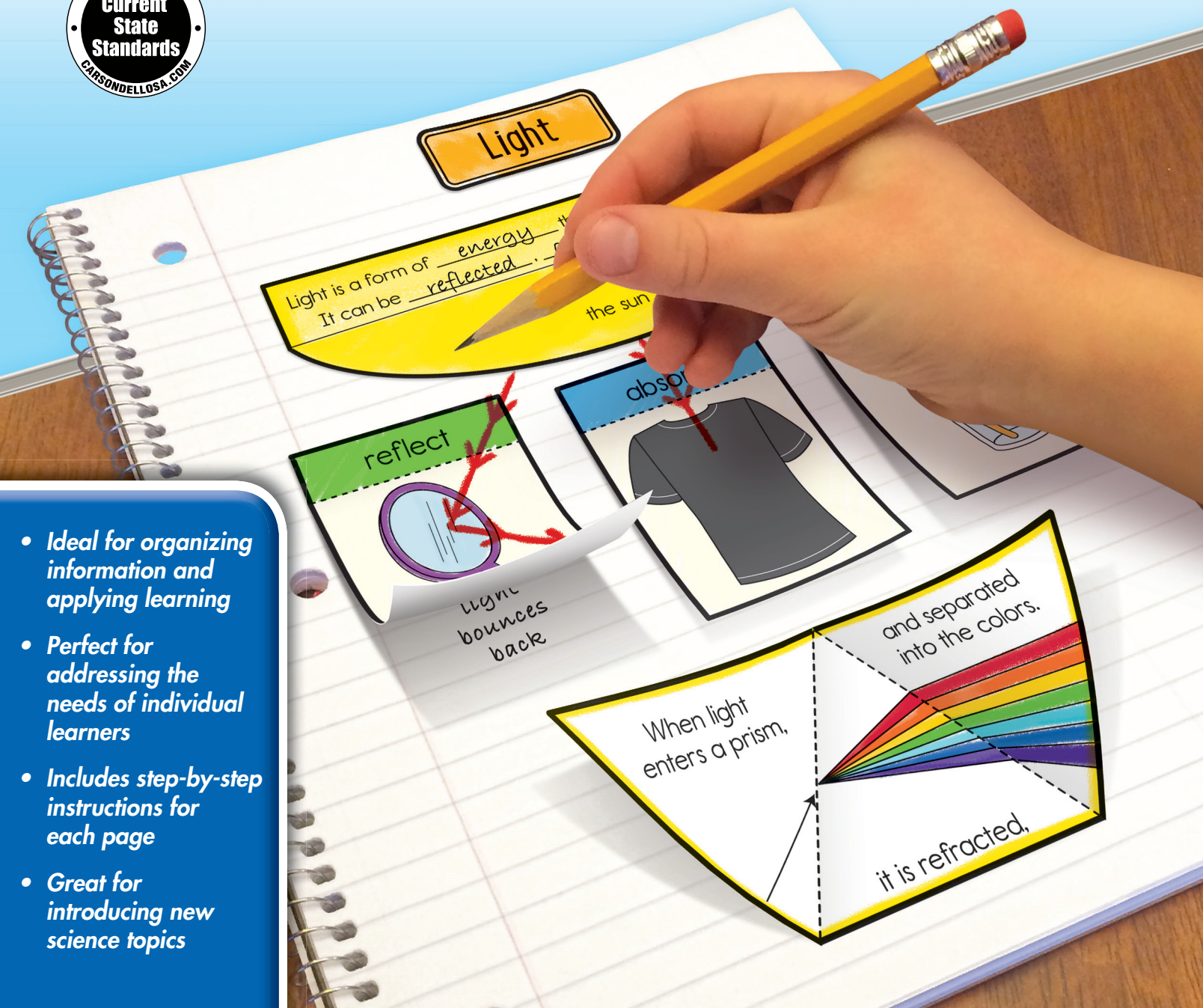
Carson Dellosa Education™
CD-104908

Interactive Notebooks

Grade 4

SCIENCE

CORRELATED TO Current State Standards CARSONDELLOSA.COM

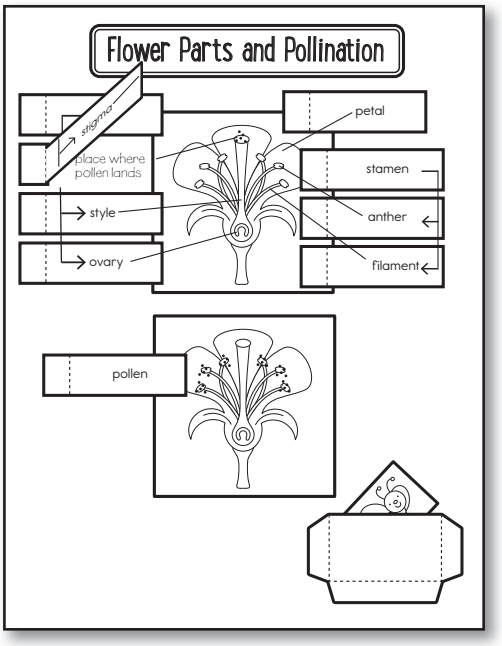


- *Ideal for organizing information and applying learning*
- *Perfect for addressing the needs of individual learners*
- *Includes step-by-step instructions for each page*
- *Great for introducing new science topics*

Flower Parts and Pollination

Introduction

Divide students into small groups to research and present information on different pollinators such as bees, butterflies, moths, hummingbirds, bats, lizards, and the wind.



Creating the Notebook Page

Guide students through the following steps to complete the right-hand page in their notebooks.

1. Add a Table of Contents entry for the Flower Parts and Pollination pages.
2. Cut out the title and glue it to the top of the page.
3. Cut out one flower and glue it below the title.
4. Cut out all of the flaps except for the *pollen* flap. Apply glue to the back of the left sections and attach the labels to the flower diagram to correctly label the flower. You may need to place the flaps near some parts of the flower and draw connecting lines.
5. Under each flap, describe what the flower part does.
6. Cut out the second flower picture and glue it below the first flower. Draw specks of pollen on all of the anthers in the second picture and the stigma of the first picture.
7. Cut out the *pollen* flap and glue it to the page.
8. Under the flap, describe how pollen moves from one flower to another.
9. Cut out the bee and use it to reenact pollination beside the pollen on the second flower.
10. Cut out the pocket. Apply glue to the back of the tabs and attach it to the bottom corner of the page. It may overlap the bottom flower piece slightly.
11. Store the bee in the pocket created in step 10.

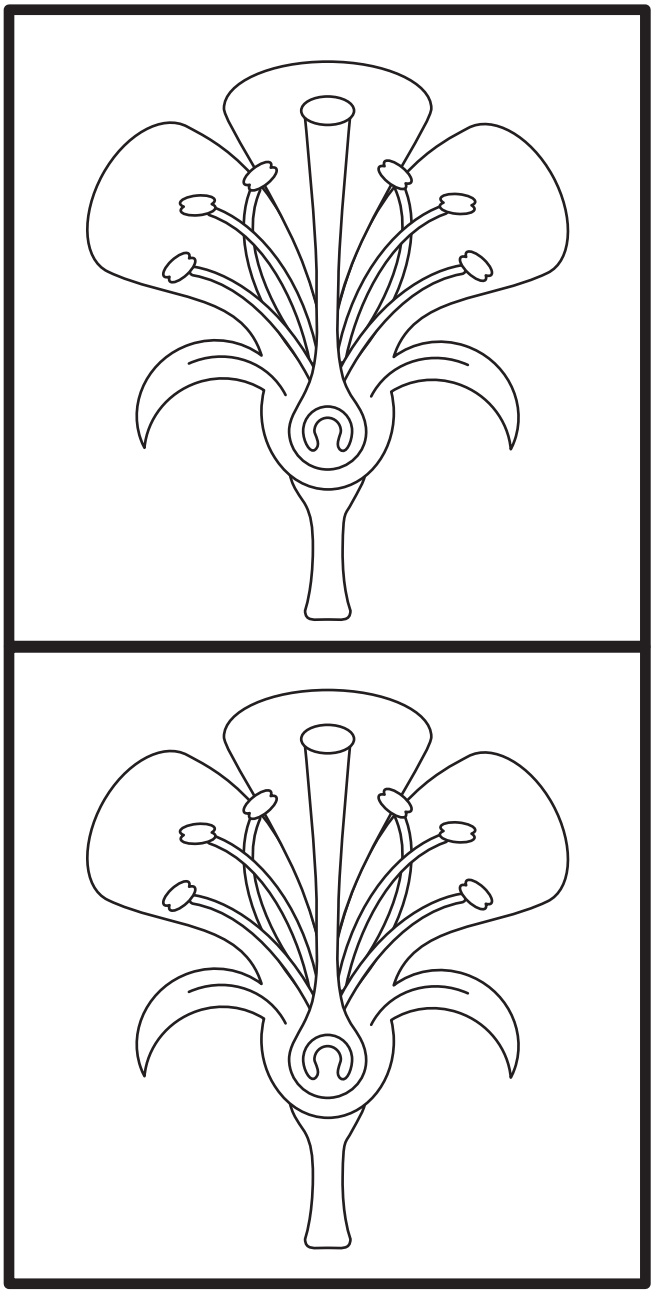
Reflect on Learning

To complete the left-hand page, have students write a short story from the point of view of a grain of pollen. Make sure that students explain the process of pollination from start to finish.

Answer Key

anther: produces pollen; filament: holds up the anther; ovary: location of ovules, it becomes fruit when it ripens; petal: the colorful part of the flower; pistil: the female part of the flower; pollen: made in the anther, used to fertilize an egg to make a seed; stamen: the male part of the flower; stigma: receives the pollen (for example, from an insect or wind); style: holds the stigma

Flower Parts and Pollination

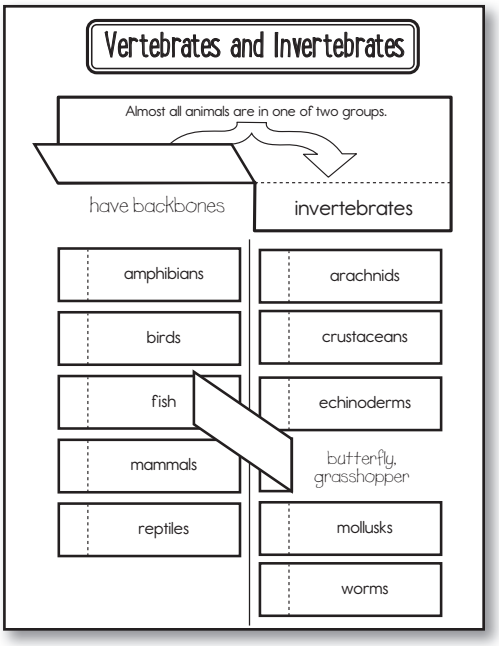


anther	filament	ovary
petal	pistil	style
stamen	stigma	pollen

Vertebrates and Invertebrates

Introduction

Distribute pictures of vertebrates and invertebrates to small groups of students. Have them sort them into two groups (vertebrates and invertebrates). Discuss the main difference between these two groups.



Creating the Notebook Page

Guide students through the following steps to complete the right-hand page in their notebooks.

1. Add a Table of Contents entry for the Vertebrates and Invertebrates pages.
2. Cut out the title and glue it to the top of the page.
3. Cut out the *Almost all animals* flap book. Cut on the solid line to create two flaps. Apply glue to the back of the top section and attach it below the title. Under the flaps, write what defines each category (vertebrates have backbones, invertebrates do not have backbones).
4. Draw a line down the center of the page to divide it in half vertically.
5. Cut out the remaining flaps. Apply glue to the back of the left sections and attach them below the correct category. Under each flap, write several examples of animals that fit in that category.

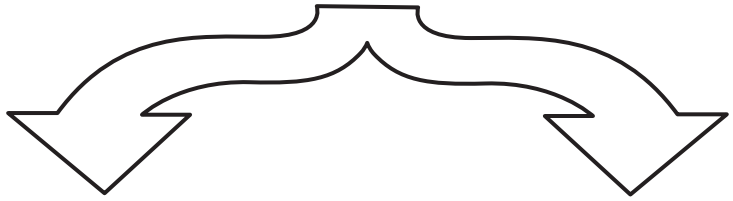
Reflect on Learning

To complete the left-hand page, write several animals on the board, such as *shark*, *gorilla*, *bee*, *crab*, and *tarantula*. Have students write which group and subcategory each animal belongs in and why.

Answer Key
Examples will vary.
Vertebrates
amphibians: frog, salamander, toad; birds: bluebird, eagle, seagull; fish: puffer fish, sea horse, shark; mammals: elephant, possum, tiger; reptiles: crocodile, snake, turtle
Invertebrates
arachnids: scorpion, spiders, ticks; crustaceans: crayfish, lobster, pill bug; echinoderms: sea cucumber, sea urchin, starfish; insects: butterfly, grasshopper, moth; mollusks: clam, octopus, snail; worms: earthworm, leech, tapeworm

Vertebrates and Invertebrates

Almost all animals are in one of two groups.

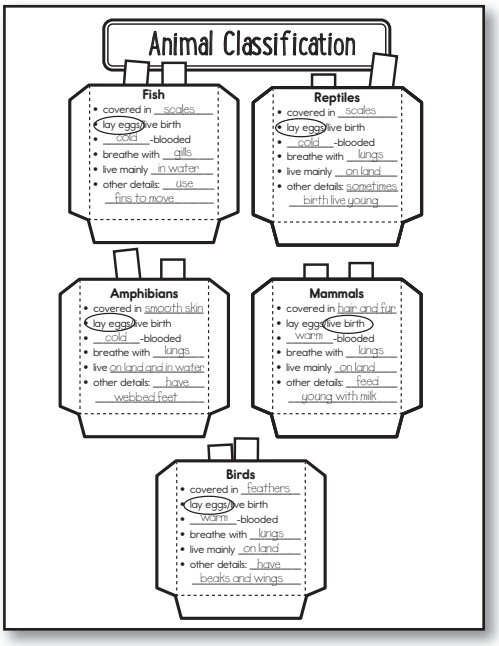


vertebrates	invertebrates
amphibians	insects
arachnids	mammals
birds	mollusks
crustaceans	reptiles
echinoderms	worms
fish	

Animal Classification

Introduction

Give each student an object from the classroom, such as a book, pencil, lunch box, etc. Review the definition of classification as an arrangement of objects, ideas, or information into groups where members have one or more characteristics in common. Then, have students choose broad characteristics that describe their items, such as used for writing, green, square, etc. Write six characteristics on the board and try to match each classroom item to a characteristic. Tweak the descriptions as needed.



Creating the Notebook Page

Guide students through the following steps to complete the right-hand page in their notebooks.

1. Add a Table of Contents entry for the Animal Classification pages.
2. Cut out the title and glue it to the top of the page.
3. Cut out the five animal classification pockets. Apply glue to the back of the tabs and attach them to the page.
4. Fill in the blanks on each pocket with the correct information. For the lay *eggs/live birth* line, circle the correct characteristic.
5. Cut out the word strips. Sort the animals into the correct pockets. (Cut up index cards to add more animals if desired.)

Reflect on Learning

To complete the left-hand page, have students create a new animal species. They should draw a picture of their animal, describe its physical and behavioral characteristics, describe its habitat, and create a name for it. Then, students should explain how their animal would be classified and why.

Answer Key

Fish: covered in scales, lay eggs, cold-blooded, breathe with gills, live mainly in water, another detail may include: there are both freshwater and saltwater species, (tuna, shark); Reptiles: covered in scales, lay eggs, cold-blooded, breathe with lungs, live mainly on land, another detail may include: some reptiles, such as snakes, can live on land or in the water, (lizard, crocodile); Amphibians: covered in smooth, moist skin, lay eggs, cold-blooded, breathe with lungs, live mainly on land, another detail may include: they often have webbed feet, (frog, salamander); Mammals: covered in hair or fur, live birth, warm-blooded, breathe with lungs, live mainly on land, another detail may include: mammals feed milk to their young, (dolphin, bear); Birds: covered in feathers, lay eggs, warm-blooded, breathe with lungs, live mainly in trees, another detail may include: birds have beaks and wings, (flamingo, penguin)

Animal Classification

Fish
- covered in _____
- lay eggs/live birth
- _____-blooded
- breathe with _____
- live mainly _____
- other details: _____
_____

Reptiles
- covered in _____
- lay eggs/live birth
- _____-blooded
- breathe with _____
- live mainly _____
- other details: _____
_____

Amphibians
- covered in _____
- lay eggs/live birth
- _____-blooded
- breathe with _____
- live _____
- other details: _____
_____

Mammals
- covered in _____
- lay eggs/live birth
- _____-blooded
- breathe with _____
- live mainly _____
- other details: _____
_____

Birds
- covered in _____
- lay eggs/live birth
- _____-blooded
- breathe with _____
- live mainly _____
- other details: _____
_____

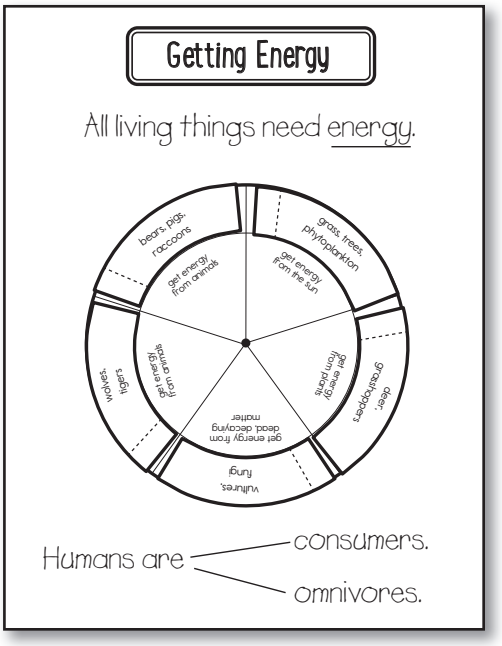
bear
crocodile
dolphin
flamingo
frog
lizard
penguin
salamander
shark
tuna

Getting Energy

Each student will need a brass paper fastener to complete this page.

Introduction

Ask students about their favorite restaurants and what they like to eat there. Divide students into small groups to list the people and places involved in getting their favorite foods to their plates. Compare and contrast this process to how wild animals get food.



Creating the Notebook Page

Guide students through the following steps to complete the right-hand page in their notebooks.

1. Add a Table of Contents entry for the Getting Energy pages.
2. Cut out the title and glue it to the top of the page.
3. Below the title, write a statement describing the relationship between organisms and energy.
4. Cut out both circles. Place the smallest circle on the bottom with the gray side down. Push a brass paper fastener through the center dots to connect the circles. It may be helpful to create the hole in each piece separately first. Apply glue to the gray glue section of the small circle and glue the piece below the title. The circle should spin freely. Do not press the brass paper fastener through the page.
5. Cut out the five flaps. Apply glue to the back of the left sections and attach them in the blank spaces around the outside of the circle, matching each flap to the correct description in the center of the circle.
6. Under each flap, write whether the organisms are *producers*, *consumers*, or *decomposers*. For the consumers, you may want to specify if they are herbivores, carnivores, or omnivores.
7. On the bottom of the page, describe how humans get energy and what category they fit in.

Reflect on Learning

To complete the left-hand page, have students give an example of each term: *producer, consumer, herbivore, carnivore, omnivore,* and *decomposer.*

Getting Energy

deer, grasshoppers

grass, trees, phytoplankton

wolves, tigers

vultures, fungi

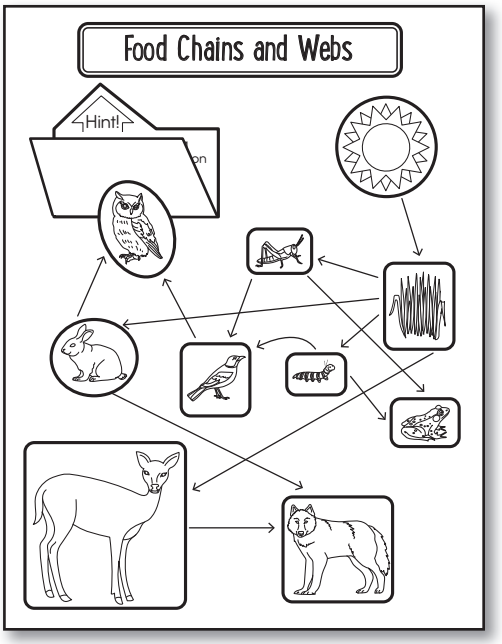
bears, pigs, raccoons

glue

Food Chains and Webs

Introduction

Discuss how all living things get energy from food. Green plants use energy from the sun to make their food. Plants use the food they make for energy to grow. Animals get energy by eating plants or other animals. Give students several strips of construction paper. Have them write the name of an animal and draw the animal on the first strip of paper. Then, each student should continue making a chain with the paper strips to demonstrate his animal's food chain. For example, if students draw a hawk on the first strip, they may draw a snake on the second strip, a bug on the third strip, grass on the fourth strip, and a sun on the last strip to complete the chain. Students should hook the chains together in the correct order to form their food chains.



Creating the Notebook Page

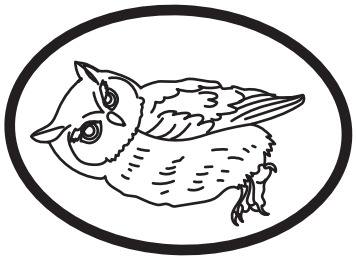
Guide students through the following steps to complete the right-hand page in their notebooks.

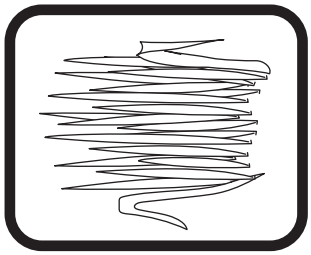
1. Add a Table of Contents entry for the Food Chains and Webs pages.
2. Cut out the title and glue it to the top of the page.
3. Cut out the *Hint* piece. Fold in on the dashed line. Apply glue to the back of the top half and attach it near the top of the page.
4. Discuss the energy flow of a food web or chain.
5. Cut out the sun and glue it to the page beside the *Hint* piece.
6. Cut out the plants and animals. Choose several of them that would make a complete food chain. Glue them in order and draw arrows between them to show the food chain. Then, continue adding plants and animals to create a food web. Draw arrows to show the energy flow through the web. You may not use all of the pieces.

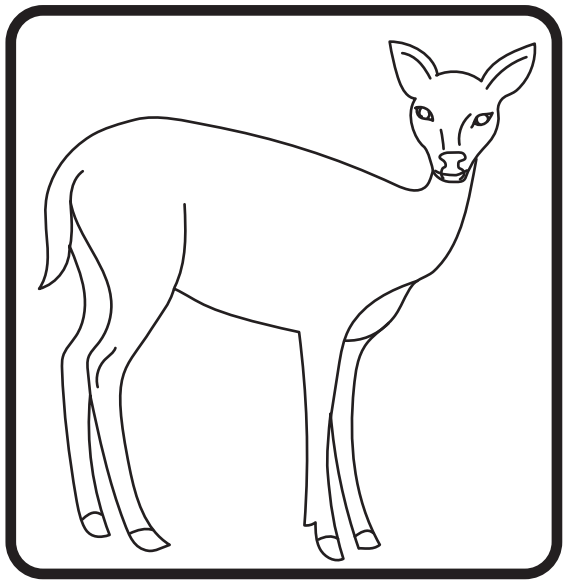
Reflect on Learning

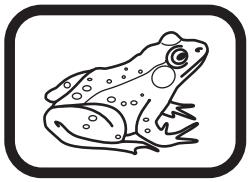
To complete the left-hand page, have students choose another ecosystem (forest, wetland, tundra, etc.) and make a food chain or food web using some of the plants and animals from that ecosystem. Students should use arrows to indicate the flow of energy.

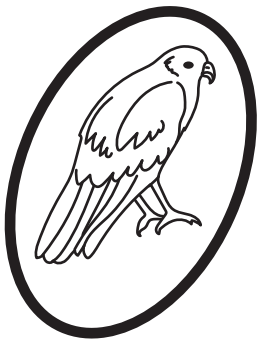
Food Chains and Webs

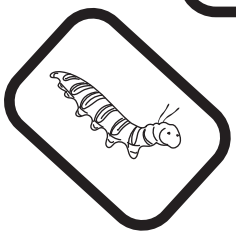


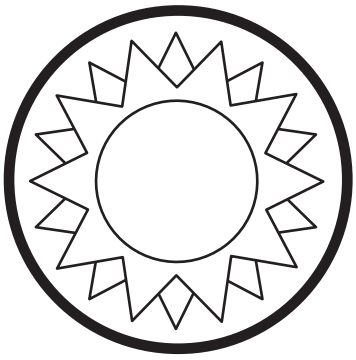


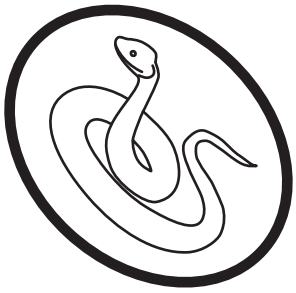


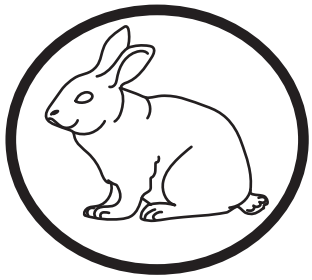


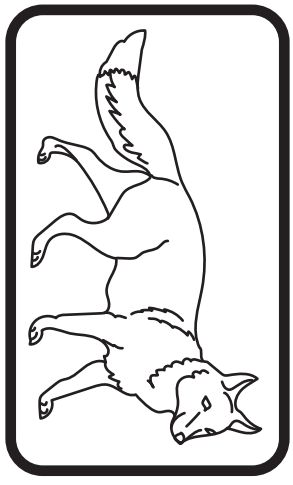


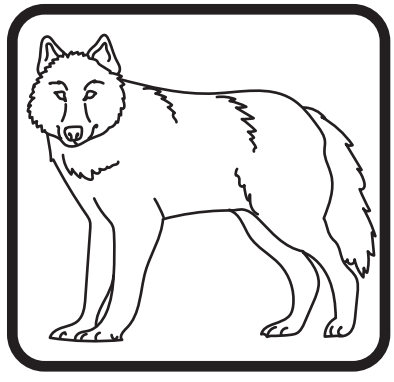












Hint!

In a food chain or a food web, the direction of the arrow always shows the direction that the energy flows.