

1.7 Energy in Ecosystems

Questions

How I Am Being Assessed

Understanding Concepts

1. How is sunlight important for an ecosystem?

2. In your own words, explain what is meant by the term "trophic level."

3. What type of food would be consumed by a primary consumer? What type would be consumed by a secondary consumer?

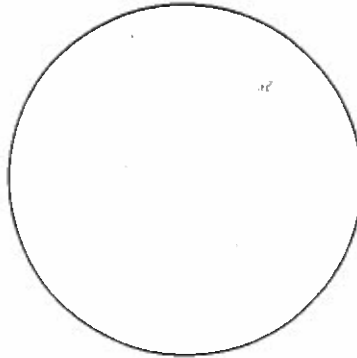
4. Using diagrams to illustrate, distinguish between a food chain and a food web.

5. Explain why an Arctic ecosystem would be at a higher risk of imbalance than a tropical rain forest.

6. Explain how humans have changed the energy flow in ecosystems over the past 12 000 years.

Applying Inquiry Skills

7. Make a pie graph showing what happens to the energy from the Sun that reaches Earth's atmosphere. Label each piece of the pie.



8. Table 1 provides data collected following the eruption of four volcanoes. The average summer temperature declined following each eruption.

Table 1: Volcanoes and Lower Temperatures

Volcano	Year of eruption	Period of low average temperature
Mt. Asama (Japan)	1783	1784–91
Mt. Tamboro (Indonesia)	1815	1816–20
Mt. Krakatoa (Indonesia)	1883	1884–90
Mt. St. Helens (United States)	1980	1981–82

- (a) Suggest an explanation for why the temperatures became lower following the eruptions.

- (b) Predict which was the largest eruption. Explain your prediction.

Making Connections

9. Predict what might happen to the amount of energy reaching Earth from the Sun if too many greenhouse gases are released into the atmosphere.
