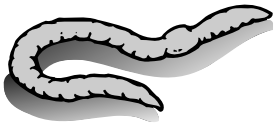
Chapter Science Investigation Name _____

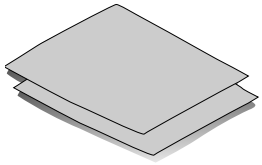
Decomposing Materials in Ecosystems

What You Need



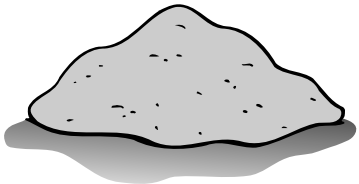
1 earthworm

4 apple slices

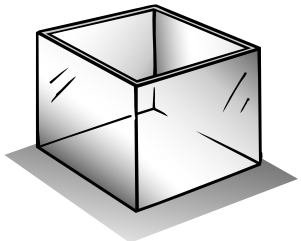


2 small pieces of brown paper

2 small pieces of clear plastic wrap



enough soil to fill the container 3/4 full



1 clear plastic container, shoe-box size

Find Out

Do this activity to see how decomposition of a plant part might affect an ecosystem.

Process Skills

Constructing Models
Classifying
Predicting
Observing
Communicating

Time

- 40 minutes the first day
- 30 minutes one week later
- 30 minutes two weeks later

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What to Do

1. With two partners, **construct a model** ecosystem for an earthworm.
2. Place soil in the container.
3. Wrap two small slices of apple in two separate pieces of brown paper. Wrap two small slices of apple in two separate pieces of plastic wrap.
4. Bury the paper-wrapped apples and plastic-wrapped apples in the soil at least 12 cm apart, making sure they are visible through the side and/or bottom of the container walls.
5. Identify variables in the experiment and **predict** what will happen to the apples.
6. **Predict** what the apples will look like after a 7-day period and then after a 14-day period. Keep the soil moist throughout the experiment, but not soggy. If there is too much water, tip the container gently to the side and drain.
7. Place an earthworm on the moist soil. **Observe** its movement and parts—the segments, head, and tail.
8. **Observe** the earthworm's movements as it creates a burrow and moves into the soil. **Record** all observations of this habitat.

Safety! ***Wash your hands after working with soil or worms.***

9. After seven days, **observe** and **record** changes in the earthworm's habitat, including the two sections of apples. **Record** any changes in the habitat (apples, earthworm burrows, and so on).
10. **Observe** and **record** changes in the habitat after 14 days. Then, gently remove the soil, a little at a time, and take out the earthworm.
11. **Observe** the two groups of wrapped apples and **record** your observations.

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Daily Observations of an Ecosystem	
First Day	
Notes:	**Observations:**
After 7 Days	
Prediction:	**Observations:**
After 14 Days	
Prediction:	**Observations:**

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Conclusions

1. Were your predictions correct?

2. Which apple pieces decayed naturally and became part of the soil?

3. Which materials, placed in the ground, will not decompose quickly?

4. Did the earthworm affect the decomposition of the apples?

New Questions

1. How are the soil and the apples important to the earthworm's survival?

2. In nature, what other animals might be affected by the changes in the earthworm's habitat?

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ACTIVITY

Sampling Soil

What do you think you will find out about the soil in sample A and sample B?

What did you **observe** about the soil in sample A? **Draw** or **record** in the chart what you saw.

	What I Saw	Color	How It Felt
Sample A			
Sample B			

What did you **observe** about the soil from sample B? **Draw** or **record** in the chart what you saw.

Do you think soil from another part of the country would look like the soils you just observed?

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Conclusions

1. How were the soil samples different?

2. What is soil made of?

3. Did you see any plant or animal matter in either of your soil samples?

Asking New Questions

1. What else can you learn about soil on the Internet or in the library?

2. Check out one of the sources you found in question 1. List three new things you learned about soil with your source.

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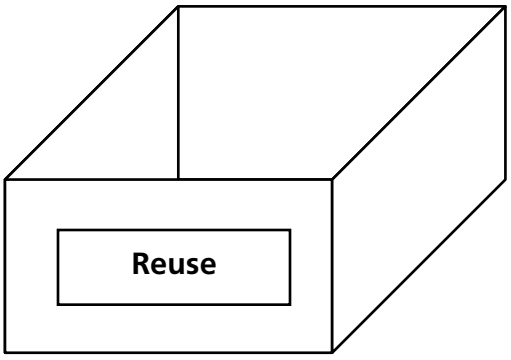
ACTIVITY

Recycling Paper

At the end of the day, did you have more paper in the *Reuse* box or in the *All Used Up* box?

Which box do you **predict** will have more paper at the end of the week?

How many sheets of paper were in each box after one week? **Write** the number on the line below each box.



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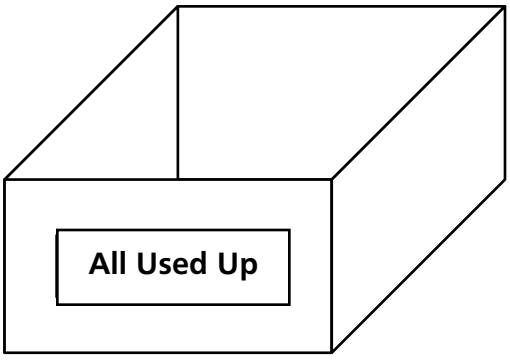

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Conclusions

1. At the end of the week, see if your prediction was correct.

2. What natural resource have you conserved?

3. How much paper might be saved in one school year?

Asking New Questions

1. Are there other things you can do in your classroom to conserve resources like trees?

2. How might you find out about the recycling habits of schoolmates or neighbors?

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