Class - VI  01/10/20

# Effect of force

(i) When a rubber band is pulled from it's two ends → it gets stretched.
→ volume / length increases

(ii) When a piece of sponge is pressed by palms → it gets contracted.
→ volume decreases

(iii) When two ends of a spring stretched or compressed → it gets expanded or contracted
→ volume increases or decreases.

**Energy** → The ability to do work is called energy.

Forms of energy

- Kinetic + Potential → Mechanical Energy
- Heat
- Light
- Sound
- Magnetic
- Electrical
- Chemical energy
- Atomic energy

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বিষয় / Subject

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Kinetic energy The ability to do work by a body due to it's motion is called. it's kinetic energy.

Ex:—

(i) When the school bell is just touched. by the hammer, no sound is produced. But when the same hammer is in motion, strikes the bell from a distance, gains some energy to do the work and. we hear the sound of the bell. i.e. the use of kinetic energy.

(ii) Storms gain kinetic energy due to tremendous speed of the blowing air.

(iii) Boats with sails move forward using kinetic energy of the blowing air.

# Potential Energy

The energy possessed by a body due to it's position or shape or configuration is called potential energy. The potential energy and kinetic energy are together called mechanical energy.

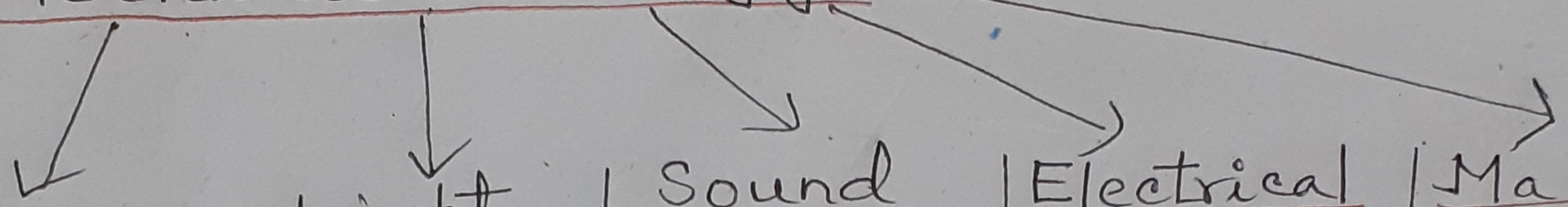
Ex → A raised weight, water that is behind a dam, river water at the top of a waterfall, a stretched rubber band etc.

(i) When a bucket full of water is raised to some height, it gains energy or ability to do work. This energy is called potential energy. So when that water is poured, creates a hole on the ground.

# Transformation of energy

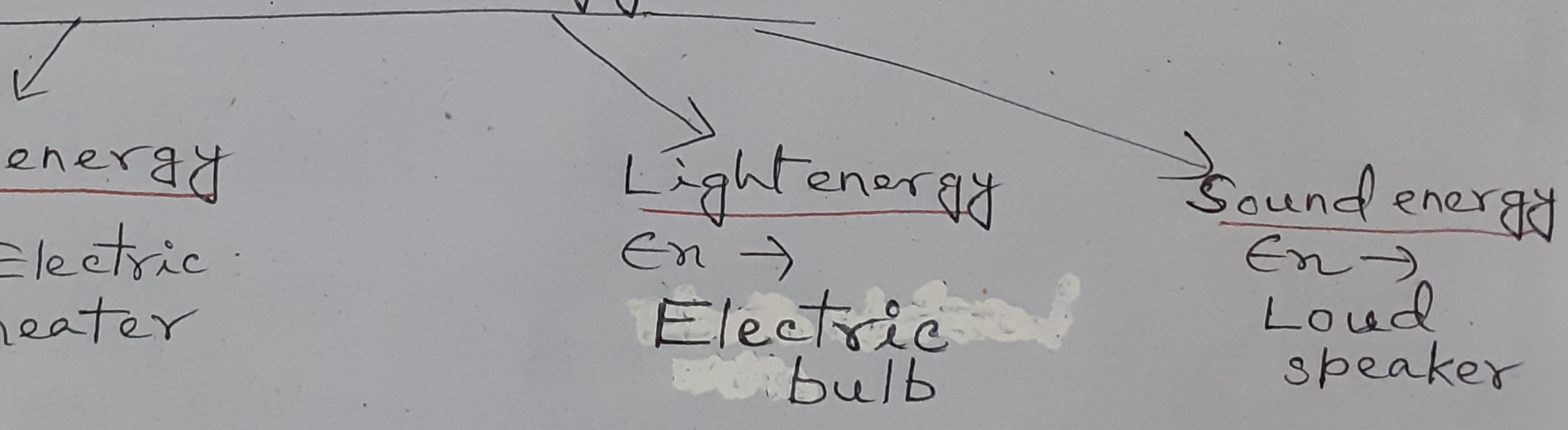
There are different forms of energy in the nature. One form of energy is transformed to another form of energy.

## (i) Mechanical energy to



| Heat energy | Light energy | Sound energy | Electrical energy | Magnetic energy |
|---|---|---|---|---|
| Ex → When palms of our hands are rubbed together | Ex → When a match stick strikes the side of a match box. | Ex → When a drum is struck by sticks. | Ex → When an ebonite rod is rubbed with fur, both of them will be electrified i.e. charged. | Ex → When a soft iron bar is rubbed with a bar magnet, the iron bar is magnetised. |

## (ii) Electrical energy to



**Heat energy**
Ex → Electric heater

**Light energy**
Ex → Electric bulb

**Sound energy**
Ex → Loud speaker

(iii) Heat energy to mechanical energy

Ex → Heat energy of steam converts into mechanical energy in Steam engine.

(iv) Light energy to electrical energy

Ex → Photo electric cells.

## Conservation of energy

Every form of energy can be converted directly or indirectly to an other form of energy. Thus energy can neither be created nor be destroyed, only it can be transformed from one form to other. This is known as conservation of energy.