



Science, Grade 5 (SCI) 5A Syllabus

Course Name

SCI 5A

Science, Grade 5 – Semester A

Course Information

SCI 5A is the first semester of this two-semester course.

In this course, students will learn about the physical properties of matter, forms of energy, forces, and the Earth's changes. Also in SCI 5A, which is the first semester of this two-semester course, students will be dealing primarily with physical and Earth sciences. The topics included in this semester are:

- scientific problem-solving;
- properties of matter;
- forms of energy;
- flow of energy in a circuit;
- light reflection and refraction;
- development of sedimentary rock and fossil fuels; and
- changes to the earth.

Course Delivery Method

Online

Contacting Your Instructor

You may contact your instructor through the Blackboard messaging system. Technical support is available 24/7 at [TTU K-12](#).

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Course Objectives

After completing this course, you should be able to:

1. explain the nature of science;
2. describe how scientific inquiry differs from other types of questioning;
3. analyze chemical systems in terms of their components and how these components relate to each other, to the whole, and to the external environment;
4. describe relationships between the structure and properties of matter; and
5. research and describe how changes in matter affect everyday life.

SCI 5 addresses the required Texas Essential Knowledge and Skills (TEKS). These can be found at the [Texas Education Agency](#) website.

Textbook and Materials

Textbook(s)

The required **digital** textbook for this course is:

- *Texas Science Fusion, Grade 5.* (2014). Houghton Mifflin Harcourt.
ISBN 978-0-544-02551-6

This digital textbook can only be purchased through the TTU K-12 partner bookstore, MBS (see the [TTU K-12 website](#) for a link to MBS). Once you make your purchase, you will receive your credentials to the online textbook and resources via email, and it may take 1-2 business days.

The **print** textbook is optional:

- *Texas Science Fusion, Grade 5.* (2014). Houghton Mifflin Harcourt.
ISBN 978-0-544-02551-6

Materials

The course materials needed for 5th Grade Science A are listed in each experiment. They are typical items that can be found in most households.

Technical Requirements

- Internet access – preferably high speed (for accessing Blackboard)
- Email
- Word processing software such as Microsoft Word
- Adobe Reader (download from [Adobe.com](#))
- Audio and video capabilities (for watching/listening to course content)
- PDF app (free options available)
- A device to take pictures and/or record videos for assignments.

Technical Skill Requirements

Be comfortable with the following:

- using a word processor
- Internet search engines and browsers
- creating PDFs (see **Requirements for Creating PDFs** on the course home page)

Course Organization

The course is structured in Units and Lessons. Each Unit covers content for the period of 1 to 2 weeks. In each Unit, you will participate in a Discussion board about the Unit topic and complete a Unit quiz. Complete all lessons in each Unit before moving on to the next lesson.

Each lesson contains the following:

- Introduction and Instructions
- Learning Objectives and Curriculum Standards
- Assignments

Each lesson includes several activities that present content knowledge. Each lesson also includes multiple graded assignments to ensure that you learn the content that has been presented in the activities. Some of the assignments are automatically-graded quizzes, and some are written assignments or activities that your instructor will grade. Be sure you read all instructions carefully and ask your instructor for help if something is not clear.

The course has two summative exams: a Midterm and a Final exam.

Course Outline

Please note that some assignments will be hidden from you when you start the course. As you move through the lessons and complete assignments, more will unlock for you.

Lesson	Topic	Approximate Time for Completion
Unit 1	The Nature of Science	One week
Unit 2	Physical Properties of Matter	Two weeks
Unit 3	Mixtures and Solutions	Two weeks
Unit 4	Forces and Motion	Two weeks
Unit 5	Uses of Energy	Two weeks

Lesson	Topic	Approximate Time for Completion
Midterm Exam		
Unit 6	Circuits and Electricity	Two weeks
Unit 7	Light	One week
Unit 8	Formation of Sedimentary Rock and Fossil Fuels	Two weeks
Unit 9	Slow Changes to the Earth	Two weeks
Final Exam		

Assignment Schedule

Each of the following must be completed to complete the course. Items with an asterisk (*) indicate that these are summative assessments for the course.

Unit	Weeks	Assignments
1	1	Unit 1 Vocabulary Science Journal Lesson 1.1 Assignment Engage: Science Autobiography Lesson 1.2 Assignment Explore: Safety Illustration Lesson 1.3 Assignment Explain: Sum It up Lesson 1.4 Assignment Explain: Digital Lesson Companion Unit One Discussion Elaborate Unit 1 Quiz Evaluate
2	2-3	Unit 2 Vocabulary Science Journal Lesson 2.1 Assignment Engage: Physical Properties of Matter Foldable Lesson 2.2 Assignment Explore: Magnetism Investigation Lesson 2.3 Assignment Explore: Mass Investigation Lesson 2.4 Assignment Explain: Physical State Card Sort activity Lesson 2.5 Assignment Explore: Relative Density Investigation Lesson 2.6 Assignment Explore: Solubility Investigation Lesson 2.7 Assignment Explore: Conductors and Insulators Unit Two Discussion Elaborate Unit 2 Quiz Evaluate
3	4-5	Unit 3 Vocabulary Science Journal Lesson 3.1 Assignment Engage: What are Mixtures and Solutions? Lesson 3.1 Science Journal Explore Lesson 3.2 Assignment Explain: Special Types of Mixtures Lesson 3.2 Science Journal Elaborate

		Unit 3 Discussion Elaborate Unit 3 Quiz Evaluate
4	6-7	Lesson 4.1 Science Journal Engage: Inquiry Flipchart, p. 21 Lesson 4.2 Assignment Explore/Explain- p. 169 Lab Sheet Unit Four Discussion Elaborate Unit 4 Quiz Evaluate
5	8-9	Unit 5 Vocabulary Science Journal Lesson 5.1 Assignment Engage: Uses of Energy Lesson 5.2 Assignment Explore/Explain: Mechanical Energy Lesson 5.3 Assignment Explore/Explain: Electrical Energy Lesson 5.4 Assignment Explore/Explain: Light Energy Lesson 5.5 Assignment Explore/Explain: Thermal Energy Lesson 5.6 Assignment Explore/Explain: Sound Energy Unit 5 Discussion Elaborate Unit 5 Quiz Evaluate
		Midterm Exam
6	10-11	Unit 6 Vocabulary Science Journal Lesson 6.1 Assignment Engage: Circuits Lesson 6.2 Assignment Explore/Explain: Series and Parallel Circuits Lesson 6.3 Assignment Explore/Explain: Circuit Task Cards: Justify It Unit 6 Discussion Elaborate Unit 6 Quiz Evaluate
7	12	Unit 7 Vocabulary Science Journal Lesson 7.1 Assignment Engage: Properties of Light Lesson 7.2 Assignment Explore/Explain: Light Stations Unit 7 Discussion Elaborate Unit 7 Quiz Evaluate
8	13-14	Unit 8 Vocabulary Science Journal Lesson 8.1 Assignment Engage: Formation of Sedimentary Rock Lesson 8.2 Assignment Explore/Explain: Formation of Fossil Fuels Unit 8 Discussion Elaborate Unit 8 Quiz Evaluate
9	15-16	Unit 9 Vocabulary Science Journal Lesson 9.1 Assignment Engage: Weathering, Erosion, and Deposition Lesson 9.2 Assignment Explore/Explain: Water Lesson 9.3 Assignment Explore/Explain: Wind Lesson 9.4 Assignment Explore/Explain: Ice Lesson 9.5 Assignment Explain: Earth Changes

		Unit 9 Discussion Elaborate Unit 9 Quiz Evaluate
		Final Exam

Course Credit

The course grade will be calculated as follows:

- 50% coursework average;
- 50% summative assessment average, including the final exam;
- A passing course grade is 70 or higher.

Students must attempt all assignments in the course. The final exam will not be available until all assignments have been accepted and graded by the teacher.

Students who score below 70% on the final exam will be eligible for one re-exam opportunity.

Coursework

The graded assignments within each lesson are formative in nature. This means that they are designed to assist you in applying and demonstrating the lesson concepts, as well as identifying areas in which you need additional review. You may use all the lesson's learning activities to assist you as you complete the graded assignments.

Summative Assessments

Summative assessments are those that allow you to demonstrate mastery of the course objectives. For summative assessments, you will NOT be allowed to use the learning materials. These are opportunities for you to show what you have learned by that point in the course.

Summative assessments may be proctored using the online proctoring system Proctorio. Information about Proctorio is provided in **Remote Proctoring** in the Syllabus section of your course. The summative assessments for this course are as follows:

- Summative Midterm Exam **(20% of Course Grade)**
- Summative Final Exam **(30% of Course Grade)**

Course Completion

- Students may not complete the course in less than 30 days.
- All courses expire six months after the enrollment date.

Academic Integrity

It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and high standard of integrity. The attempt of students to present as their own any work not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offenders liable to serious consequences, possibly suspension.

“Scholastic dishonesty” includes, but is not limited to, cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, and any act designed to give unfair academic advantage to the student (such as, but not limited to, submission of essentially the same written assignment for two courses without the prior permission of the instructor) or the attempt to commit such an act.

Student Expectations

Parents/Teachers will be expected to log into the Blackboard course regularly to be aware of possible announcements/reminders and to pace the student’s progress in the course.

Students are expected to maintain an online environment conducive to learning, which includes “netiquette” (Internet etiquette). Please review the basic rules for [Online Discussion Netiquette](#). Ensure that your email messages, discussion board postings, and other electronic communications are thoughtful and respectful. Diverse opinions are welcome in this course, and you are expected to demonstrate an open mind and courtesy when responding to the thoughts and ideas of others.

The following are prohibited:

- making offensive remarks in email or the discussion board;
- using inappropriate language or discussing inappropriate topics online;
- spamming;
- hacking;
- using TTU or Blackboard email or discussion boards for commercial purposes;
- using all caps (considered shouting in online communications); and
- cyber-bullying or online harassment of any type.

Inappropriate behavior shall result in consequences ranging from a request to correct the problem, to removal from the course or even the university, depending on the severity of the behavior. Disciplinary actions will be taken according to the TTU K-12 Student Handbook.

Communication

- You can expect a reply from your instructor within 2 business days.
- Use the Blackboard Course Messages tool for sending messages to your instructor.

Submitting Assignments

You will submit all assignments through the Blackboard Assignment Tool, rather than by email. For assignments that require you to upload a PDF or other document, please title your assignment files "lastName_firstName_assignmentName.xxx (.pdf, .doc, .xl, .jpg, etc.)".

Technical Difficulties

Getting Help

For student assistance with Blackboard, visit [TTU K-12 Support](#).

Computer Problems

A working computer is necessary for online coursework. Computer problems will not be accepted as a valid reason for failure to complete course activities within the allotted time frame. Identify a second computer, before the course begins, that you can use if you experience computer problems.

Server Problems

When the Blackboard server needs to be taken down for maintenance, the Blackboard administrator will post an announcement in your course informing you of the time and date. If the server experiences unforeseen problems, your course instructor will notify you.

Lost or Corrupted Files

You must keep/save a copy of every project/assignment on an external disk or personal computer. In the event of any kind of technology failure (e.g., Blackboard server crash or virus infection, students' own computer problems, loss of files in cyberspace, etc.) or any disputes, the instructor may request or require you to resubmit the files. In some instances, the instructor may need to open another attempt within Blackboard, so communication with your instructor is critical in these circumstances.