a definition for matter.
- Identify examples of the three states of matter.
- Describe solutions in terms of concentrated and dilute.
- Relate “germs” to causing some illnesses.
- Explain the need for safety in terms of preventing accidents and injury.
- Describe proper method for disposing of household/kitchen waste.
- Emergency Contact Numbers.

SKILLS

Students should be able to:

- Read scales on a ruler (1 cm), bathroom or kitchen balances (0.5 kg) accuracy.
- Measure lengths in metres and centimeters.
- Make two dimensional line diagrams.
- Label diagrams with lines correctly (to one side as far as possible).
- Read at grade 4 level (minimum).
- Write simple paragraphs.
- Format a simple letter.
- Follow simple oral and written instructions.
- Use a beaker and stirring rod.
- Measure time in seconds.
- Observe colours and changes.
- Describe orally, in sequence, a five-step procedure.
- Place numbers in size/value order (1 to 10,000).
- Correctly use mathematical computations (addition, subtraction, multiplication, division).

APPENDIX V

Inquiry-based Learning

Inquiry–based Learning places emphasis on experiential learning; where practical "hands-on" activities are used to motivate students to focus their innate curiosities and inquiring minds on problem solving through the application of scientific principles.

Proponents of the traditional "lecture method" of instruction (i.e. imparting information directly from text books with limited or no opportunity for students to engage exploration, questioning and discovery skills) are rapidly being convinced that this strategy (with respect to the teaching of Science) is very ineffective, and when compared with other modern approaches is now obsolete.

Research has shown that frequent use of the lecture method especially with regards to the teaching of Science results in diminished student expectation and achievement. Research "shows that people don't learn science by absorbing stuff that has been poured unto them (via lectures) but rather by constructing meaning out of experiences that the teacher provides." *Wendy Saul, Science Education Analyst; University of Maryland, Baltimore County, U.S.A.*

In **Inquiry–based Learning**, opportunities are provided that create an environment that enable students to gain experience as a result of Science exploration. Practical experiences are provided and open-ended questions asked to encourage experimentation that does not necessarily have a known outcome and that will lead to testable questions. During this experimentation, students are encouraged to take risks and are therefore, not afraid to make mistakes. Some of the greatest scientific discoveries come after many failures and disappointments.

Inquiry–based learning goes beyond providing students with opportunities for practical, "hands–on" experiences to illustrate established scientific principles e.g. giving them batteries, bulbs, and wires to show the concept of current electricity. This strategy takes the learning process to a different level e.g. It may challenge students to use the batteries, bulb, wire and additional materials to develop something useful for a deaf person or something that can assist with a specific chore, homework assignment, etc.

The inquiry–based approach to the teaching of Science is key to effective and meaningful instruction as it encourages students to:

- Critically evaluate situations
- Frame their own questions
- Develop diverse strategies for coping with problems in their environment
- Cultivate organizational and creative skills
- Assume leadership roles and be self motivated
- Be accountable for their learning
- Collaborate and communicate with one another
- Develop team interaction skills.

Constructivism

Constructivism is closely related to **Inquiry-based Learning** therefore, effective application of **Inquiry-based Learning** is enhanced by **Constructivism. Constructivism** means generating meaning by connecting what is to be learned with personal knowledge that has been constructed from past experiences. "A Constructivist is one who believes that the learner is responsible for constructing knowledge and therefore, the responsibility for learning must be returned to the child." *Ebenezer & Conner 1998, Learning to Teach Science, A Model for the 21ST Century.*

Students' understanding of the world is moulded by their experiences. As they think about these experiences, their views and beliefs, they construct personal meaning and acquire knowledge. Constructivists advocate that students should not be expected to just accept knowledge and skills developed over the years and imparted by the teacher. Instead they become "active seekers" of knowledge as inquiry is encouraged and they discover and decipher things for themselves.

In using Constructivism, teachers become facilitators that create stimulating environments with a variety of "hands-on" experiences that empower students to explore. The teacher's main role is to provide experiences that help students make connections between what is learned and what they already know or believe. More learning takes place when students become active participants in the learning process and are "allowed to make their own sense out of the world."

Providing students with "hands-on" experiences that reinforce ideas or perceptions that they already have result in them assimilating or absorbing new concepts easily. The knowledge that the students construct from the information that they receive as a result of these "hands - on" activities makes sense and is easier for them to relate to and apply to their everyday life and their environment.

Constructivists probe students' knowledge base, examine and classify their concepts then provide them with opportunities to share and debate common knowledge. They then convert and expand students' knowledge by asking open-ended questions and presenting problems which cause them to gain new understanding of the concepts being taught. By doing this they challenge and promote conceptual change.

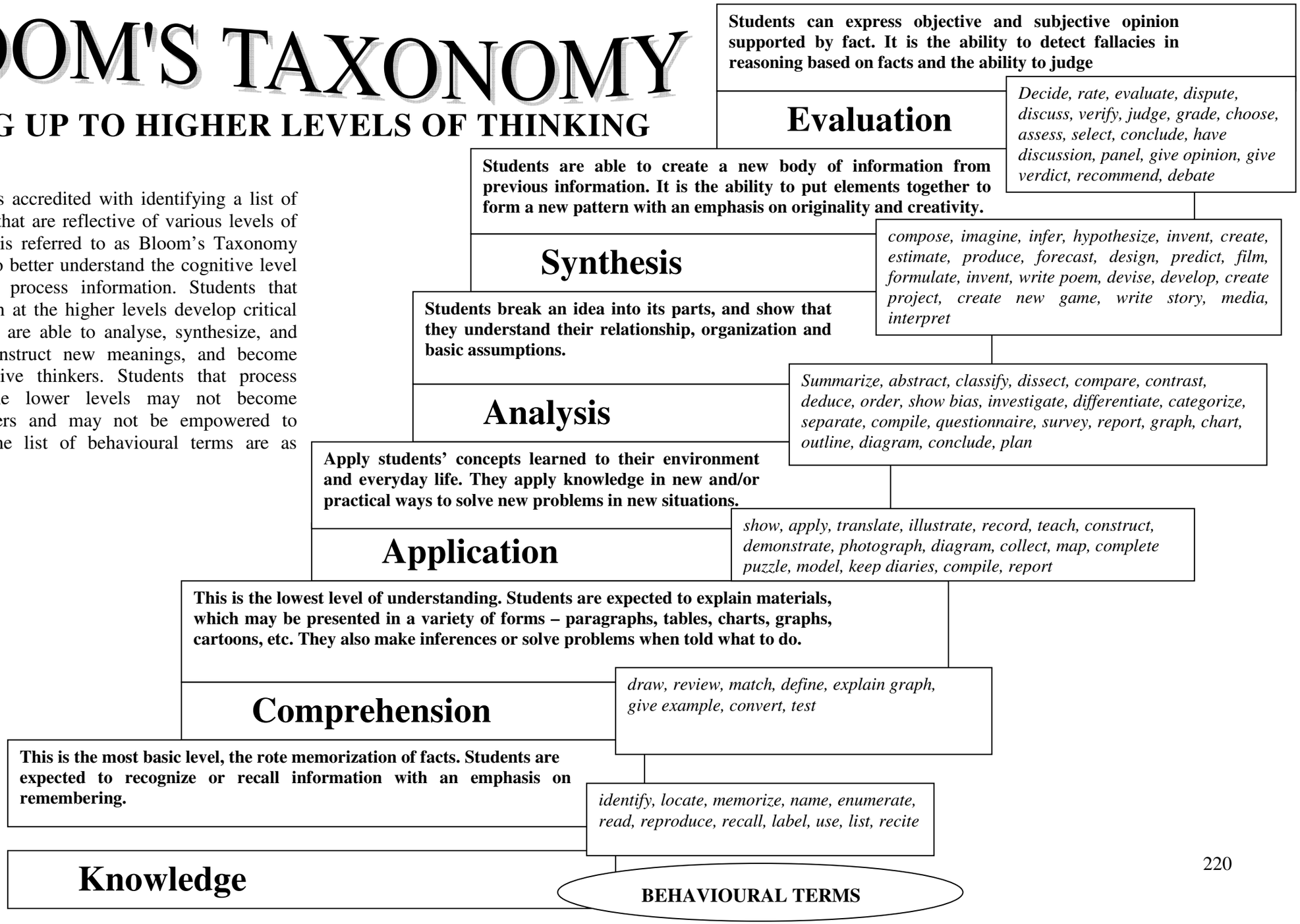
When using the Constructivism Theory, it should be noted that there are times when knowledge has to be imparted directly by the teacher in a detailed and explicit way. Although many benefits can be accrued from utilizing the Constructivism Theory if it is not used properly, learning may become sporadic and disorganized. Although students should not be stifled in their exploration to acquire knowledge, when using this theory it is important to:

- Set clear precise goals for the knowledge and skills that the students are expected to acquire
- Communicate these goals to the students and ensure that they are understood
- Organize assignments in a clearly planned sequence
- Provide guidance for the students.

BLOOM'S TAXONOMY

STEPPING UP TO HIGHER LEVELS OF THINKING

Benjamin Bloom is accredited with identifying a list of behavioural terms that are reflective of various levels of learning. This list is referred to as Bloom's Taxonomy and it enables us to better understand the cognitive level at which students process information. Students that process information at the higher levels develop critical thinking skills and are able to analyse, synthesize, and evaluate. They construct new meanings, and become original and creative thinkers. Students that process information at the lower levels may not become independent thinkers and may not be empowered to problem solve. The list of behavioural terms are as shown:



Process Skills Development

Process skills are practical skills that allow students to use previous experiences, build upon them and link knowledge and skills learned at school to their environment and every day life.

Process skills help students to develop and apply critical thinking. Once given the opportunity to use and apply process skills, students develop the ability to reflect on and to evaluate their approaches to problem solving. As a result, students will come to the realization that there may be several solutions to any given problem. In this way, students can formulate hypotheses as testable ideas in their minds and can demonstrate deductive patterns of thought. Through integration of the basic and complex process skills listed, students should develop the ability to think logically and abstractly.

Basic Process Skills

Observing
Using one or more of the five senses (seeing, hearing, tasting, smelling, feeling) to find out about the world. Observing increases students' perceptions so that they can learn more about objects and events.

Classifying
Grouping objects or events based on similarities and/or categorizing based on existing relationships among objects or events.

Inferring
Explaining and interpreting observed events and collected data and explaining why they might have happened.

Communicating
Passing on information, proposing interpretations, explanations, and causes from observed events and collected data.

Recognizing and Using Spatial Relationships
Observing where things are in relation to other things by estimating the relative positions of moving and non-moving objects to one another.

Measuring
Finding out the size or amount of an object or substance when compared to a certain unit. Identifying and ordering length, area, volume, mass, and temperature to describe and quantify objects or events.

Predicting
Suggesting possible results or outcomes that will happen in the future based on observations and inferences drawn form previous experiences. The suggestions have to be based on correct information.

Using Numbers
Applying ordering, counting, adding, subtracting, multiplying, and dividing to quantify data where appropriate in investigations or experiments.

Complex Process Skills

Interpreting Data
Explaining the meaning or importance of information.

Forming Hypotheses
Asking questions about a problem and making assumptions in order to draw out and test different solutions to the problem.

Separating and Controlling Variables
Recognizing the many factors (variables) that affect the relationship of the factors to one another so that one factor (variable) can be manipulated while the others are controlled.

Experimenting
Test hypotheses or predictions by first identifying things (variables) that are important, then deciding which variables to change or manipulate which will be held constant, and what results to expect.

Formulating Models
Constructing mental, verbal, or physical representations or ideas, objects or events. The models are then used to clarify explanations or to demonstrate relationships.

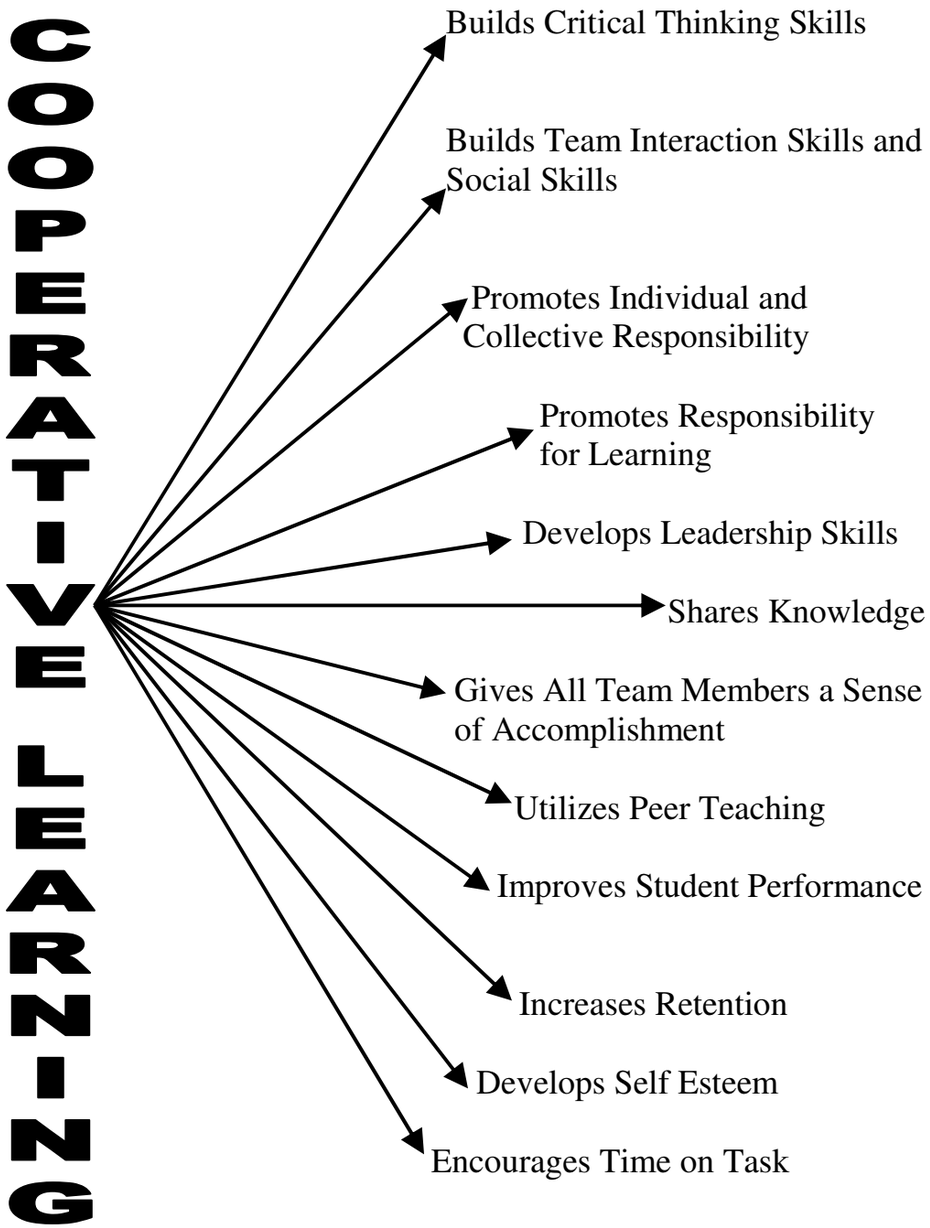
Defining Operationally
Describing the properties of things and their functions. These working definitions are based on actual experiences that the student had.

USE OF THE SCIENTIFIC METHOD

Students need to be taught valuable problem solving skills in order to react appropriately to the many situations that confront them on a daily basis. The **Scientific Method** sets out a sequence of logical steps that are employed in problem solving. It is applicable to **ALL** areas of life and is not restricted only to the teaching of Science.

The components of the **Scientific Method** and their descriptors are set out below. It is to be noted that students should utilize this format when writing up experiments or laboratory reports.

1. PURPOSE	The purpose is the question that is to be answered by doing the experiment. State the reason or reasons why you are doing the experiment. State the purpose as a question needing an answer.
2. HYPOTHESIS	A hypothesis is an educated guess on how the experiment/ activity will turn out, that is based on prior knowledge. Although a good hypothesis is testable, it may not be correct. Experimenting can find out whether or not the hypothesis is correct or not.
3. MATERIALS	All materials required for the activity/ experiment need to be identified. One must be as accurate as possible in describing the materials. Be sure to give exact amounts and quantities.
4. PROCEDURE	The procedure describes everything that will be done during the experiment. The procedure affects the result of the experiment; therefore, care should be taken to explain the procedure as accurately as possible. State the procedure as numbered steps (It would help if they are written with behavioural terms at the beginning).
5. OBSERVATION	The observation describes exactly what happens during an experiment. Report the observations made and the data collected during the experiment. Data is recorded facts or measurements from an experiment. Data should be presented as tables, charts, and graphs, to be easily understood.
6. CONCLUSION	The conclusion is a comparison between the results and the hypothesis of an experiment. To draw a conclusion, the data needs to be analyzed to see what is meant. Explain observations and describe how the data relates to the problem. The conclusion should state whether or not the data supports the hypothesis. Part of the conclusion may be a statement or a new hypothesis based on findings and suggestions for testing the new hypothesis in a further experiment.



The **Cooperative Learning Technique** allows all students to have a sense of accomplishment. **Cooperative Learning** promotes group work and opportunities for verbal face-to-face interactions, which assist students to acquire and apply concepts.

Cooperative Learning builds interpersonal skills and positive interdependence characterized by specific roles, sharing of knowledge and materials and achievement of mutual goals. It encourages group processing as students analyse how well their groups are functioning and design and employ strategies to ensure that they function effectively.

When using the **Cooperative Learning Technique**, the teacher functions as a facilitator and students are more accountable for their learning and share the responsibility for the learning of others. It is important for the teacher to set and evaluate social and academic goals for the groups and the quantity and quality of students' learning.

When forming cooperative groups, it is recommended that groups work together for three to six weeks before students are assigned new roles or groups changed. During the year, each student should have an opportunity to function in each role. Once groups are formed, ensure that all members realize that they are jointly responsible for achieving group goals. They do this by:

- Contributing ideas to the group
- Listening carefully for ideas from others
- Helping the group make good decisions
- Cooperating rather than competing
- Solving problems in a calm manner.

Reference: Circle of Learning: Cooperative Learning in the Classroom by D. W. Johnson et al, 1986

STUDENTS' ROLES AND FUNCTIONS

Supervisor, Leader or Investigator
Does experiments, manipulates materials

Assistant, Helper or Organizer
Collects, organizes and distributes materials and makes sure group cleans up any mess.

Manager or Motivator
Assists supervisor, leader or investigator, encourages the group, encourages time on task and adherence to goals and safe practices, and also times activities, if necessary.

Writer or Recorder
Records observations, questions, answers, illustrations etc.

Reporter
Collaborates with Writer or Recorder and shares group's data, results, and conclusion with class.

STUDENT-CENTRED vs. TEACHER-CENTRED LEARNING

Student-centred Learning develops self-directed learners who are confident in doing Science, proactive in the learning process and willing to share and accept responsibility for their own learning. Student-centred Learning activities are adaptive and cater to the learning needs of students.

COMPARISON OF STUDENT-CENTRED AND TEACHER- CENTRED LEARNING

STUDENT-CENTRED

- Students' conceptions and experiences are explored.
- Teacher challenges students to question before accepting information.
- Discussion is encouraged between students and teacher.
- Students are allowed to move about in an orderly manner to discuss and problem solve.
- Students share and help each other. They use peer tutoring.
- Students actively participate in decision-making.
- Learning activities cater to multiple intelligences and different learning styles.

TEACHER-CENTRED

- Teacher is the authority figure and has the final say.
- Students must never question the teacher.
- Students only respond when a question is asked.
- Students must remain seated at all times.
- Collaboration between students is discouraged and regarded as cheating.
- Students do not participate in decision-making.
- There is very little variation in learning activities.

MULTIPLE INTELLIGENCES

HOWARD GARDNER

The theory of Multiple Intelligences is a way of understanding the different facets of the intellect and each person's level of intelligence. The intelligences can work individually or in collaboration with the other intelligences, so a person could be operating in more than one intelligence. As we teach children, we should ensure that appropriate provision is made for individual differences and multiple intelligences.

- **Linguistic Intelligence** is a person's ability to construct and comprehend language. It is the capacity to use language to express feelings and to understand other people. It may be in a person's native language or another language. Poets, writers, orators, speakers, lawyers specialize in linguistic intelligence.

- **Naturalist Intelligence** is the ability to identify and classify patterns in nature. It is the way a person relates to his environment and the recognition of the role that the environment plays in our lives. It is the ability to discriminate among living things like plants and animals and sensitivity to changes in nature e.g. weather patterns, rock configurations.

- **Spatial Intelligence** is how persons comprehend shapes and images in three dimensions. Spatial Intelligence is utilized to perceive and interpret things that we may or may not see. It is the ability to represent the spatial world internally in your mind – the way a sailor navigates the seas with only the stars or airplane pilot navigates aerial space, or the way a chess player or sculptor represents the spatial world. Spatial intelligence can be used in the arts or in the sciences. Persons with this type of Spatial Intelligence are usually painters, sculptors, architects and scientists who deal with anatomy and topology.

- **Musical Intelligence** is the ability to perform and compose music. It is the capacity to think in music, to be able to hear patterns, recognize them, remember them, and perhaps manipulate them. Persons with strong musical intelligence are completely preoccupied with music, it is always playing in their minds. Persons with musical intelligence use music to face their challenges and to assist them in solving their problems.

- **Bodily - Kinesthetic Intelligence** is a natural sense of how the body should act and react in demanding situations. These persons have extraordinary control of their movements, balance, agility and grace. They have the capacity to use their whole body or parts of their body to solve a problem, make something, or put on some kind of a production. **Bodily - Kinesthetic Intelligence** is evident in athletes and persons in the performing arts, particularly dance or acting.

- **Logical – Mathematical Intelligence is the ability to mentally process logical problems.** Persons with a highly developed **Logical – Mathematical Intelligence** can manipulate numbers, operations and quantities, and they have the ability to process logical questions at an unusually fast rate. These persons have the ability to understand the underlying principles of some kind of a causal system, the way a scientist or a logician does.

- **Intrapersonal Intelligence is a person's cognitive ability to** sense and understand him or herself. It refers to a very strong self-concept and strength of character, which gives the person the ability to solve internal problems. These persons know who they are, what they can do, what they want to do, how they react to things, which things to avoid, and which things to gravitate toward. These persons have a strong sense of purpose and are not easily deterred from that purpose. They know their strengths and their limitations and know where to go if they need help.

- **Interpersonal Intelligence** is understanding and interacting with others and interpreting their behaviour. As social beings, it is an essential ability that we all need; however, persons with Interpersonal Intelligence have a greater perception of distinctions between persons and have the ability to judge their moods, temperaments, intentions and motivations. Persons with **Interpersonal Intelligence** become teachers, clergy, leaders, clinicians, salespersons, or politicians. Anybody who deals with other people has to be skilled in the interpersonal sphere.

Learning Styles

DAVID A. KOLB

Persons have their unique, individual way of learning. Understanding how students learn and planning activities that cater to various learning styles will enhance their learning and ensure higher achievement.

- **Visual Style**
  Persons who prefer the visual style convert what they hear and read to pictorial images in their brain. When recalling information they go through a process similar to reviewing pictures in a movie. These students have no problems in obeying conventional classroom rules. They will sit quietly, write neatly and use all materials well. These persons often choose careers like engineer, surgeon, designer, architect and positions of leadership that requires visionary thinking.

- **Auditory Style**
  These persons learn best by hearing and listening; they process information through their listening and repeating skills. They are good storytellers and can successfully talk through their problems. These students can easily repeat what they heard just as it was said. They are the most talkative and the most likely to participate in discussion. However, they may experience difficulty in writing. These persons often become psychologists, disc jockeys, great musicians and other occupations that require a great deal of listening.

- **Kinesthetic Style**
  These persons process and remember information through their bodies and their feelings. Kinesthetic learners need to touch and feel what they are learning about. They may become restless unless they are actively involved in the learning process.

Assessment Strategies

WHAT IS ASSESSMENT?

- Whenever we interact with other people, we obtain and interpret information about their knowledge and understanding, and may well make judgments about their ideas, abilities and attitudes.

- Assessment – whether direct or indirect – is a human encounter and is a central feature of social life.

- Educational assessment includes a wide range of methods for evaluating student performance that describes the nature and extent of learning and how it matches up to the objectives of teaching.

When assessing there must be alignment between what is in the curriculum, what is actually taught and what is tested.

WHY DO WE ASSESS?

- The main purpose of assessment is to judge the attainment or performance level of students, with a view of evaluating or grading them for one purpose or another.

- Purpose might include:

  ⇒ Placing students in appropriate teaching sets;
  ⇒ Providing extra motivation for learning and an aid to remembering;
  ⇒ Informing parents about progress;
  ⇒ Informing other teachers who have to make decisions about students e.g. when students transfer to a new school or new courses which may have been studied;
  ⇒ Accumulating records of achievement;
  ⇒ Acting as a diagnostic tool e.g. diagnosing weaknesses so that remedial action may be taken;
  ⇒ Making decisions about examination entries involving predictions about future performance;
  ⇒ Informing further education institutions or employers about attainment so that suitable placement may be made. In doing this, we are using measured attainment to make predications about likely future performance.

Hence assessment has primarily been used as a means of judging the attainment and progress of students, providing a reporting system and deciding appropriate action.

FORMS OF ASSESSMENT
Assessment may be:

⇒ Informal

⇒ Formal

- **Informal assessment** takes place during normal learning activities. Much information can be picked up by teachers in their normal interaction with individual students, allowing problems to be overcome at an early stage and progress accelerated. Hence **informal assessment** is often used **diagnostically.**

- It is often said that **informal assessment** should be unobtrusive if the teacher is to gain reliable insights about students' abilities and the state of development, and that it should be for a specific purpose and for private use only.

- With **formative i.e. informal assessment** the results are fed back to the learner. Such feedback can be **confirmatory** (a recognition that the particular tasks have been mastered at that particular time) or can be **corrective,** allowing dialogue between teacher and learner to show where the learner went wrong.

- **Formal assessment** is only aimed at obtaining knowledge about the student. It is obtrusive and may not be able to provide direct instructional function.

- **Formal assessment** becomes **summative** when information is not available for feedback purposes because it is obtained too late in the learner's career to be used in this way.

- **Formal** and **summative assessment** is used largely for public purposes (e.g. BJC, BGCSE and RSA Examinations)

- Even this is changing with the advent of initiatives such as the GLAT where **formal and summative assessments** are made with students at grade 3 and 6. The results of formal assessments made at an early stage can be used for the benefit of the learner at the next stage of education.

ASSESSMENT MAY ALSO BE TRADITIONAL OR AUTHENTIC

Traditional Assessment measures what the students were taught and basically assesses their ability to recall information. This type of assessment includes **homework, quizzes** and **tests.**

Authentic Assessment measures what students have actually learned and can promote further learning. This type of assessment includes **portfolios**, **journal keeping, anecdotal** records, **student** conferencing**, self and peer assessment, projects and reports.**

Although there is no alternative for traditional assessment in certain situations, authentic assessment should be frequently used in the High School Science Instructional Programme.

Contributed by Shena Williams, Examination and Assessment Division

APPENDIX VI
SAFETY IN THE TEACHING/LEARNING ENVIRONMENT

Teachers should communicate the following safety rules to their students and ensure that they are obeyed.

In the Classroom

- Know the location and proper use of the fire extinguisher and first aid kit.
- Never eat, drink or smell any substance in the laboratory unless you are instructed to do so by the teacher.
- Listen to your teacher for special safety directions. If you do not understand something, ask for help.
- Wear safety goggles when your teacher tells you to wear them.
- Wear safety aprons if you work with anything messy or anything that might spill.
- Read all of the directions before doing experiments or using equipment. Make sure you understand them. If you do not, ask your teacher for assistance.
- Carefully read the label on the container of a product before you use it; follow the manufacturer's instructions and pay special attention to health or safety warnings.
- Be careful around a hot plate, Bunsen burner or other sources of heat. Only use these items if instructed to do so by the teacher.
- Keep your hair and clothes away from open flames. Tie back long hair and roll up long sleeves.
- When heating materials in test tubes, always slant the tubes away from yourself and others.
- Keep your hands dry around electrical equipment.
- Never run or play around in the Science Laboratory classroom.
- Never draw any material into a tube with your mouth.
- Tell your teacher if something breaks or spills. Move away from it and wait for the teacher's instructions.
- Put away tools and equipment safely (the way your teacher tells you to) as soon as you finish using them; do not leave them where they may be stumbled over.
- Clean your work area, and wash your hands afterwards.

On Field Trips

- Always be accompanied by a trusted adult approved by the principal – like your teacher, a parent/guardian or an expert about the field trip.
- Never touch animals or plants without the adult's approval. The animal might bite. The plant might be poisonwood or another harmful plant.
- Stay with your group and keep within sight of the accompanying adult. Report any scrapes, cuts, and injuries to your teacher immediately.

Responsibility

- Treat living things, the environment and each other with respect.

Refer to the Safety Manual (High School Science) for further information.

APPENDIX VII
Grade Level Evaluation Form

Kindly complete this format at the end of the first year using the Curriculum with Grade *7.*

Section A

Place a tick in the box which best describes your response to items 1 – 11. Your honest responses are both valuable and appreciated.

No.	Item	Always	Often	Seldom	Never
1.	Are the content and concepts included in the *seventh* grade curriculum age-appropriate?				
2.	Is sufficient information given in the content column to provide guidance as to the depth to be covered?				
3.	Are sufficient opportunities given for students to develop the designated 17 skills?				
4.	Are the suggested methods of assessment directly related to the learner outcomes and targeted skill?				
5.	To what extent did you use the suggested methods of assessment?				
6.	Did students complete assignments?				
7.	Were the identified resource materials available?				
8.	Are the suggested activities appropriate for concept formation and reinforcement of main points?				
9.	Were you able to use the suggested activities?				
10.	Did the curriculum provide sufficient guidance in how to adapt it to meet the needs of students of higher or lower ability levels?				
11.	Were you able to introduce local examples to relate to students' interest and experiences?				

Section B
Indicate your responses in the space provided.

12. Which topics/concepts, if any, were too difficult?

_____

_____

13. Which topics/concepts, if any, would be better suited at *primary* level?

_____

_____

14. Which skills, if any, were over-emphasized?

_____

_____

15. Which skills, if any, were under-emphasized?

_____

_____

16. Which units, if any, were given too much time to be completed?

_____

_____

17. Which units, if any, were allocated insufficient time to be completed?

_____

_____

18. Which skills, if any, did students show an improvement in during the year?

_____

_____

19. What is the approximate percentage of students that was able to attain the standards for *Grade Seven*?

_____

_____

20. Which part(s), if any, of the grade level curriculum was/were successfully implemented? Why?

_____

_____

_____

_____

21. Which part(s), if any, of the grade level curriculum was/were not successfully implemented? Why?

_____

_____

_____

22. Was there any aspect of the curriculum for *seventh* grade that placed the students at a disadvantage because of their location (island/district/type of school)? If so, state which parts and why?

_____

_____

_____

Section C

Please circle the appropriate category which describes the school to which you are posted and your years of teaching experience.

School Type:	Junior High	Secondary	All-Age
Student Population:	30 – 199	200 – 450	451 +
Location:	Family Islands	Grand Bahama	New Providence

Your years of experience in the Bahamian school system:

0 – 3 years	4 – 9 years	10 – 15 years	16 + years