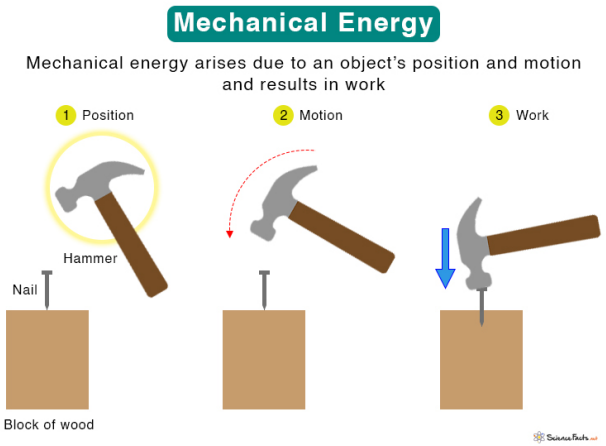
C. Different Forms of Energy

Different Forms of Energy

Energy is all around us, and it helps everything in the world work. It's what makes things move, change, and do work. There are many different forms of energy, and they are all important in our daily lives. Let's explore some of the different forms of energy!

Mechanical Energy



When something is moving or has the potential to move, it has mechanical energy. For example, when you kick a soccer ball or ride a bike, you are using mechanical energy. Mechanical energy can be kinetic (when something is in motion) or potential (when something has the potential to move).

Thermal Energy

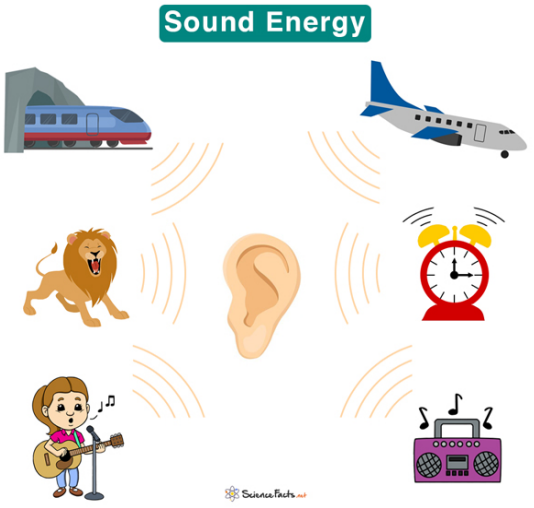
Thermal energy is the energy that comes from heat. When you feel the warmth of the sun on your skin or touch a hot stove, you are experiencing thermal energy. It's also the energy that helps our bodies stay warm.

Electrical Energy

Electrical energy is the energy that comes from the flow of electrons. It powers our electronic devices like TVs, computers, and lights. When you plug in a lamp and turn it on, you are using electrical energy.

Light Energy

Light energy is the energy that comes from light. It allows us to see and helps plants make their own food through photosynthesis. The light from the sun is a source of light energy.



Sound Energy

Sound energy is the energy that comes from vibrations. When you speak, play a musical instrument, or hear a bell ring, you are experiencing sound energy.

Chemical Energy

Chemical energy is stored in the bonds between atoms and molecules. It is released when a chemical reaction occurs. For example, the energy stored in food is chemical energy, and our bodies release it when we digest the food.

Nuclear Energy

Nuclear energy is the energy that comes from the nucleus of an atom. It is released during nuclear reactions, like in nuclear power plants.

Gravitational Potential Energy
Gravitational potential energy is the energy an object has due to its position above the ground. The higher an object is, the more gravitational potential energy it has. When you lift an object off the ground, you give it gravitational potential energy.

Elastic Potential Energy
Elastic potential energy is the energy stored in objects that can be stretched or compressed, like a rubber band or a spring. When you stretch a rubber band, it stores elastic potential energy.

Wind Energy
Wind energy is the energy that comes from the movement of the air. Wind turbines use the energy in the wind to generate electricity.

1. Which form of energy is associated with the flow of electrons?
    A) Mechanical energy
    B) Thermal energy
    C) Electrical energy
    D) Light energy

2. What is an example of thermal energy?
    A) The energy stored in food
    B) The warmth of the sun
    C) The energy in moving air
    D) The energy in a stretched rubber band

3. What type of energy do plants use to make their own food?
    A) Light energy
    B) Sound energy
    C) Chemical energy
    D) Wind energy

4. What form of energy do you experience when you hear a bell ring?
    A) Mechanical energy
    B) Thermal energy
    C) Sound energy
    D) Light energy

5. What is an example of chemical energy?
    A) The energy stored in food
    B) The warmth of the sun
    C) The energy in moving air
    D) The energy in a stretched rubber band

6. Where does nuclear energy come from?
    A) The flow of electrons
    B) The nucleus of an atom
    C) The movement of air
    D) The vibrations of objects

7. What type of energy does a rubber band have when it is stretched?
    A) Mechanical energy
    B) Thermal energy
    C) Elastic potential energy
    D) Wind energy

8. What is an example of gravitational potential energy?
    A) The energy stored in food
    B) The warmth of the sun
    C) The energy in moving air
    D) The energy of an object above the ground

9. What form of energy is associated with the movement of the air?
    A) Mechanical energy
    B) Thermal energy
    C) Wind energy
    D) Electrical energy

10. What type of energy does a moving bike have?
    A) Mechanical energy
    B) Thermal energy
    C) Chemical energy
    D) Light energy

ANSWERS & EXPLANATIONS

1. C - Electrical energy.
    - Electrical energy is the form of energy associated with the flow of electrons.

2. B - The warmth of the sun.
    - Feeling the warmth of the sun on your skin is an example of thermal energy.

3. A - Light energy.
    - Plants use light energy from the sun to make their own food through photosynthesis.

4. C - Sound energy.
    - Hearing a bell ring is an example of sound energy.

5. A - The energy stored in food.
    - Chemical energy is the energy stored in the bonds between atoms and molecules, like the energy stored in food.

6. B - The nucleus of an atom.
    - Nuclear energy comes from the nucleus of an atom.

7. C - Elastic potential energy.
    - When you stretch a rubber band, it stores elastic potential energy.

8. D - The energy of an object above the ground.
    - Gravitational potential energy is the energy an object has due to its position above the ground.

9. C - Wind energy.
    - Wind energy is the form of energy associated with the movement of the air.

10. A - Mechanical energy.
    - The moving bike has mechanical energy as it is in motion.