

Name :



Energy and Electricity

Energy is the ability to make things move, change, or work. Everything that happens around us needs energy – from the movement of cars and the growth of plants to our own ability to think and play. There are many forms of energy, including light, heat, sound, and electrical energy. Energy can be transferred (moved from one place to another) or transformed (changed from one type to another). For example, a light bulb transforms electrical energy into light and heat.

Light energy comes from sources such as the Sun, fire, or light bulbs. The Sun is Earth’s main source of energy. Light allows us to see and helps plants grow through photosynthesis. When light hits objects, it can be reflected, absorbed, or pass through them. That’s why mirrors reflect light, dark objects absorb it, and glass lets it pass through.

Heat energy, also known as thermal energy, is produced when particles move faster. The more they move, the hotter something becomes. Heat can travel in three ways – conduction, when heat moves through solids (like a metal spoon in hot soup), convection, when heat moves through liquids or gases, and radiation, which travels through space, like the warmth we feel from the Sun.

Sound energy is produced by vibrations. When something vibrates, it makes the air around it move in waves that our ears can hear. For example, a guitar string or a bell vibrates to make sound. Sound travels faster through solids than gases because the particles are closer together.

Electrical energy is one of the most useful forms of energy in our daily lives. It powers our homes, schools, and devices. Electricity flows through circuits, which are closed paths that allow electric current to move. A simple circuit has a power source (like a battery), wires, and a device (like a bulb). If the circuit is open, electricity cannot flow, and the device will not work.

We can save energy by turning off lights when not in use, using energy-efficient devices, and relying on renewable sources like solar and wind power. Saving energy helps the environment and ensures that future generations will have enough resources.

Comprehension Questions:

1-What is energy, and what are some forms it can take?

2-How does light energy behave when it hits different objects?

3-What are the three ways heat energy can travel? Give an example of one.

4-How is sound energy produced, and how does it travel?

5-What is an electrical circuit, and what happens if it is open?

Multiple-Choice Questions

6-Which of the following is not a form of energy?

- a) Light
- b) Sound
- c) Water
- d) Heat

7-The Sun's energy reaches Earth mainly through:

- a) Conduction
- b) Convection
- c) Radiation
- d) Friction

8-What causes sound energy?

- a) Vibrations
- b) Reflections
- c) Gravity
- d) Rotation

9-In an electrical circuit, electricity will only flow if the circuit is:

- a) Open
- b) Closed
- c) Broken
- d) Blocked

10-Which of the following is a way to save energy?

- a) Leaving lights on all night
- b) Using renewable energy sources
- c) Running water while brushing teeth
- d) Using more batteries

