

Teacher Notes & Answer Key: What Do Plants and Animals Do With Energy?

Scientists estimate the daily dose of energy from the sun contains about 10^{22} Joules of energy! About 1% of this energy gets captured during photosynthesis and makes its way from producers to primary consumers to secondary consumers, and so on. Have you ever thought about what all this energy is used for?

Objective: The objective of this activity is to consider how plants and animals use energy.

Instructions: Work in small groups. Think about all the way in which plants and animals use energy, both at the level of the cell and the level of the whole organism. Jot your ideas down in the chart below and decide whether plants or animals are the biggest energy users.

<p style="text-align: center;">Plants make glucose during photosynthesis. They convert some of their glucose to ATP so they can use it for activities such as:</p>	<p style="text-align: center;">Animals, including humans, convert glucose, obtained from food, into ATP. ATP is used for:</p>
<p>All activity in living things requires energy. Student answers will vary, but here are some key uses of energy in plants:</p> <ul style="list-style-type: none"> • Making pollen for reproduction • Repairing damage to leaves and stalks • Pulling nutrients from the soil into roots 	<p>Animals use more energy than plants because of muscular movement. Also, many animals need to keep their bodies warm. Student answers will vary, but here are some key uses of energy in animals:</p> <ul style="list-style-type: none"> • Dividing cells for growth and repair • Moving muscles • Making nerves fire • Generating heat