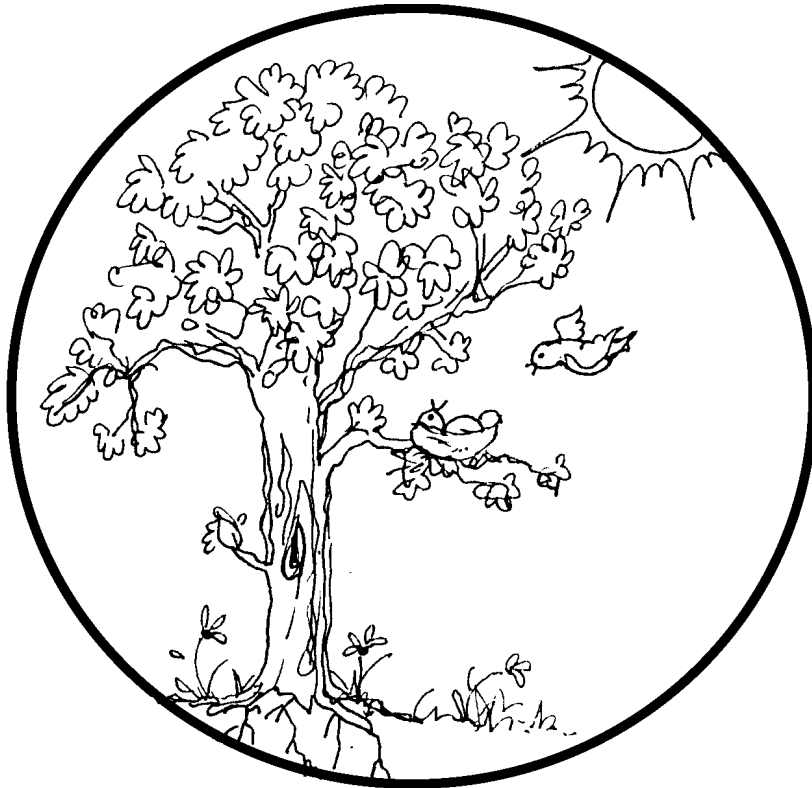




Life Cycle
Diversity in a Balance



KINDERGARTEN
ORGANISMS



2 WEEKS
LESSON PLANS AND
ACTIVITIES

LIFE CYCLE OVERVIEW OF KINDERGARTEN

ORGANISMS

WEEK 1.

PRE: *Comparing large and small organisms.*

LAB: *Classifying and investigating large organisms.*

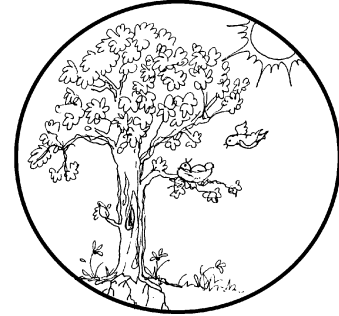
POST: *Comparing where large animals live.*

WEEK 2.

PRE: *Observing how and where organisms live.*

LAB: *Comparing shells.*

POST: *Comparing plants and animals.*



HUMAN BIOLOGY

WEEK 3.

PRE: *Discovering the different parts of the body.*

LAB: *Discovering and locating parts of the body.*

POST: *Distinguishing the function of external body parts.*

WEEK 4.

PRE: *Discovering why bones are important.*

LAB: *Comparing different models of skeletons.*

POST: *Exploring how teeth grow.*

PLANT LIFE

WEEK 5.

PRE: *Exploring how seeds grow.*

LAB: *Planting seeds.*

POST: *Exploring the uses of plants.*

WEEK 6.

PRE: *Defining the parts of a tree and flower.*

LAB: *Comparing seeds and the plants they produce.*

POST: *Comparing flowers, stems, and leaves.*

NATURAL ENVIRONMENT

WEEK 7.

PRE: *Exploring land and marine environments.*

LAB: *Comparing and contrasting environments.*

POST: *Describing a favorite environment.*

WEEK 8:

PRE: *Exploring the order of a natural community.*

LAB: *Dramatizing who eats whom.*

POST: *Characterizing producers and consumers.*

LIFE CYCLE - ORGANISMS (KA)

PRE LAB

Students use a worksheet to discuss different organisms.

OBJECTIVES:

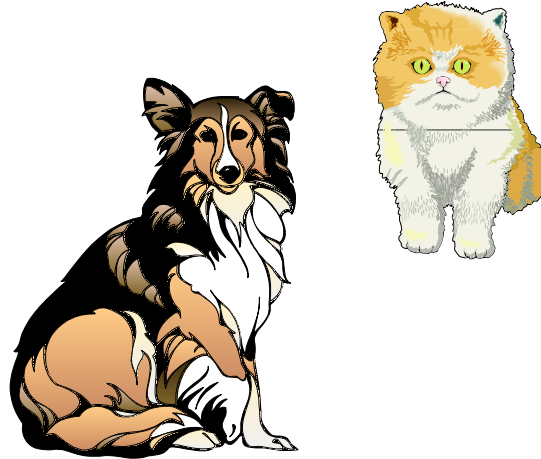
1. Grouping different forms of life.
2. Comparing large and small organisms.

VOCABULARY:

animal
living
non-living
organism

MATERIALS:

pictures of animals
pictures of students' pets
worksheet



BACKGROUND:

The word organism refers to all living things. Non-living objects like rocks, are not organisms. Most of the organisms that students are familiar with include dogs, horse, and hamsters. However, not all organisms are animals. Plants, mushrooms, and little protozoa are all living. The definition for living is sometimes difficult to explain. Living creatures can reproduce and need nutrients to grow. Growth is not a defining characteristic. For instance, a crystal can grow, but that is not considered living.

In order for young children to start sorting and classifying organisms, they need to have experience with as many different types as possible. Students do not need to learn all the different groups of organisms, but they should start learning skills of sorting by different and distinguishing characteristics.

PROCEDURE:

1. Show pictures or use objects in the classroom of living organisms and non-living objects. Go over careful what makes each one living or non-living. Also distinguish objects that may have been created from living objects (i.e. wooden chairs), but are no longer living. Reproduction is key in order for objects to be considered living. The ability to have “offsprings” or “babies” is a key ingredient for classifying something as “living.” A living organism also requires nourishment to maintain its growth. The nourishment could include

water, nutrients, food, or light.

2. Ask students to name one living organism and one non-living object at their house. You may want to make a list. Discuss the characteristic that they think makes it's a living object. It may be difficult for a student to see reproduction in many things. Plants for instance have seeds, but a rug cannot make little rugs by itself. A rug does not nourish itself, but a plant requires light, water, and nutrients. Go over the words over and over again, with each of the children's story.

3. Use the worksheet for the students to determine what is living and non living. Instruct students to draw a line to the appropriate word.

4. Ask students that if they could bring in a picture or photo of something living at their house. It could be a pet, a plant, or a sibling. You may want to take the students outside and discuss what is living and not living outside.

LIFE CYCLE - ORGANISMS (KA)



snail



chair



car



people

LIVING



tree

NON-LIVING



bird



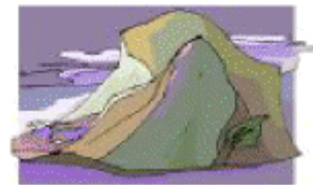
clock



camel



building



rock

LIFE CYCLE - ORGANISMS (KA)

LAB

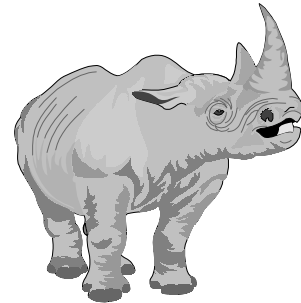
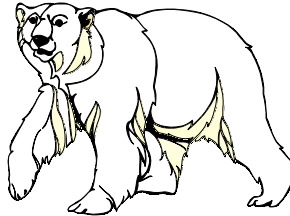
Students sort models of animals.

OBJECTIVES:

1. Exploring characteristics of objects.
2. Classifying and sorting large organisms.

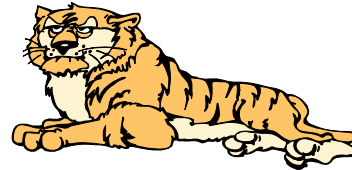
VOCABULARY:

classify
organism
sort



MATERIALS:

Life Cycle - Organisms (KA)
Wild Animal Placemats
playdough (optional)



BACKGROUND:

Students are learning to distinguish and describe objects, in order to group them into larger groups. It is easy for students to group inanimate objects because they group shape, color, or size. Real organisms are not perfect and therefore, it is more difficult to recognize similar characteristics within groups.

Living organisms have to consider more a range of characteristics. For example, a cat could mean a house cat, a lion, a tiger, or a bobcat. Each have a cat-like look but they are very different animals. Almost all of the features have to be described. A nose, could be large, small, flat, or pointed. The nose could have large nostrils or small nostrils.

Young children need guidance is defining the ranges and descriptions of each of these characteristics. It is also important to emphasize is that scientists group organisms into assemblages with similar characteristics. This practice makes it easy to distinguish and compare various groups of similar organisms.

PROCEDURE:

1. Prior to lab you may want to make playdough to be used during class. The recipe is as follows:

250 ml flour	125 ml salt
5 ml cream of tartar	250 ml water

about 1/2 ml food coloring about 1/2 ml oil

Cook, while stirring, over medium heat until the gloppy mess looks like playdough. Knead briefly after the mixture has cooled a little. You will need to multiply this recipe by 6 to get enough for a class of 30 students, but it should be made in two batches. Large amounts of dough are difficult to stir because the mixture becomes firm. Store the playdough in a plastic bag or a margarine tub.

2. Give groups of students a Wild Animal Placemat to look at. Discuss each of the organism listed on the placemat. Note that the name of “family” members is given in each box. For instance, as the students the “family” of elephants. The father is a bull, mother is a cow, baby is a calf, and a group is called a herd.

animal	male	female	baby	group
rabbit	buck	doe	kitten	warren
fox	dog	vixen	cub or pup	skulk
bear	board	sow	cub	sloth
elephant	bull	cow	calf	herd
monkey				troop
lion	lion	lioness	cub	pride
zebra	stallion	mare	colt	herd
ostrich	cock	hen	chick	flock
penguin	cock	hen	chick	colony
sheep	ram	ewe	lamb	flock or herd
wild boar	boar	sow	piglet	herd or drove
whale	bull	cow	calf	herd
kangaroo	boomer	flyer	joey	troop or mob
bison	bull	cow	calf	herd
seal	bull	cow	pup or welp	herd or trip
giraffe	bull	cow	calf	herd

3. You may also want to have students look at the animal tracks of each animal on the outside margin. Compare the oval shape, round shape, prints with toes, and hoofs.

4. Provide students with bag of plastic model animals that are included in Life Cycle - Organisms (KA). Ask the students to sort their animal models with those of the placemat. Some of the animals are not represented, and there are more animals than there are names on the placemat. Instruct students to sort the other models into similar groups.

5. You may want to give students playdough. Instruct students to flatten the playdough and then make tracks of the different models. See if they can match the tracks to those on the outside margin of the placemat.

6. Go over the different animals with students, and determine what characteristics helped them determine how they sorted the animals. This may change dependent on the animal models that you are using.

LIFE CYCLE - ORGANISMS (KA)

POST LAB:

Students use worksheet to compare different animals.

OBJECTIVES:

1. Comparing where large animals live.
2. Describing characteristics of animals.

VOCABULARY:

animal
characteristic
organism

MATERIALS:

worksheet
crayons
animal inflatable globe
animal puppets (optional)



BACKGROUND:

Students have seen many different animals. However, sometimes children associate animals with cartoons that might incorrectly portray that specific animal. Children also get an incorrect idea of where animals actually live in zoos. For instance, a polar bear and a penguin may be close to each other in the zoo, but in real life the polar bear lives near the North Pole and the penguin lives near the South Pole.

It is important to emphasize that just seeing an animal does not make you an instant expert. You must learn by observing animals, by reading books, or by talking to people that have experience with specific animals.

PROCEDURE:

1. Use the coloring exercise to explain where the different animals come from. If you ask students where these animals come from many will say, "the zoo." By showing the students where these animals came from on the globe will help them learn how to identify geographic locations.

2. The elephant in the coloring exercise can either come from India or Africa. The whale can be from any of the oceans. Many whales swim from ocean to ocean, and are noted for their long migrations. Lions are from Africa. Penguins are from the South Pole only. Different types of frogs can be found on all the continents, except for Antarctica.

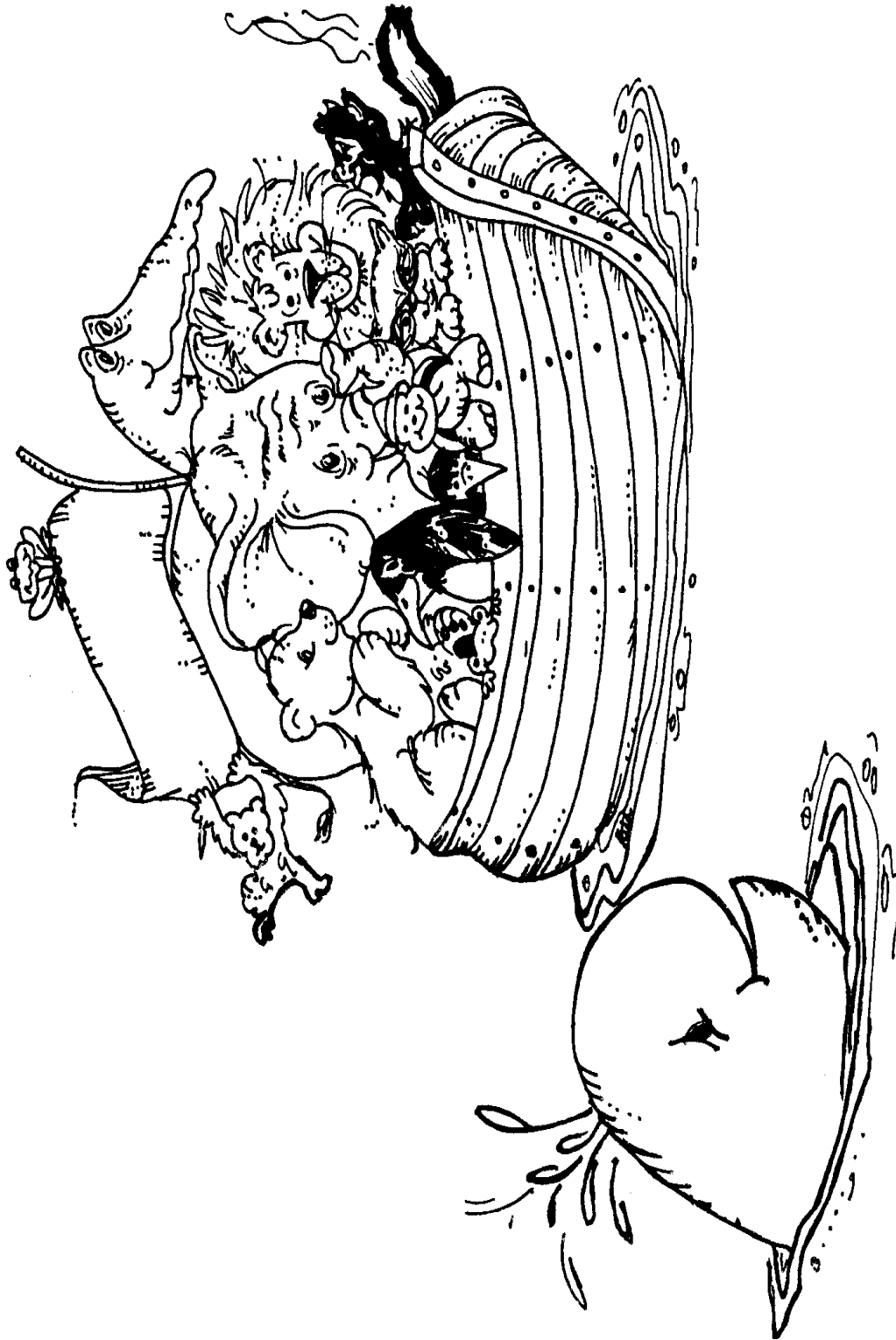
Crocodiles come from the Caribbean area, Africa, and Australia. Skunks are found in North and South America. Turtles can be found just about everywhere, except Antarctica and the Arctic region. Cats are found everywhere, but probably originated in southwest Asia. Wild cats are native to Africa, Asia, and South America.

3. You might also want to tell students that in this coloring exercise everyone is living happily with each other, but in nature this does not happen.

4. Different varieties of animal puppets can also make this lesson more alive for students. Students should be able to locate where the different animals are from on the globe. Use pictures any magazine or book that might help show students where these animals live in their native environment.

LIFE CYCLE - ORGANISMS (KA)

POST LAB



LIFE CYCLE - ORGANISMS (KB)

PRE LAB

Students use a worksheet to help them observe their backyard.

OBJECTIVES:

1. Exploring students' backyards.
2. Observing how and where organisms live.

VOCABULARY:

environment
organism

MATERIALS:

worksheet
crayons



BACKGROUND:

Children can be taught to notice and observe their surroundings. Recognizing where an organism lives helps to understand about that organism's natural environment. It is important to emphasize that animals, protozoa, fungi, plants, and bacteria live in different places because of temperature, food availability, chemicals, and light.

Observation skills are very important to children to learn. Quiet time, to allow the brain to “appreciate” visual stimuli, can help a child to be more patient and observant.

PROCEDURE:

1. In this coloring exercise the children are to pretend that the person looking at the butterflies are themselves. Tell the children before they color the picture to sit in their backyard, park, or other appropriate place and observe their surroundings or environment. In the classroom or at home have them draw organisms that they may have seen but which are not in the drawing.

2. When all the pictures are completed, have the students discuss what things are similar and what things are different with other students in the class. You can make a list on the board of these comparisons and see if any organisms prefer to live in a certain part of town, in a park, a river or other places the children have selected. For instance, squirrels will more likely be found in a park rather than in a student's backyard.

LIFE CYCLE - ORGANISMS (KB)

PRE



LIFE CYCLE - ORGANISMS (KB)

LAB

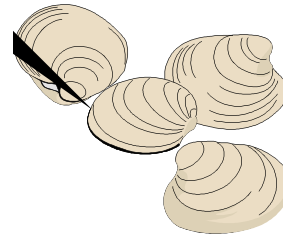
Students sort and compare shells.

OBJECTIVES:

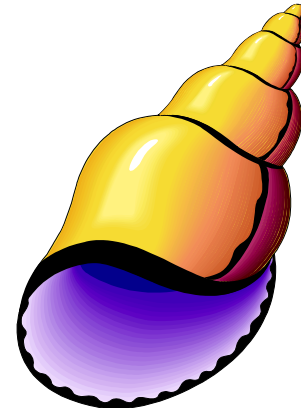
1. Comparing different shells.
2. Investigating different shells.

VOCABULARY:

invertebrate
organism
shell



Bivalves



Gastropod

MATERIALS:

Life Cycle - Organisms (KB)
Sea Shell Placemats
sealife specimens

BACKGROUND:

There are many different organisms that live in our world both on land and sea. Many young children do not realize that there are many organisms that live in the sea. The sea has many areas that organisms can live. A group that has many representatives is within the Phylum Mollusca, which consists of snails, clams, octopus, squid, and abalone.

Mollusks are a diverse group that have 6 subgroups including gastropods, cephalopods, bivalves, scaphopods, polyplacophoras, and monoplacophoras. Gastropods include over 35,000 species that live in water or on land. They have one shell that spirals. The entire animal lives inside and moves around with a large foot. Bivalves have two equal shells which are hinged by an elastic substance. Bivalves have a foot for burrowing into the sand or mud. Cephalopods include squid, cuttlefish, octopus and nautilus. Most can swim very well, but many do not have shells. Nautilus' have a shell that has the geometry called a "whorl" or a coil that wraps around itself. They have tentacles to help them swim around. Scaphopods are burrowing animals that are also called tusk or tooth shells. Polyplacophoras include chitons and have 8 overlapping plates and a foot that helps them attach to a rock. Monoplacophoras include abalone which has one shell with 7 holes. They attach themselves to a hard substance like a rock.

A summary of the mollusk group is given in the sheet labeled "Phylum Mollusca."

PROCEDURE:

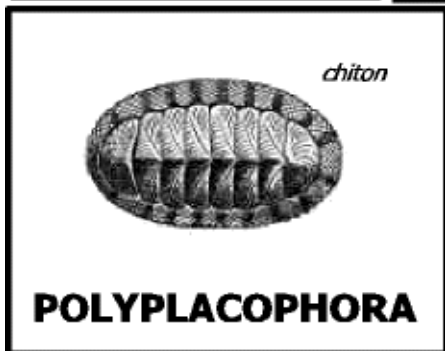
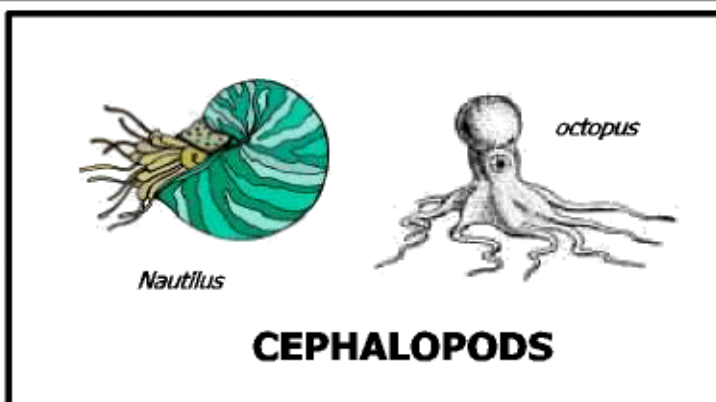
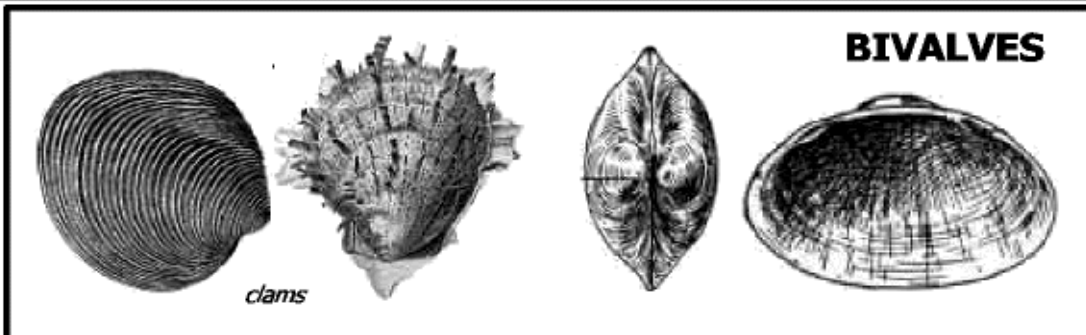
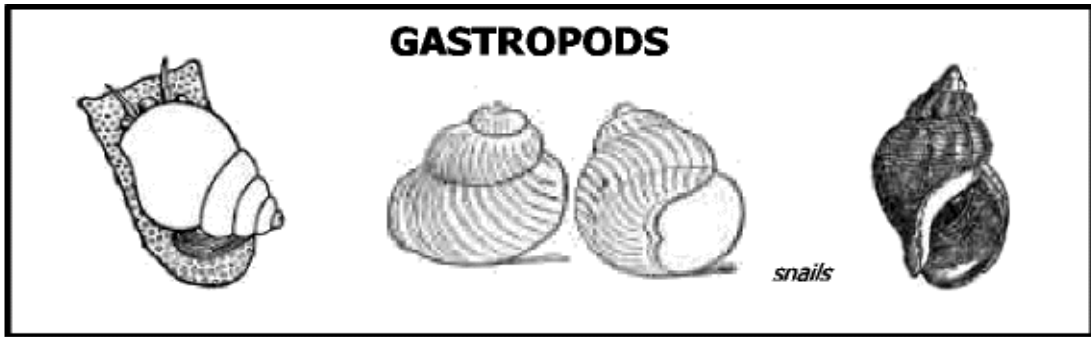
1. Hand out the Mollusca placemats. Go over the placemats, by showing the

students that there are many, many different types of shells that you can find in the Mollusca group. Point out that these are invertebrates (animals without a backbone). Make sure the students know what a backbone is, by having them touch their own spine.

2. Give each pair of students a bag full of different shells which are found in Life Cycle-Organisms (KB). Have them group the shells into similar shapes and then have them count the number of shells in each group. Discuss why they sorted them into different groups. Talk about sorting like organisms.

These shells belong to the group called Mollusca which includes snails, clams, and many other shelled animals. Remind students that not all shells are mollusks. The majority of shells in these bags will be gastropods (or snails). They have a spiral symmetry.

PHYLUM MOLLUSCA



LIFE CYCLE - ORGANISMS (KB)

POST LAB

Students look at critters outside.

OBJECTIVES:

1. Comparing plants and animals.
2. Observing animals during a critter walk.

VOCABULARY:

animal
organism
plant

MATERIALS:

collecting jars
Swift-GH Microscopes



BACKGROUND:

Animals are living organisms that grow, reproduce, respire, and give off wastes. Unlike plants, they cannot make their own food from simple molecules, they can move on their own from place to place, and they show quicker responses to environmental change. In this activity, kindergartners will learn about animal movement. Animals live everywhere.

PROCEDURE:

1. Take a critter walk. Give each child a small jar or baggy. Let them collect small animals (bugs, spiders, worms, snails) being careful to treat each organism gently. Warn them to stay away from stinging insects like bees.

2. If possible, divide the class into small groups and let the children describe their organisms. How many legs do they have? How do they move? Do they have shells? What do their skins feel like? Discuss why animals move at different speeds. Do they normally wait for prey to come to them? Do they move fast to catch food or escape danger? Do they roll up or pull into a shell when danger is around? A good motor activity for the students can be conducted by having the children duplicate their organisms' movement.