

Energy Pathways

Compare how plant and animal structures help them obtain energy.

4.2.b “plants and animals have different structures and processes for obtaining energy; and”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline words that tell how the sunflower obtains energy. Circle words that tell how the rabbit obtains energy.

Sunflower and Rabbit

- ① At sunrise, a sunflower begins its daily food-making work. Its broad green leaves catch sunlight. Inside leaf cells, chlorophyll uses the light energy to help combine water from the roots with carbon dioxide from the air. This process makes sugar, a food the plant can use for energy and growth. Oxygen leaves the plant through tiny openings in its leaves.
- ② A cottontail rabbit cannot make sugar from sunlight. It gets energy by eating plants, such as grass and clover. Its sharp front teeth clip pieces of plant food, and its flat back teeth grind them. After swallowing, the rabbit's digestive system breaks the food into smaller parts. The rabbit's cells use energy from those food parts to run, stay warm, and grow.
- ③ Both organisms need energy to live, but they obtain it in different ways. The sunflower has roots and leaves that supply materials for making its own food. The rabbit has teeth and a digestive system that help it take in and break down food. Sunlight is the sunflower's energy source. Food is the rabbit's energy source, even though that food may have come from plants.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What two sunflower structures help it make food, and what does each structure provide?

2 How do the rabbit's teeth and digestive system help it obtain energy from plants?

3 Compare the energy source of the sunflower with the energy source of the rabbit.

4 Why can the rabbit not obtain energy from sunlight in the same way as the sunflower?

3 YOUR TURN _____ Your own words

Choose a plant and an animal that are not named in the passage. Write three sentences that explain how each one obtains energy, including at least one helpful structure for each organism.

PART 1 • READ AND MARK

Underline words that tell how the sunflower obtains energy. Circle words that tell how the rabbit obtains energy. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What two sunflower structures help it make food, and what does each structure provide?	Roots provide water. Leaves catch sunlight and take in carbon dioxide for making sugar.
2	How do the rabbit's teeth and digestive system help it obtain energy from plants?	Its front teeth clip plant food, its back teeth grind it, and its digestive system breaks it into smaller parts.
3	Compare the energy source of the sunflower with the energy source of the rabbit.	The sunflower uses sunlight to make sugar. The rabbit gets energy from food it eats.
4	Why can the rabbit not obtain energy from sunlight in the same way as the sunflower?	The rabbit cannot make sugar from sunlight. It must eat food to get energy.

PART 3 • YOUR TURN (SAMPLE ANSWER)

A maple tree uses its roots to take in water and its leaves to catch sunlight and take in carbon dioxide. In its leaves, chlorophyll helps make sugar for energy and growth. A deer uses its teeth to eat plants, and its digestive system breaks the food into parts that provide energy.

Accept equivalent descriptions of plant food making that include sunlight and plant structures such as leaves and roots. For animals, accept structures and processes that help the animal eat and digest food, as long as the response clearly states that food provides energy.