

### Nature of energy and types of it:

**1- Energy** → It is the ability to do work..

**2- Work** → Directed energy change resulting from a process.

### Types of energy

**Thermal energy:** Is the energy associated with atoms and molecules.

**Chemical energy:** Is stored within the structural units of chemical substances.

**Radiant energy:** Comes from the sun and is primary energy source, solar energy heats the atmosphere and earth's surface

**Kinetic energy:** The energy produced by a moving object.

**Potential energy:** Is energy available by an object's position for instance.



Ex: A rock at the top of cliff has more potential energy than a similar rock located partway down a cliff.

- ❖ Chemical energy can be considered a form of potential energy because it is associated with the relative positions and arrangements of atoms within a given substance.

- ❖ All forms of energy can be converted from one form to another.
- ❖ **Law of conservation of energy:** The total quantity of energy in the universe is constant.

**Choose**

1) The ability to do work is...

- A) Heat  
B) Energy  
C) Chemical energy  
D) not answer

2) The total quantity of energy in the universe is constant , this statement is called.....

- A) Kinetic energy  
B) Law of conservation of energy  
C) Potential energy  
D) radiation

3)... Is determined by arrangement of atoms within a given substance.

- A) Energy  
B) Kinetic energy  
C) Thermal energy  
D) Chemical energy

4) A type of energy, which stored within the structural units, is...

- A) Chemical energy  
B) Thermal energy  
C) Potential energy  
D) All of above

5) Potential energy can be defined as...

- A) Energy produced by moving objects  
B) Energy associated with atoms, molecules  
C) Energy from the sun  
D) Energy available by an object's position

6) Energy comes from the sun and is primary source of energy is..

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|-------------------|--------------------|
| A) Kinetic energy | C) Chemical energy |
| B) Solar energy   | D) Thermal energy  |

7) Energy associated with atoms and molecules is ...

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|-------------------|--------------------|
| A) Thermal energy | C) Chemical energy |
| B) Radiant energy | D) Kinetic energy  |

8) Energy produced by moving objects is ...

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|--------------------|-------------------|
| A) Kinetic energy  | C) Radiant energy |
| B) Chemical energy | D) Thermal energy |