

## CLASS-7. SUBJECT- PHYSICS. TOPIC- HEAT

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### WORKSHEET

#### SYNOPSIS:-

HEAT- It is a form of energy in transit, which excites in us the sensation of warmth. It flows from a body at a higher temperature to a body at a lower temperature.

TEMPERATURE- The temperature of a body is a measure of the degree of hotness and coldness of that body.

THE FACTORS ON WHICH HEAT REQUIRED TO RAISE THE TEMPERATURE OF A BODY DEPENDS UPON:-

- 1) Mass of the body,
- 2) The rise in temperature and
- 3) The nature of the substance of which the body is made.

#### UNITS OF MEASUREMENT OF HEAT ENERGY

- 1) Calorie- It is defined as the amount of heat required to raise the temperature of 1 gram of water through 1 degree centigrade (from 14.5 degree centigrade to 15.5 degree centigrade).
- 2) Kilocalorie -It is defined as the amount of heat required to raise the temperature of one kg of water through 1 degree centigrade (from 14.5°C to 15.5°C).
- 3) Joule- In SI, the unit of heat is joule.

$$1 \text{ calorie} = 4.2 \text{ joule}$$

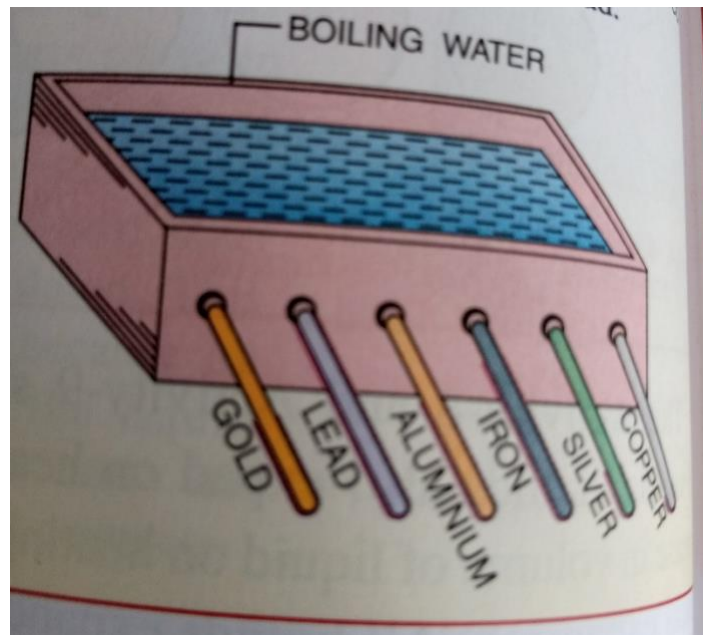
## HEAT AND ITS EFFECTS

- Change in temperature
- Change in dimensions
- Change in states
- Chemical change
- Effects on living beings.

### TYPE OF SUBSTANCE:-

1. Good conductors e.g. metals
2. Bad conductors e.g. wood , cork, glass etc.

## DIFFERENT METALS CONDUCT HEAT AT DIFFERENT RATES



INGEN -HAUZ'S EXPERIMENT

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**A. DEFINE THE FOLLOWING TERMS:-**

1. Heat
2. Temperature
3. Calorie
4. Good conductors
5. Kilocalorie

**B. FILL IN THE BLANKS:-**

1. Solids \_\_\_\_\_ on heating and \_\_\_\_\_ on cooling.
2. Transfer of heat takes place from a body at \_\_\_\_\_ temperature to a body at \_\_\_\_\_ temperature.
3. 1 calorie = \_\_\_\_\_ joule.
4. Liquids and gases are generally \_\_\_\_\_ conductors of heat.
5. In Ingen Hauz experiment, greater the \_\_\_\_\_ to which the wax has melted, greater is the \_\_\_\_\_ of the metal.

**C. Mark the statement as true or false:-**

1. when heat is provided to a solid it causes a change in its length-----
2. In summer, telephone wires sag-----
3. More is the heating, more is the expansion of solids-----
4. Thermal expansion only has bad effects-----
5. we can hold a glass rod for a longer time than a metal rod when both the rods are heated-----.

**D. Short answer type questions:-**

- 1) cooking pots are provided with wooden or plastic handles. Why?
- 2) Gaps are left in between rails while laying a railway track. why?

**3) Name some effects which can be caused by heat.**

**4) Name four good conductors and four bad conductors of heat.**

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