

A lush, prehistoric forest scene with tall, slender trees and dense green ferns. Sunlight filters through the canopy, creating a misty atmosphere. A large, fallen log lies on the forest floor. A small, white, winged creature is visible in the distance on the right.

FOSSIL FUELS

SOURCES OF ENERGY ON EARTH

- A volcano spews hot lava during an eruption.

Where did the heat come from?

- The energy that powers a volcano is called geothermal energy.
- Most of the geothermal energy comes from radioactivity in the Earth's core.
 - Temperatures at the core can exceed $5,000^{\circ}\text{C}$.
 - The heat is conducted to the rock above, which melts.
 - Convection carries the hot magma upward.
- **Radioactivity** is one of the major sources of energy on Earth.

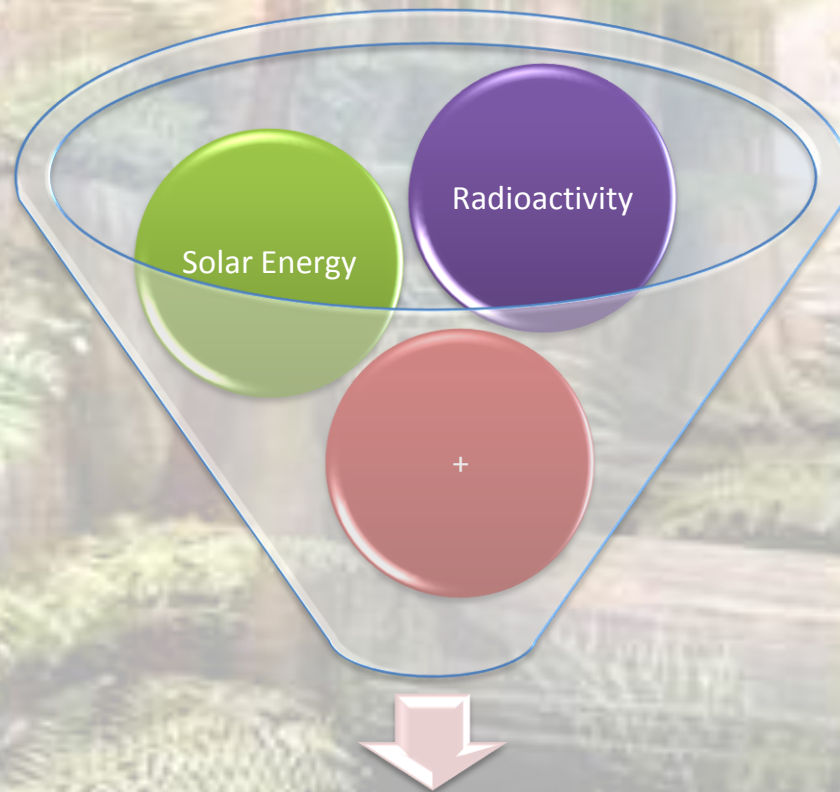


OTHER SOURCES OF ENERGY ON EARTH

- The sun shines, warming the Earth.
- Plants bask in the sun, capturing sunlight energy and making food by photosynthesis.
- Animals get energy and raw materials for synthesis by eating plants.
- Living things die and decompose leaving their captured solar energy in the soil.
- **Solar energy** is the second major source of energy on Earth.



SUMMARY: SOURCES OF ENERGY ON EARTH



All the Energy on Earth

FORMATION OF FOSSIL FUELS

- Solar energy is captured by plants and passed through the food chain.
- Solar energy is returned to earth when living things die and decay.
- The energy is trapped in fossils that form from the remains of ancient plants and animals.
- Plant oils and carbohydrates slowly turn to fossil fuels under the influence of heat and pressure over long periods of time.



ECOLOGY OF FOSSIL FUELS

- Fossil fuels are considered a nonrenewable resource because they are used much faster than they can be made.
- Burning fossil fuels causes pollution and contributes to global warming.



EXAMPLES OF FOSSIL FUELS



Coal

Oil (Petroleum)

Natural gas