

EXPERIENTIAL LEARNING

CLASS: VII

SUBJECT: SCIENCE

CHAPTER: 4 – HEAT

SUB – TOPIC: TRANSFER OF HEAT

NAME OF THE ACTIVITY: PASSING THE BALL (GAMES)

MATERIALS REQUIRED: A football / volleyball, 40 soft balls /stones

METHODOLOGY OF ACTIVITY:

- Students are divided into 4 groups.

ACTIVITY 1:

- Each group is asked to make a circle and one student should stand in the centre.
- The student in the centre will throw the ball to others in the circle.
- Teacher explains – Radiation as follows:
 - Student in the centre is the source of heat energy.
 - Heat energy (ball) is thrown / passed to the materials (students in circle) and does not need a medium to pass the energy.

ACTIVITY 2:

- Students are asked to stand in a straight line (one behind the other).
- Student standing in front is given a ball and asked to pass it to the next one above his head and he passes it to the next one and so on.
 - Teacher explains Conduction; ball is the heat energy and is passed through the medium (students) from one particle to another (without the movement of the particle).

ACTIVITY 3:

- A basket of soft balls / stones is kept near the last student.
- Student who stands near the basket of balls / stones (source of heat energy) picks up a ball, goes and stands in front.
- The next student near the source of heat (basket) picks up another ball and stands in front. The game continues.
 - Teacher explains the Convection; the particle (student) with the heat energy(ball) moves away from the source of heat and the next particle gets heated up. Thus the particles get heated up one by one directly and repeatedly.

1. How do people sitting around a camp fire get the heat?
2. 'Exhaust fan in kitchen is fixed above the gas stove'. Why?
3. How does a hot air balloon go high up in the sky without any engine?
4. Name the method of heat transfer which involves the movement of particles.
5. Name the mode of heat transfer that happens in solids. Why?

CURIOSITY QUESTIONS:

1. Can you measure the temperature of boiling water with clinical thermometer? Give reason.

ANSWER GUIDE:

- What is the range of clinical thermometer?
- What will happen if the level of mercury inside the clinical thermometer keeps increasing beyond maximum?

CURIOSITY QUESTIONS:

2. Is it wise to use black umbrella during summer? Why?

ANSWER GUIDE:

- How does heat get transferred from the sun to earth?
- Name the colour that absorbs more radiant energy.