

Matter's Pond Trip

Trace matter through a pond ecosystem.

5-LS2-1 "Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. Clarification Statement: Emphasis is on the idea that matter that is not food (air, water...)"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each phrase that tells where matter moves or changes. Circle each plant, animal, decomposer, and part of the environment named, so you can trace the system.

A Pond Matter System

- ① At the edge of a pond, a bean plant takes in water from the soil and carbon dioxide from the air. Using sunlight, the plant changes these materials into food matter that becomes part of its leaves, stems, and beans. The plant also releases oxygen into the air. The bean plant is a starting point for matter moving through this small ecosystem.
- ② A rabbit eats the bean plant. Some of the plant matter becomes part of the rabbit's body as it grows. Later, a fox eats the rabbit, so some matter moves from the rabbit to the fox. Animals also return matter to the environment when they breathe out carbon dioxide and leave wastes. Matter can move in several directions, not only along a food chain.
- ③ When dead leaves, rabbit waste, or a dead fox reach the ground, decomposers such as fungi and bacteria use them for food. As decomposers break down these materials, decomposed matter becomes part of the soil. The bean plant can take in materials from the soil along with water. This return path shows that matter is reused, even though each organism changes it.

2 ANSWER WITH EVIDENCE Use the passage

1 What two materials does the bean plant take from the environment to make food matter?

2 Write the path of matter from the bean plant to the fox.

3 What are two ways animals return matter to the environment?

4 Use arrows to show one return path that moves matter from dead material back to the bean plant.

3 YOUR TURN Your own words

Draw a labeled arrow model for a garden with grass, a caterpillar, a robin, a mushroom decomposer, air, water, and soil. Include at least six arrows that show matter moving, including a path in which the grass changes air and water materials into food matter.

PART 1 • READ AND MARK

Underline each phrase that tells where matter moves or changes. Circle each plant, animal, decomposer, and part of the environment named, so you can trace the system. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What two materials does the bean plant take from the environment to make food matter?	Water from the soil and carbon dioxide from the air.
2	Write the path of matter from the bean plant to the fox.	Bean plant → rabbit → fox.
3	What are two ways animals return matter to the environment?	They breathe out carbon dioxide and leave wastes.
4	Use arrows to show one return path that moves matter from dead material back to the bean plant.	Dead leaves, waste, or a dead fox → decomposers → soil → bean plant.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Carbon dioxide in air + water in soil → grass food matter Grass food matter → caterpillar Caterpillar matter → robin
Fallen grass, waste, and a dead robin → mushroom decomposer Materials broken down by the mushroom → soil
Soil materials + water → grass

Accept models with accurate arrows showing matter from air and water into a plant, from plant to animal, and from dead material or waste through a decomposer to soil. The model may use different garden organisms if it includes a plant, animal, decomposer, and environmental materials.