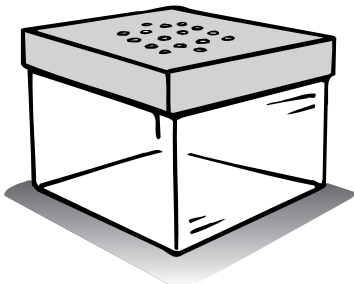


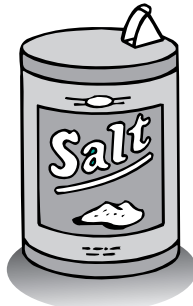
# Investigating Brine Shrimp

Brine shrimp can also be purchased at a local aquarium store.

## WHAT YOU NEED



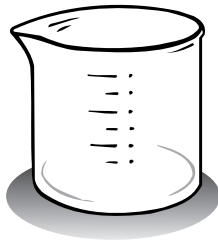
glass or plastic container that will hold at least 2 L of water



kosher or noniodized salt



brine shrimp eggs



500-mL beaker



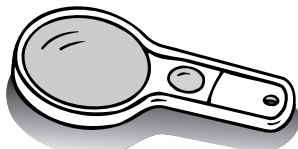
plastic spoon



water



dropper



hand lens

### Find Out

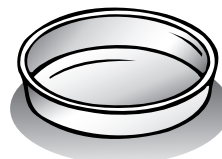
Do this activity to see how brine shrimp grow.

### Process Skills

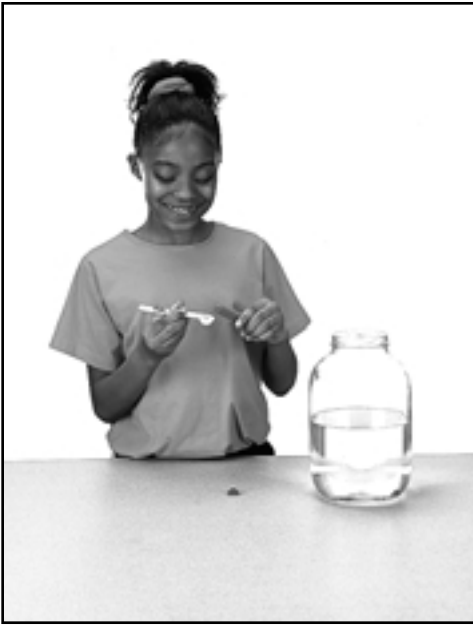
Measuring  
Predicting  
Observing  
Communicating

### Time

- 10 minutes the first day
- 20 minutes three days later
- 10 minutes every other day for two weeks



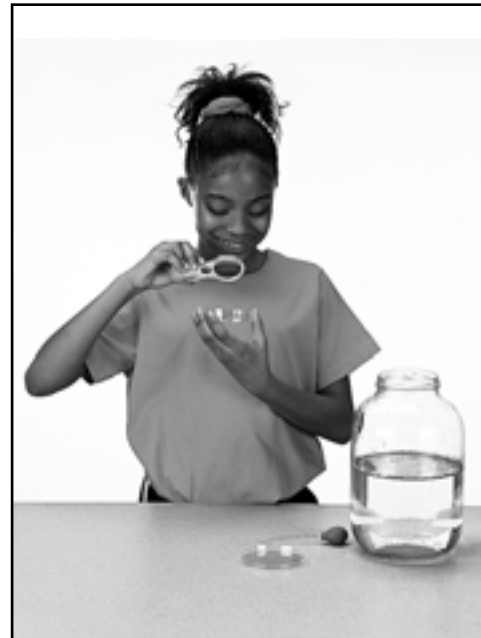
petri dish



## WHAT TO DO

1. **Measure** 2 L of water and put it into the container. Allow the water to sit for three days. Stir the water occasionally.
2. Dissolve 5 level spoonfuls of salt in the water. Add a half spoonful of brine shrimp eggs to the salt water. Place the container in a warm place.

3. After a day, use the dropper to remove a few eggs from the water. Put the water and eggs on a petri dish, and use the hand lens to **observe** them closely. **Record** the day and a description of the eggs on your chart.
4. **Predict** how the eggs will change.
5. **Observe** a drop of water two days later to see how the eggs changed. **Record** the changes on the chart.
6. Continue to **observe** and **draw** a picture of your observations every other day for two weeks.



**Prediction:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

| <b>Investigating Brine Shrimp</b> |                             |
|-----------------------------------|-----------------------------|
| <b>Time</b>                       | <b>Observations</b>         |
| <b>Week 1 Day 1</b>               | Student drawings will vary. |
| <b>Day 3</b>                      |                             |
| <b>Day 5</b>                      |                             |
| <b>Week 2 Day 1</b>               |                             |
| <b>Day 3</b>                      |                             |
| <b>Day 5</b>                      |                             |

# Conclusions

**1. When did the eggs hatch?**

The eggs hatched after about two days.

**2. How did the brine shrimp change after they hatched?**

The shrimp grew over two to three weeks.

# New Questions

**1. What other animals hatch from eggs like brine shrimp?**

Accept any reasonable answers. Most fish and many amphibians hatch from eggs underwater; birds, insects, and many reptiles hatch from eggs on land.

**2. Write a new question you have about how brine shrimp grow.**

Accept any reasonable questions, and help the students find the answers.



Name \_\_\_\_\_



# ACTIVITY

## Comparing Animal Life Cycles

Use these questions to help you organize the information you find about your animal. Add your own questions as you think of them.

Answers will vary throughout depending on the group and its choice of animals.

What animal did your group choose?

What are the stages of the animal's life cycle?

How long does each stage last?

How long does the average animal live?

How do the adult animals interact with their young?

Add your own questions.

- 
-

Name \_\_\_\_\_

## **Conclusions**

- 1** How is your animal different from the other animals chosen by your classmates?  
Answers will vary.

- 2** Compare your animal's average life span with the others. Is it shorter or longer than the others?  
Students should say which animals have longer and shorter life spans.

- 3** How does your animal's size compare with the size of the other animals?  
Answers will vary.

## **Asking New Questions**

- 1** Do you think the size of an animal and its life span are related? Explain.  
Answers will vary; explanation should be logical.

- 2** What are some animals that have a life cycle similar to your group's animal?  
Answers will vary, but should exhibit an understanding of a life cycle.

Name \_\_\_\_\_



# ACTIVITY

## Observing Transpiration

What do you **predict** will happen to the plant leaves?

Answers will vary.

What did you **observe** about the bag and the plant? **Draw** or **write** what you discovered.

Answers will vary. Moisture should appear in the bag.

## **Activity Journal**

### **Lesson 2 • Carbon and Water Cycles**

Name \_\_\_\_\_

## **Conclusions**

**1** What happened in the bag?  
moisture formed

**2** Why did this happen?  
It is the result of transpiration.

## **Asking New Questions**

**1** **Predict** what would happen to the plant leaves if you kept the plastic bag on the stem.  
Answers will vary.

**2** **Predict** what would happen if you moved the plant into a dark area.  
Answers will vary. Moisture likely would not form because light is necessary for transpiration to occur.

**3** **Design investigations** to test your predictions.  
Encourage student designs to test their predictions.





# ACTIVITY

## Food Webs

Write consumer or producer next to each of these.

**Plants** producer

grass

**Herbivores** consumer

rabbits

**Predators** consumer

wolf

**Omnivores** consumer

humans

**Scavengers** consumer

turkey vulture

**Decomposers** consumer

mushrooms

Give one example for each of the above: for example, a wolf is a predator.      Answers will vary.

Name \_\_\_\_\_

## Conclusions

- ① What happened to the food web when some of the cards were removed?  
Answers will vary. A possibility is that the cards attached to the ones removed were no longer connected to the food web.

- ② What would happen in nature if one of the animal cards were not attached to a food card?  
Answers will vary. The animal might move to a new location or it would die.

## Asking New Questions

- ① What organisms do you depend on in your food web?  
Answers will vary but should include plants and animals consumed recently.

- ② What would happen to your web if the orange sun circle were not there?  
There would be no energy for any living things.