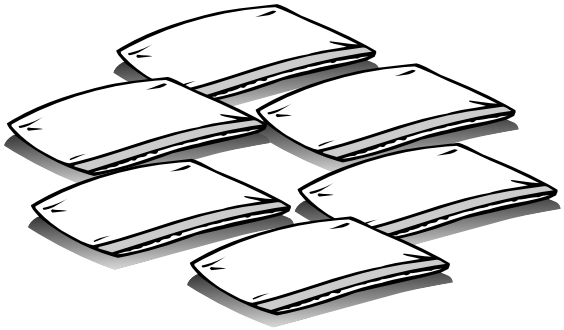
Chapter Science Investigation Name _____

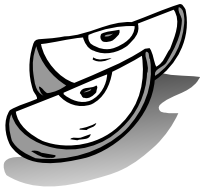
Observing Decomposers

What You Need

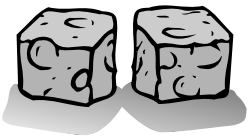


six resealable plastic bags

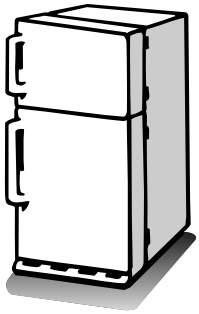
water



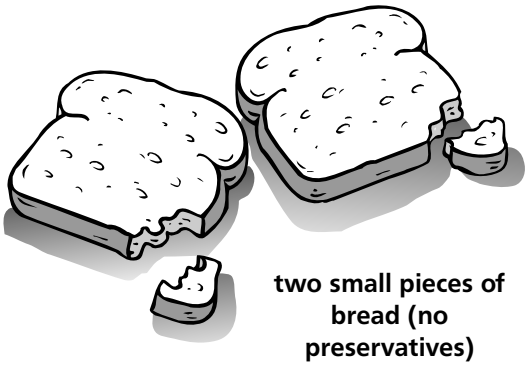
two small pieces of apple



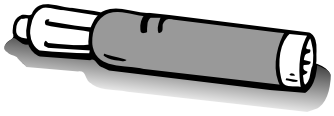
two small pieces of cheese



refrigerator

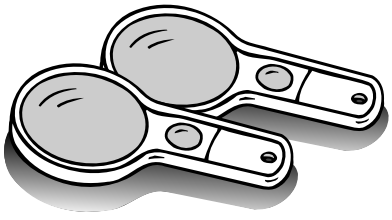


two small pieces of bread (no preservatives)



marker

dropper



two hand lenses

Find Out

Do this activity to illustrate how nonliving factors affect the work of decomposers.

Process Skills

Observing
Hypothesizing
Controlling Variables
Inferring
Experimenting

Time

- 40 minutes the first day
- 10 minutes every other day for two weeks

What to Do

1. Work with a partner. Fill the dropper with water and moisten each food sample. Wait five minutes.

2. **Observe** each sample. **Record** your observations.

3. Label three bags "W" for warm, and three bags "C" for cold.

4. Place one of each food sample in the plastic bags labeled "W" and one of each in the bags labeled "C." Seal the bags.

5. Put the "W" bags in a warm, dark place. Put the three "C" bags in a refrigerator. **Write a hypothesis** about how temperature can affect the growth of molds. **Record** your hypothesis.

Do not open the bags.

6. **Observe** the bags every other day for the next two weeks. Do not open the bags, but use a hand lens to examine the food inside each bag. **Record** your observations.

Hypothesis: _____

_____

_____

Observing Food Decomposers						
	In a Warm, Dark Place			In Refrigerator		
Time	Apple	Cheese	Bread	Apple	Cheese	Bread
Week 1						
Day 1						
Day 3						
Day 5						
Week 2						
Day 1						
Day 3						
Day 5						

Conclusions

1. How did the food samples change?

2. On which food did you observe the decomposers first?

3. Why do you think that happened?

New Questions

1. How can people try to stop the growth of decomposers in their food?

2. Cooking food can kill decomposers. Why do you think this happens?

Name _____

ACTIVITY

Influencing an Ecosystem

Write your **hypothesis** about what will happen to each plant.

After three days, what did you **observe** about the two plants?
Draw or **write** what you observed.

Plant in Salt Water

Plant in Tap Water

Name _____

Conclusions

1. Compare your hypothesis with your observations.

2. What can you infer about the plant placed in salt water?

3. Why did the two plants react differently?

Asking New Questions

1. **Predict** how salt might affect other plants. Test your prediction.

2. Can farmers use ocean water to water their crops? Why or why not?

Name _____

ACTIVITY

Decomposers

What happened to the contents of each bag? **Draw** or **record** your observations in the chart. **Compare** your recordings with the other groups.

Bag 1

Bag 2

Bag 3

Bag 4

Name _____

Conclusions

1. What happened to the bananas in each bag?

2. Why are the bananas in each bag reacting differently?

Asking New Questions

1. **Predict** how the bananas and yeast would react in the dark or in the cold. **Design an investigation** to test your prediction.

2. Why do you think bakers use yeast when baking bread?

Name _____

ACTIVITY

Adding to Ecosystems

Write your **hypothesis** about what the worms will do.

What did you **observe** each day? **Record** your observations in the chart.

Day	Observations
2	
4	

Name _____

Conclusions

1. Compare your **hypothesis** and your observations.

2. Where did the worms go in the jar? Why?

3. How are the worms changing the soil?

Asking New Questions

1. Why are worms valuable for farmers?

2. How can earthworms help to change a vacant lot in the city?

3. Write another question you have about earthworm behavior. **Design an investigation** to find an answer to your question.