

Life Science Worksheet

GRADE LEVEL: First

Topic: Organization of Living Things

Grade Level Standard: 1-1 Examine living things.

Grade Level Benchmark: 1. Compare and contrast familiar organisms on the basis of observable physical characteristics. (III.2.E.2)

Learning Activity(s)/Facts/Information	Resources
<p style="text-align: center;">Central Question: <i>How are groups of living things classified?</i></p> <ol style="list-style-type: none">1. Brainstorm actual body coverings such as: feathers, fur, scales.2. Show pictures of animals and discuss the way they move.3. Illustrate and make class booklets or individual booklets of animals that: swim, fly, run, crawl; have fur, scales, feathers, or shells.4. Animal Coloring Book ★ <p>★Activity is attached</p>	<p>Magazines/Newspapers Books</p>
Process Skills: Observing, Communicating, Classifying	

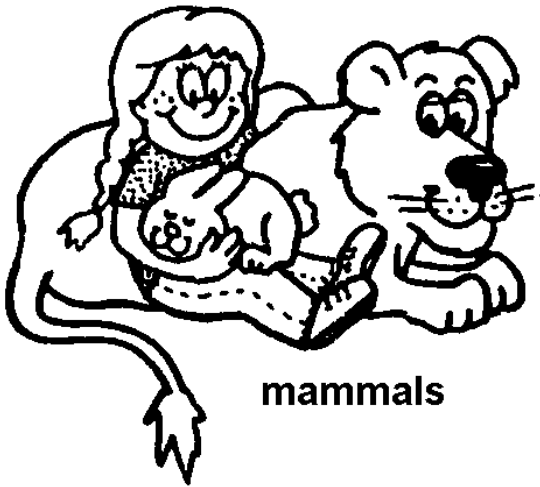
New Vocabulary: Plant and animal parts: backbone, skin, shell, limbs, roots,
leaves, stems, flowers, feathers, scales



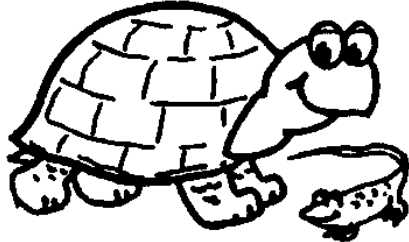
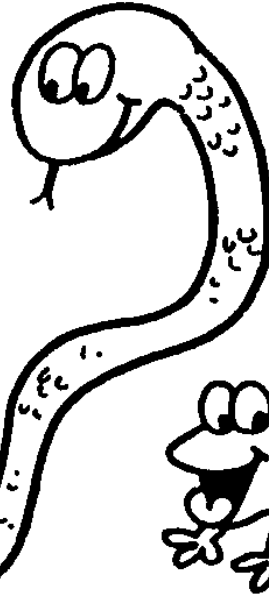
birds



ANIMALS



mammals



reptiles

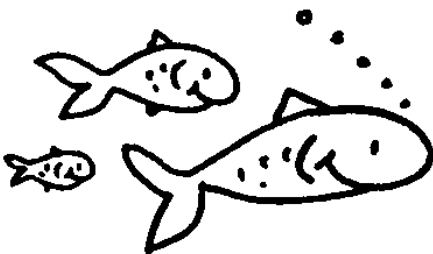
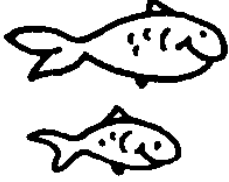


amphibians

This book belongs to: _____

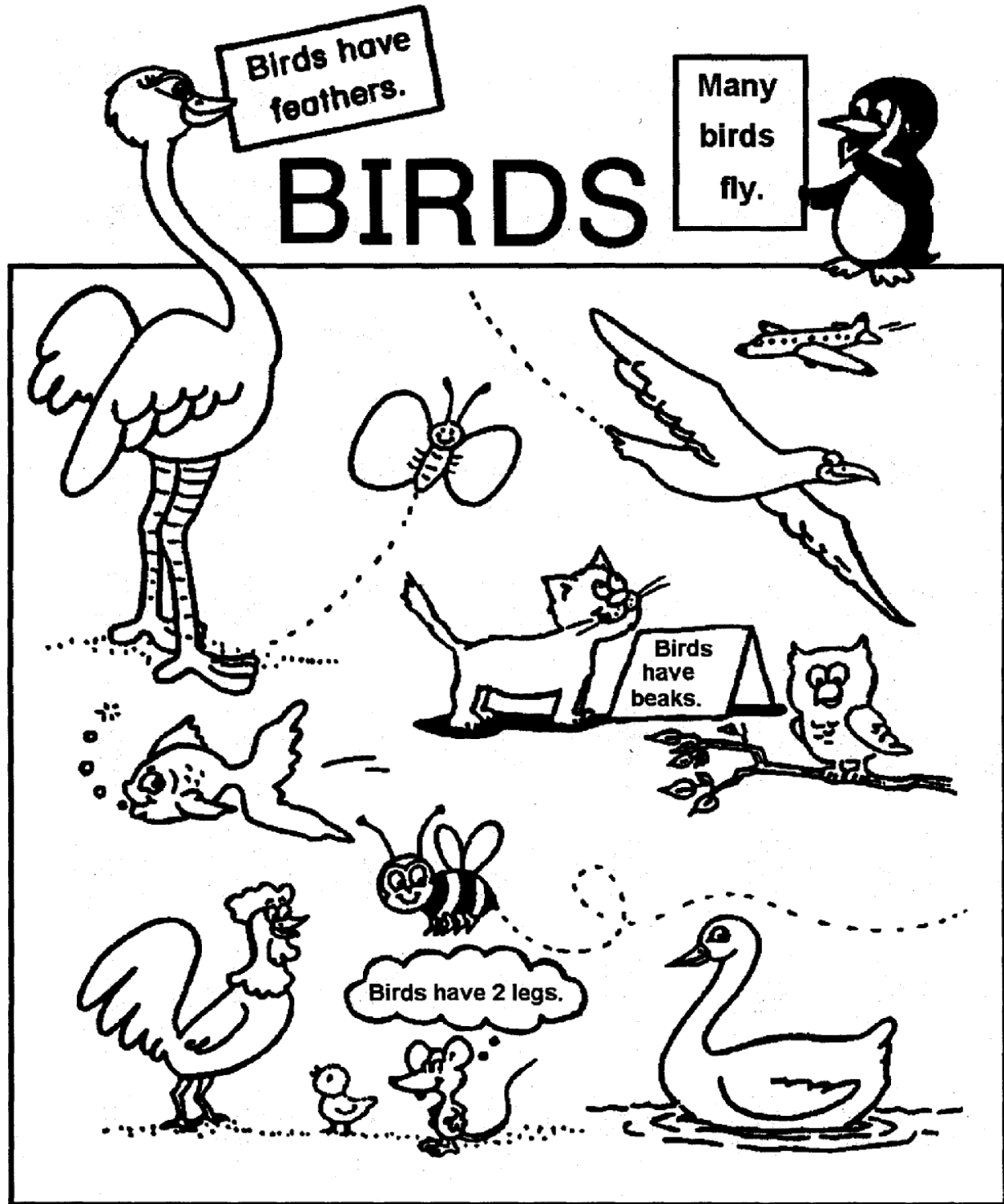


fish



Name _____

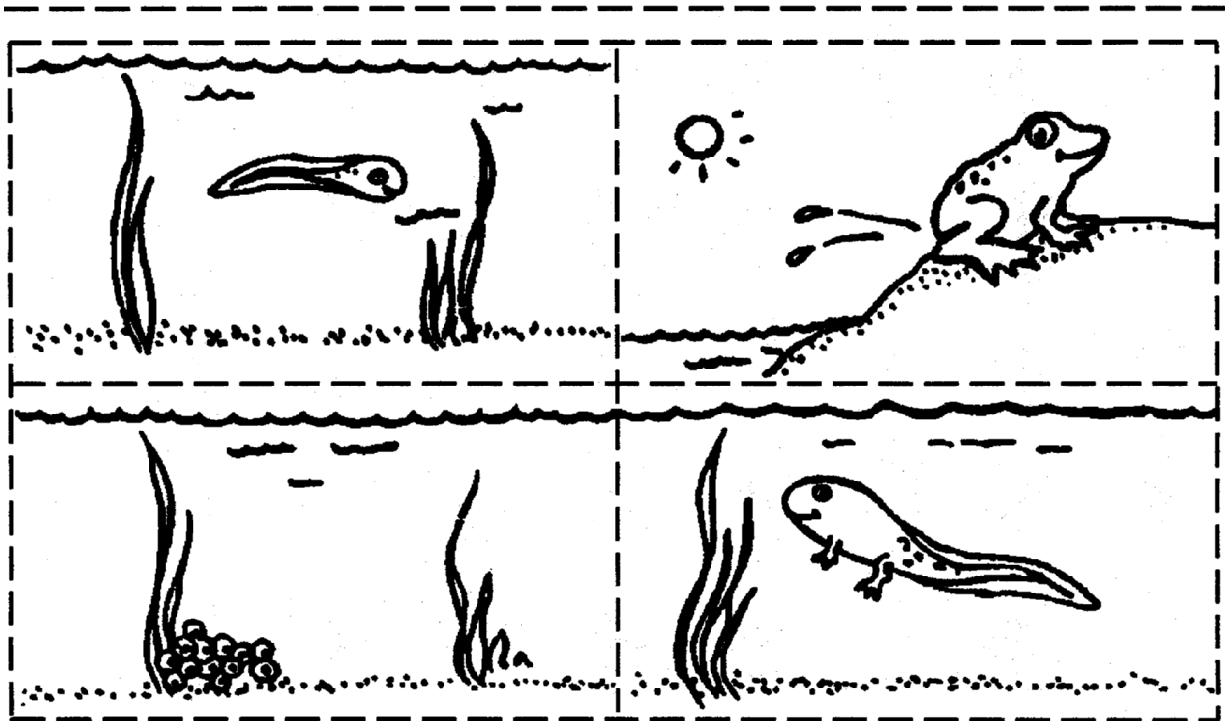
Color only the birds.



Name _____ Cut out and paste in order.
order.

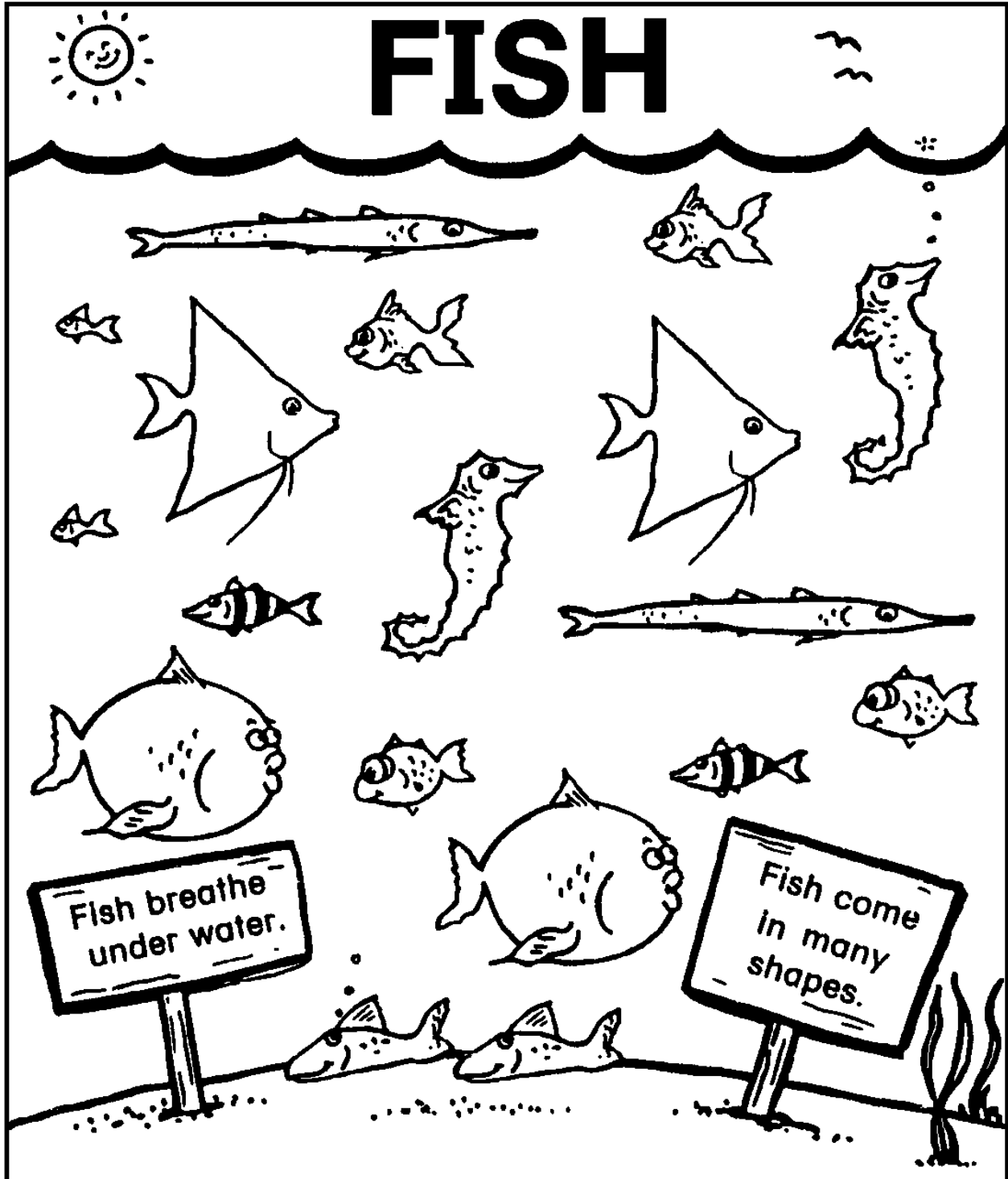
AMPHIBIANS

1	2
3	4



Name _____

Draw a line to connect the matching fish. Color the fish.



Name _____

Color only the mammals.

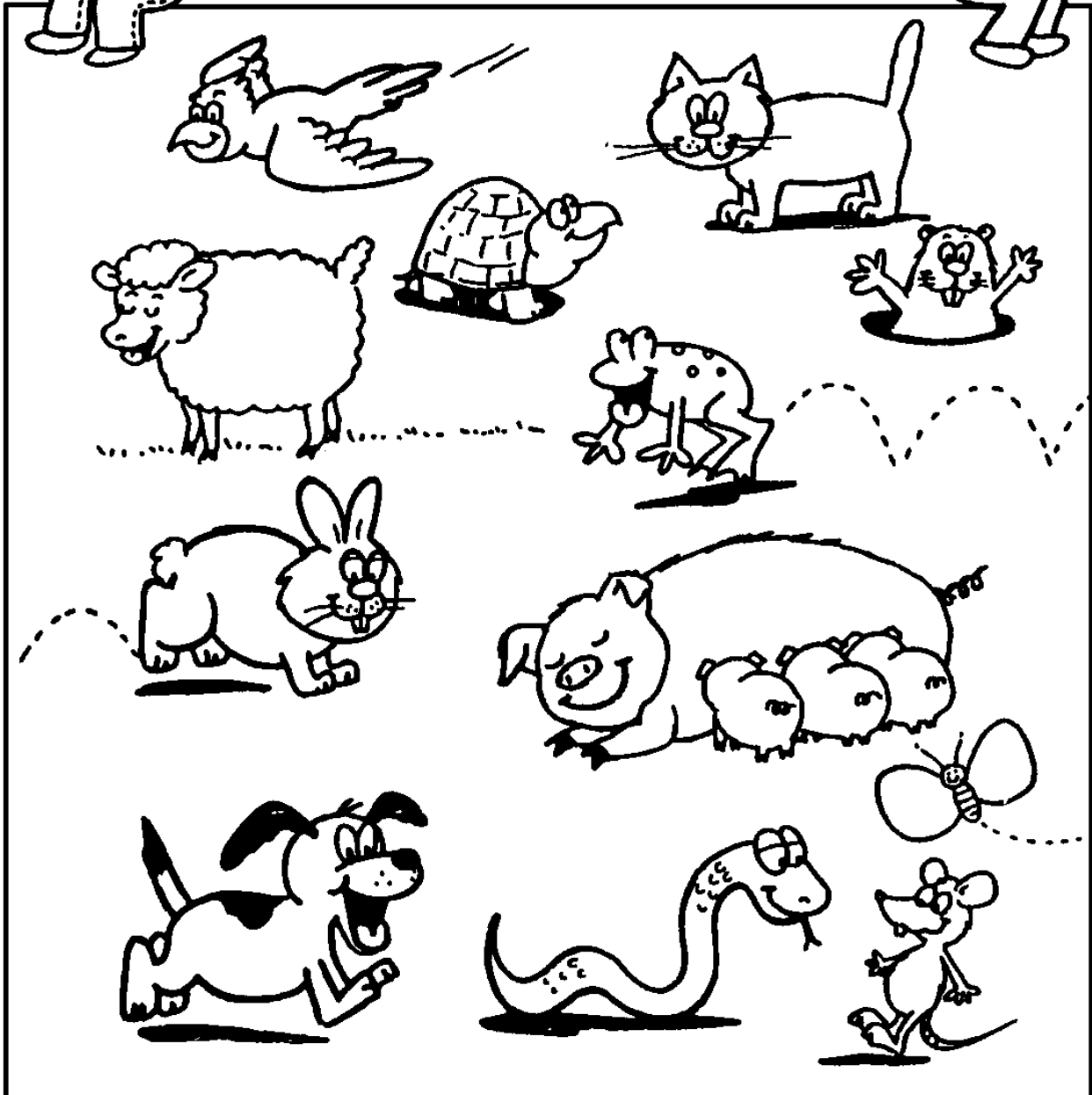
Mammals



Most mammals have fur or hair.

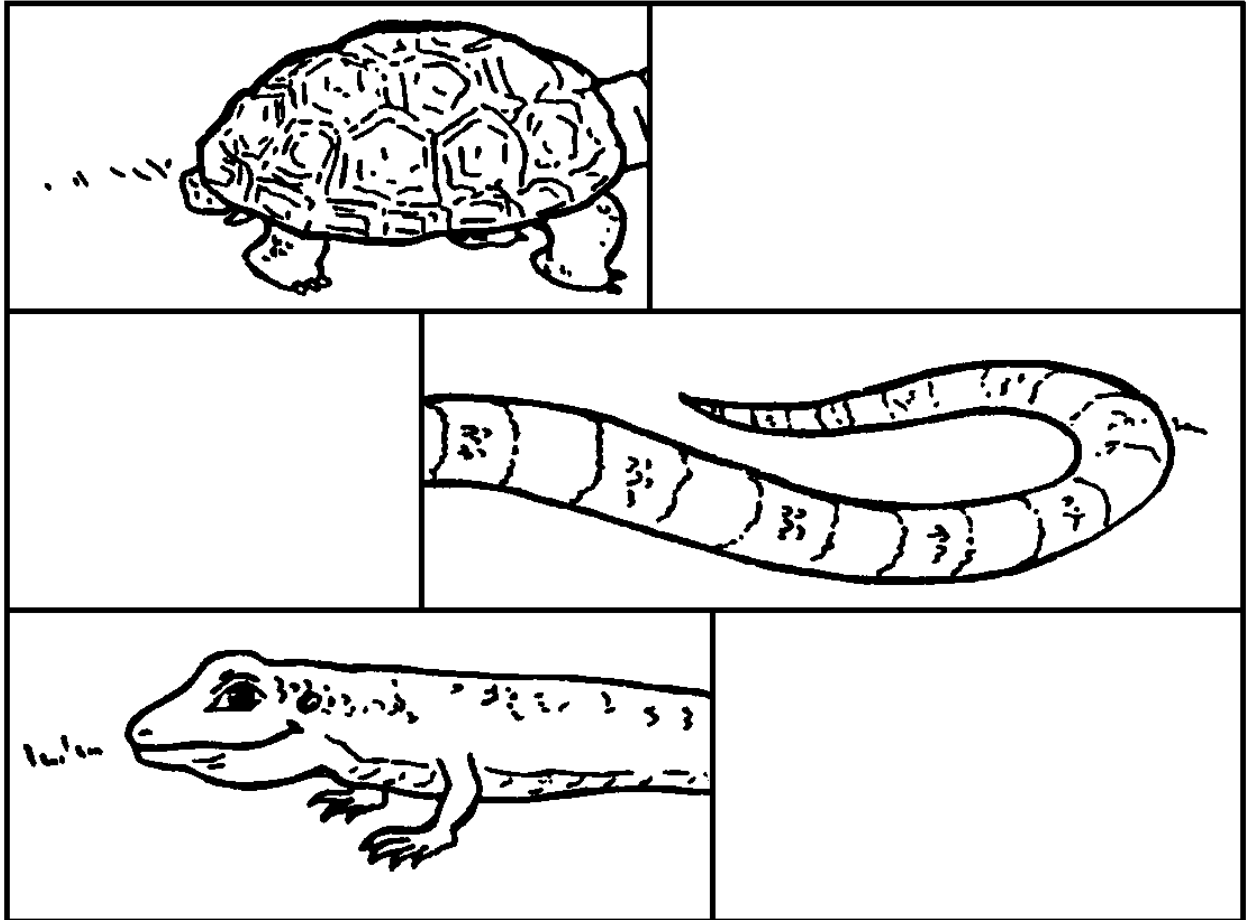


Mammals feed milk to their babies.

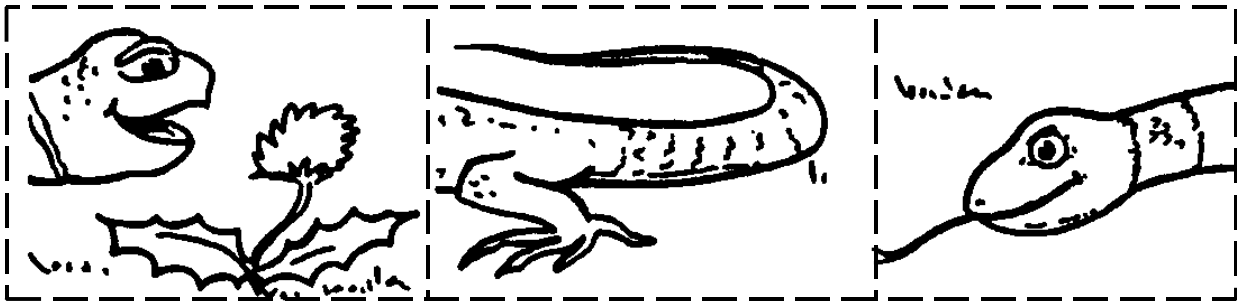


Name _____

Color, cut, and paste to complete the reptiles.



Reptiles have scaly skin.



Assessment
Grade 1

ORGANIZATION OF LIVING THINGS

Classroom Assessment Example SCI.III.2.E.2

(Compare and contrast familiar organisms on the basis of observable physical characteristics.)

Post the six animal characteristics (backbone, skin, shell, limbs, feathers, and scales). Have students brainstorm two animals for each of the six categories. Students should then choose two of the categories. Challenge each student to consider the similarities and differences among the animals in the categories he or she has chosen.

(Give students rubric before activity.)

Scoring of Classroom Assessment Example SCI.III.2.E.2

Criteria	Apprentice	Basic	Meets	Exceeds
Completeness of characteristics	Chooses one of the posted characteristics.	Chooses two of the posted characteristics.	Chooses two of the posted characteristics. Describes two similarities/ differences.	Chooses two of the posted characteristics. Describes three or more similarities/ differences.
Completeness of animals	Lists one animal per category.	Lists two animals per category.	Lists three animals per category.	Lists four or more animals per category.

Life Science Worksheet

GRADE LEVEL: First

Topic: Organization of Living Things

Grade Level Standard: 1-1 Examine living things.

Grade Level Benchmark: 2. Explain functions of selected seed plant parts.

(III.2.E.5)

Learning Activity(s)/Facts/Information	Resources
<p style="text-align: center;">Central Question: <i>How does each part of a seed plant support the plant's life?</i></p> <ol style="list-style-type: none"> 1. Stem Study ★ 2. Examine celery, rhubarb, various leaves, and flowers and discuss functions. Categorize various fruits and vegetables according to usable parts. 3. It's in the Bag ★ <p>★Activity is attached</p>	<p>Fruits, Vegetables, Flowers</p>
<p>Process Skills: Observing, Recording, Predicting, Controlling variables, Sorting, Classifying</p>	

New Vocabulary: Plant parts: roots, stems, leaves, flowers, fruits, seeds

STEM STUDY

Taken From

AIMS Education Foundation

Topic Area

Biological Science: Plant Parts—Stems

Introductory Statement

Students will learn how stems are necessary to plants.

Math Skills

Comparing
Counting

Science Processes

Observing
Recording
Predicting

Materials

Plants with different kinds of stems — celery, potato, asparagus
A celery stalk or daisy flower with stem
Food coloring
Plastic glasses

Key Question

What are the functions of a plant stem?

Background Information

Stems of plants serve many functions. One function is to support the other plant parts that are above ground. The stem holds up the plant's parts toward the sun so the plant can receive the light energy it needs. Some plants have stems that are soft and green. Others have stems that are thick and hard, like trees.

The most important function of a stem is to serve as a transport system in plants. Small tubes from the roots go up through the stems. Water and minerals are carried from the roots to the leaves of a plant. Food made in the leaves moves through the tubes in the stem to other parts of the plants.

Some stems are specialized organs used to store food. Stem vegetables include celery, asparagus, sugar cane, broccoli, and potatoes.

Management Suggestions

1. Collect stems that are familiar to students as food they eat, such as celery, broccoli, asparagus, rhubarb, and potatoes.
2. Explain to the students that a potato is an underground stem, not a root.

Procedure

1. Take the students outside to identify plants and look at the stems of plants. Discuss and compare how plant stems are alike and different.
2. Discuss the functions of stems. Stems hold up other plant parts that are above the ground. Stems also carry food and water from the roots, through the stems and into the leaves. Look at different stems of plants. Tree trunks are hard, thick stems. Flowers have soft, thin stems.
3. Discuss what stems we eat as vegetables — celery, broccoli, asparagus, rhubarb, sugar cane, and potatoes.
4. The worksheet “I Study a Stem” is a classic experiment but one that shows how a stem carries water to the leaves. Provide enough stalks of celery so that each child has one to draw. Ask the students to describe their celery stalk. List their descriptions on a giant celery shaped chart. Read through the experiment and ask for predictions to be made.

Place the stalks in different colored water for variety. When the color has traveled all the way to the leaves, let the children cut the stalks apart to see the inside tubes.

5. Set up the “Flower in Water” experiment for the class; let them predict what they think will happen to the flower. Leave the flower in the glass overnight; have the students record what happened by drawing the flower on the worksheet.
6. As an extension to the “Flower in Water” do the “Colorful Changes.” Fill three glasses with water. Color one blue, one red, and in the third, mix red and blue to make purple. Put one white flower (daisy or carnation) into each glass. Have the students predict what will happen to each one. Most students will predict that the flowers will turn blue, red, and purple. What actually happens is sometimes surprising. The blue color will rise and the red color will rise, but the mixed purple often will separate back into red and blue as it rises.

Discussion

1. How does the water and food travel through the stems into the leaves and flowers?
2. How are stems alike?
3. What differences do you see in stems?
4. Do all stems grow above ground?
5. Are all stems hard and thick like tree trunks?
6. Are all stems green? Name some that are not.

Extensions

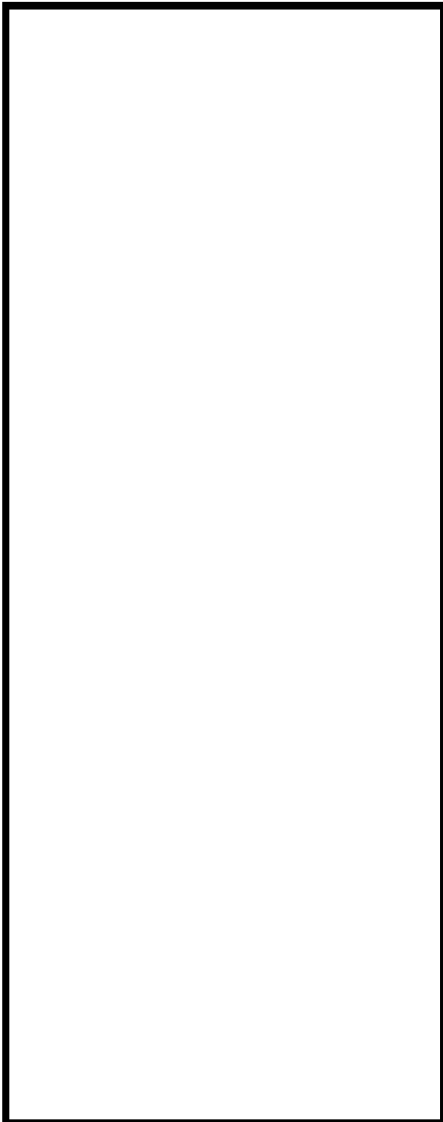
1. Make rubbings of various kinds of stems. Rubbings can be made by placing a piece of paper over an object and then rubbing with the side of a crayon.
2. Discuss with the students what people use tree stems for. Discuss the lumber industry. Make a large tree trunk shaped chart; list all the uses we have for trees (furniture, houses, baseball bats, etc.).

My Name _____

Stem Study

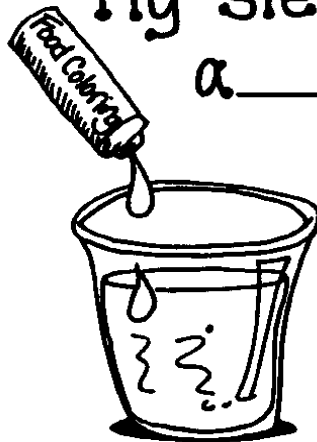


Here is a drawing of my stem.



My stem is from

a _____.



1. Put some water in a glass.
2. Add 4 drops of food coloring.

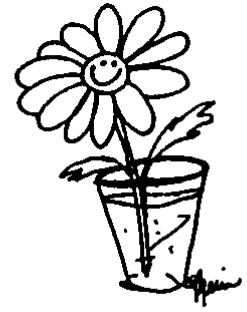
3. Cut off the end of the stem.
4. Place the stem in the glass.
5. Leave overnight.

What happened? _____

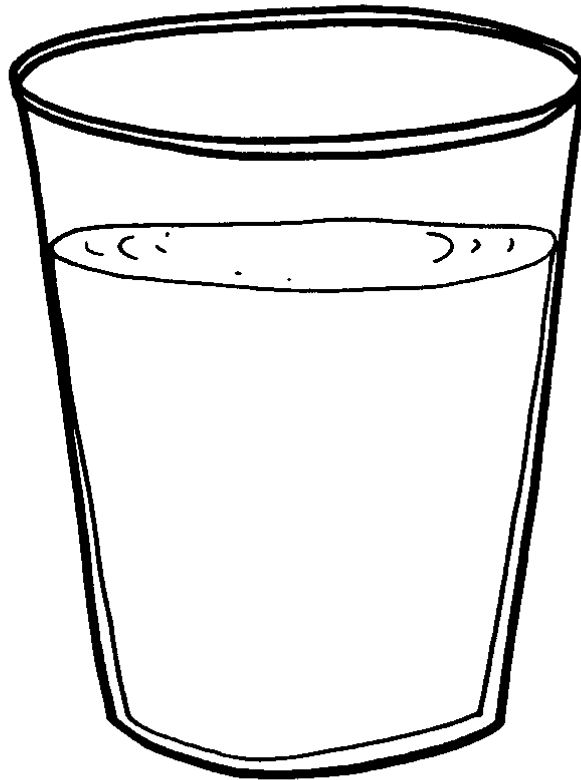
Why? _____

What are stems for? _____

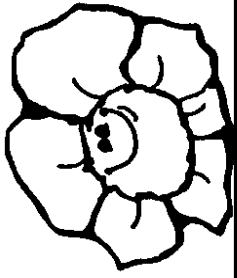
Flower in Water



1. Pour water in a glass.
2. Color the water red.
3. Put a flower in the water.
4. Draw the flower.
5. Leave overnight.



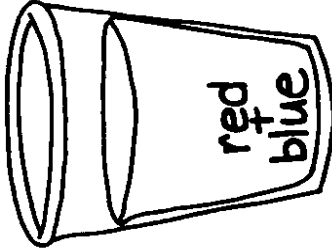
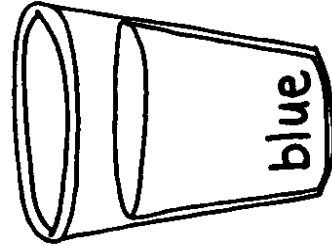
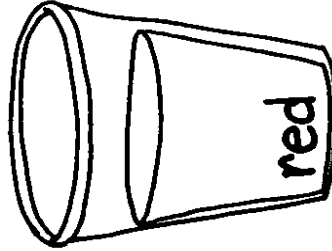
6. How did the flower change? _____



Colorful Changes

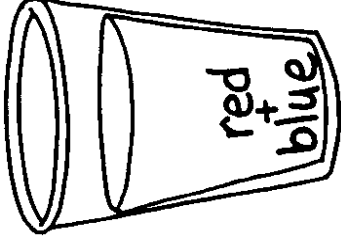
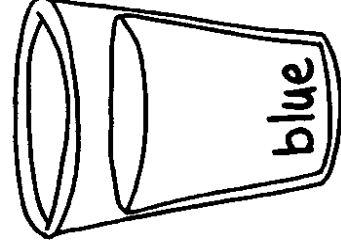
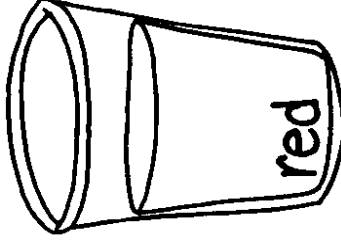
Name _____

1. Add food coloring to the cups.
2. Put a flower with stem in each cup.
3. Draw the three flowers. Color.
4. Leave the flowers overnight.

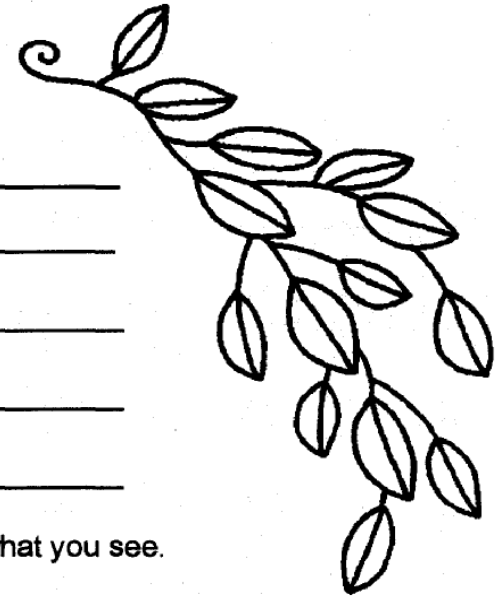


What do you think will happen?

1. Look at the flowers.
2. Draw the changes.



What really happened?



_____ 's Plant Log

(Your Name)

On _____ I planted _____
(day)

Here's what I did and what I used: _____

- Keep checking your plant. Look for changes. Draw a picture to show what you see.

I checked my plant on _____
(day)

It looked like this:

I checked my plant on _____
(day)

It looked like this:

IT'S IN THE BAG

Taken From

AIMS Education Foundation

Topic Area

Seeds

Introductory Statement

Students will “plant” seeds in a plastic Zip-lock type bag and observe and measure the growth or roots, stems, and leaves.

Math Skills

Measuring
Comparing
Graphing
Identifying attributes

Science Processes

Sorting and classifying
Recording data
Analyzing and generalizing
Predicting

Materials

Small, clear plastic cups — one per group of 3-4 students
Clear plastic baggies —Zip-lock type, one for each student
Transparent tape
Paper towels (school rest room type)
Assorted seeds: lima beans, kidney beans, popcorn, sunflower seeds, garbanzo beans, black-eyed peas, etc.

Key Question

Which seed will grow the fastest?

Background Information

The production of seeds in the last stage of reproduction of flowering plants. When fertilization takes place, the ovules of a flower becomes seeds. These are called embryos which means new developing plants. Surrounding the embryo is a layer of cells called the endosperm where food is stored for the embryo to use later.

The outer layer of the ovule becomes the seed coat, the skin that provides protection for the seed. When the seeds leave the parent plant, they become dormant until just the right conditions of warmth and water cause the seeds to germinate.

Seeds travel in many ways – by wind like the dandelion seeds that look like tiny parachutes. Seeds such as the pine, sycamore and maple have large flat wings that help them spin away from the parent plant where chances of survival are greater. Other seeds have hooks or burrs which catch on animals. Very few seeds actually survive so plants produce an enormous number of seeds to insure reproduction of the plant.

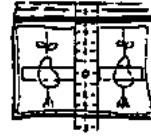
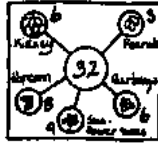
Management Suggestions

1. While many hands-on activities work well with students working in pairs or small groups, this activity is most successful where each student has a “baggie” of his very own for the “growing” part. Teachers will need to provide enough baggies and seeds for this.
2. When selecting an assortment of seeds, use medium to large size seeds—the broad bean type are easier for young students to handle, describe, and count.
3. Placing seeds in a moist warm environment (in the baggie) may encourage additional growth... mold, etc. Rinsing seeds in a very weak bleach solution (1 tsp. bleach to a gallon of water) will inhibit unwanted mold growth.

Procedure

1. Provide an assortment of seeds. Mix together seeds such as lima beans, kidney beans, popcorn, sunflower seeds, and so forth. Place the students in groups of 3-4 and give each group a small cupful of seeds. Estimate the number of seeds in the cup and then count and sort in the following way. Give each group a large (12 X 8) piece of light colored construction paper for recording. Students will dump the cup of seeds into the center of the paper and then use the empty cup to trace a circle around the set of seeds. Then sort the seeds into smaller sets of like kinds and draw a circle for each new and smaller set of seeds. Record the name and number of seeds in each circle. Add the smaller sets to get the total number of seeds in the cup.
2. Build real graph by gluing like seeds in columns on narrow strips of graph or grid paper (a seed in every square beginning at the bottom). Comparing may then take place within each small group or strips from all groups may be combined for a large class graph.
3. Make a “baggie garden” : Plant a mini garden in a Zip-lock type bag. Choose two seeds that are different from each other. Fold paper towel to fit inside a small plastic baggie. Use double sided tape or untransparent tape across the two seeds to hold them in place on the wet paper towel. Wet the paper towel

and slip it into the baggie and seal. It will not be necessary to water again. Tape the bags to the window or hang them on a line along the windows. Watch the roots grow down and the stems and leaves grow up. Make measuring rulers to attach to the front of the baggie by printing the page. "How My Seeds Grows." Tape the centimeter rulers to the outside of the baggie making sure that the 0 mark is lined up with both the seeds.



4. Make a small picture book "How My Seeds Grow." ...observe growth, and record daily or every other day...depending on how rapid growth changes occur. Transplant seeds to a pot after they seem to grow out of the bag.

Discussion

When doing the initial seed sort, ask these questions:

1. Of which seed type were there the most in your group? The least?
2. How are the seeds alike? How are they different?
3. Use the real seed graph to share observations and conclusions about the number and comparisons of seeds. Write a number story about the seed graph.
4. Write a question to which the correct solution is the number of seeds of one kind. For example, if you have 11 lima bean seeds as the answer.
5. Which ones are true? Make two statements about the graph. Ask students to tell which one is true?

When planting seeds in the baggies, ask three questions:

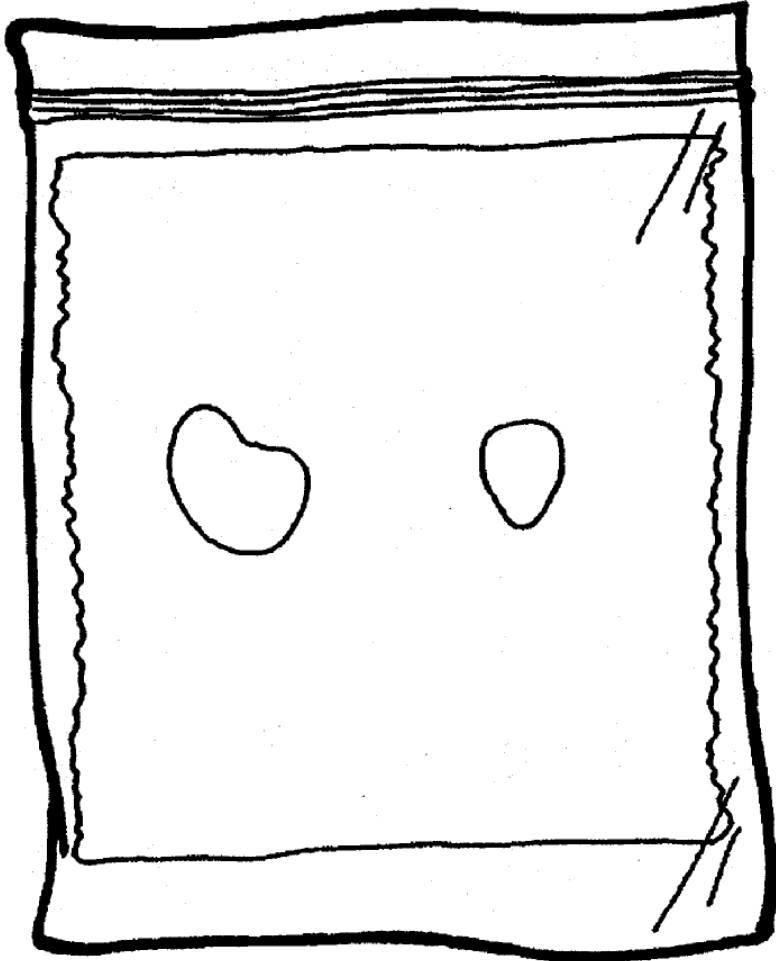
1. Which seed do you think will sprout first? Why?
2. Why is it unnecessary to add water to the closed baggie?
3. Describe how the seeds get water, light, and food in the bag.

Extended Activities

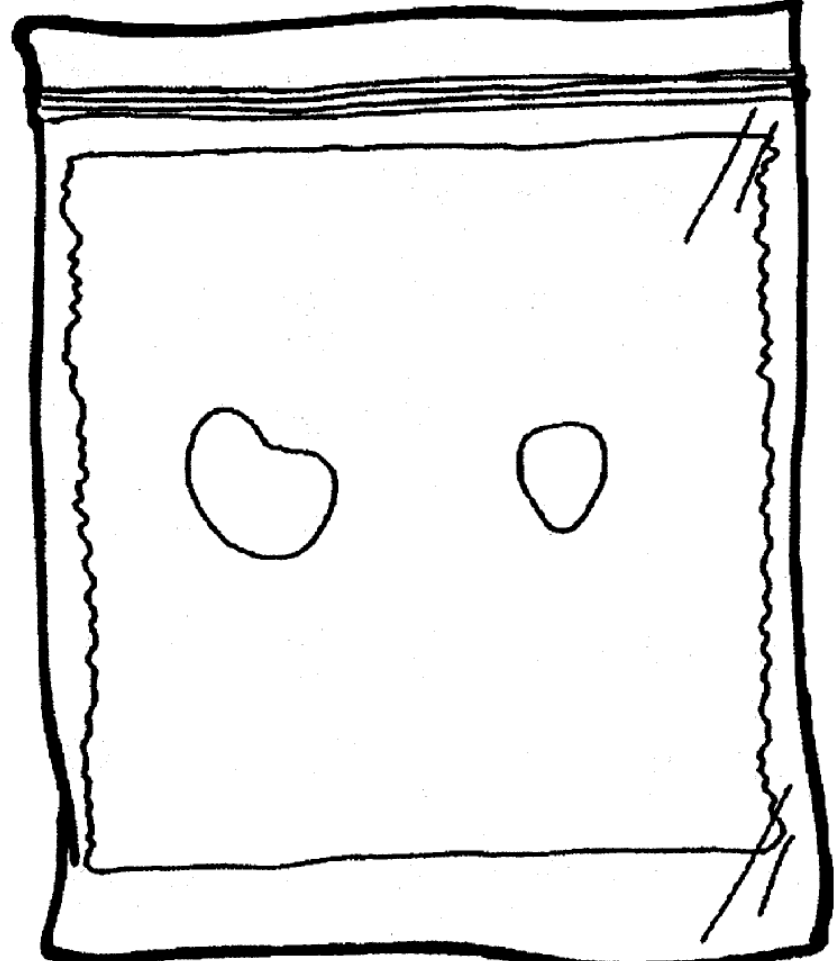
See "Make a Terrarium." Plant a seed or transplant your seedling to a plastic one or two liter bottle.

Plant a mini-garden in a Ziploc bag. Print several copies of this page. Cut on the solid lines and staple to make a record book. After the seeds begin to sprout, have children record the growth by drawing every other day. Children can predict which seed will sprout first and which one will grow the fastest. Lima beans and popcorn work well.

Day:



Day:



How My Seed Grows

Day:

Day:

Day:

Day:

Day:

10
9
8
7
6
5
4
3
2
1
0
1
2
3
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7
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9
10

Stem

Roots

10
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Stem

Roots

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Stem

Roots

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Stem

Roots

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Assessment
Grade 1

ORGANIZATION OF LIVING THINGS

Classroom Assessment Example SCI.III.2.E.5

(Explain functions of selected seed plant parts.)

Students will create a salad made of plant parts. They will incorporate each plant part in the salad. They will identify the part and the function of each part through pictures.

(Give students rubric before activity.)

Scoring of Classroom Assessment Example SCI.III.2.E.5

Criteria	Apprentice	Basic	Meets	Exceeds
Completeness of plant parts	Creates salad containing two or three plant parts.	Creates salad containing four or five plant parts.	Creates salad containing all plant parts.	Creates salad containing more than one of each of the plant parts.
Identification of plant parts	Identifies two or three plant parts.	Identifies four or five plant parts.	Identifies six plant parts.	Identifies six plant parts.
Functions of plant parts	Identifies a function of two or three plant parts.	Identifies a function of four or five plant parts.	Identifies a function of six plant parts.	Identifies more than one of the functions of the six plant parts.

Life Science Worksheet

GRADE LEVEL: First

Topic: Ecosystems

Grade Level Standard: 1-2 Explain ecosystems.

Grade Level Benchmark: 1. Identify familiar organisms as part of a food chain or food web and describe their feeding relationships within the web. (III.5.E.1)

Learning Activity(s)/Facts/Information	Resources
<p style="text-align: center;">Central Question: <i>How are parts of an ecosystem related —how do they interact?</i></p> <ol style="list-style-type: none">1. Basic Seeds' Needs ★2. Up and Down ★3. It's a Cover Up ★4. What Do Plants Need? ★5. Discuss the similarities between plants/animals/ people and their basic needs. <p>★Activity is attached</p>	
Process Skills: Observing, Comparing, Communicating	

New Vocabulary: producer, consumer, predator, prey, decomposer, habitat, community

BASIC SEED'S NEEDS

Taken From

A Taste of Science/The Magic House, St. Louis Children's Museum, a workshop funded in part by the Monsanto Fund.

Background

Plants need water and sunlight to grow — but they also need warmth. During the winter seeds do not sprout. They start to grow only when warm weather comes.

Materials

2 glass jars with lids
paper towels
lima bean seeds

Procedure

Line both jars with damp paper towels. In each jar put ten lima bean seeds between the glass and the paper. Cover the jars.

Place one jar in the refrigerator and one in a warm place for five days. Each day make observations about the seeds. Do the seeds in both jars sprout?

Extensions

In winter, place one jar in a sunny window inside and one in a sunny location outdoors. This is a more controlled experiment than above, since both jars would receive natural sunlight.

Science Process Skills: observing, comparing

UP AND DOWN

Taken From

A Taste of Science/The Magic House, St. Louis Children's Museum, a workshop funded in part by the Monsanto Fund.

Background

Stems grow upward and roots grow downward seeking sunlight and water. Even if something is in the way, they move around it.

Materials

lima bean seedling (from Basic Seeds' Needs)
paper towels
glass jar with lid

Procedure

After completing "Basic Seeds' Needs," add two tablespoons of water to the jar with the lima bean seedlings and allow them to grow until several centimeters long.

Turn the jar upside down. In several days observe the roots and stem. Are they still upside down? Turn the jar upright and observe in two more days. What has happened?

Extensions

Measure how much the seedlings grow. How long were they after two days? After four days? Chart their growth. Do they grow from the top or from the bottom? Mark a spot of the root and see what happens.

Science Process Skills: observing, predicting, measuring

IT'S A COVER-UP

Taken From

A Taste of Science/The Magic House, St. Louis Children's Museum, a workshop funded in part by the Monsanto Fund.

Background

Green plants need light from the sun to make their food. Without sunlight, green plants will die. Try this experiment to prove that green plants need light to survive.

Materials

grassy area
piece of cardboard or wood

Procedure

Lay a piece of cardboard, or wood, over a patch of grass. Leave it in place for one week. Each day have the students record observations in a log book about how the grass has changed in appearance. What color is the grass?

At the end of the week the grass will look yellow and unhealthy. How is it different from the rest of the grass?

After removing the cardboard, the grass will slowly recover. Continue to make daily log book entries. How long did it take before you could no longer tell where the cardboard had been?

Extensions

To conduct a similar experiment indoors, plant grass seed in two identical containers. When the grass is established, put a piece of cardboard over one. Continue to water both containers with the same amount of water. In one week, compare the grass in both containers. (You can use the trays of grass from in "Make a Mini-Green house.")

Science Process Skills: observing, communicating, measuring

OUR SCIENCE EXPERIENCE

OUR EXPERIMENT	WE PREDICT	WE OBSERVE	OUR CONCLUSION

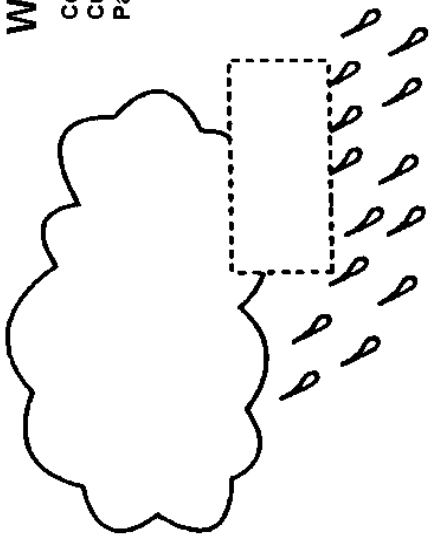
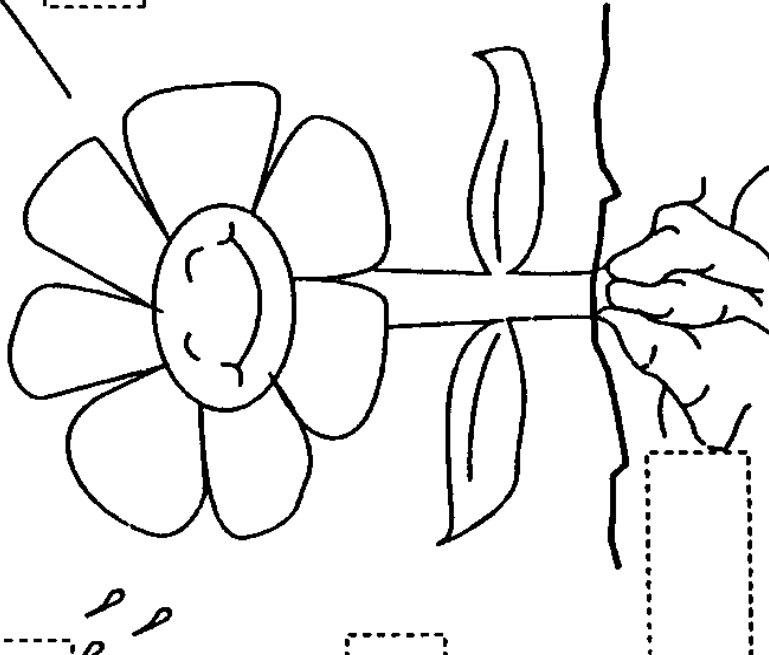
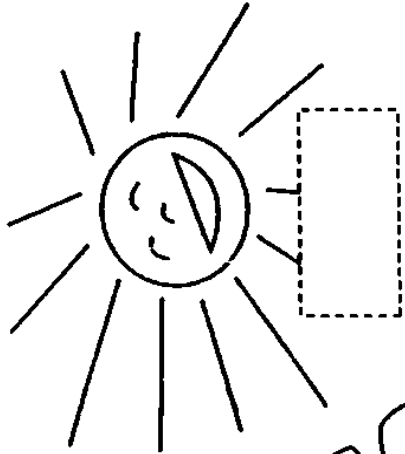
Name: _____

Date: _____

STUDENT ACTIVITY SHEET #3

What do plants need?

Color the picture.
Cut out the labels.
Paste the labels in the correct box.



- soil
- air
- water
- sun

Assessment
Grade 1

ECOSYSTEMS

Classroom Assessment Example SCI.III.5.E.1

(Identify familiar organisms as part of a food chain or food and describe their feeding relationships within the web.)

Students will create a food chain. They will place pictures of plants/animals in correct sequence (order).

(Give students rubric before activity.)

Scoring of Classroom Assessment Example SCI.III.5.E.1

Criteria	Apprentice	Basic	Meets	Exceeds
Completeness of food chain	Creates food chain using two organisms in correct order.	Creates food chain using three organisms in correct order.	Creates food chain using four organisms in correct order	Creates food chain using five or more organisms in correct order.