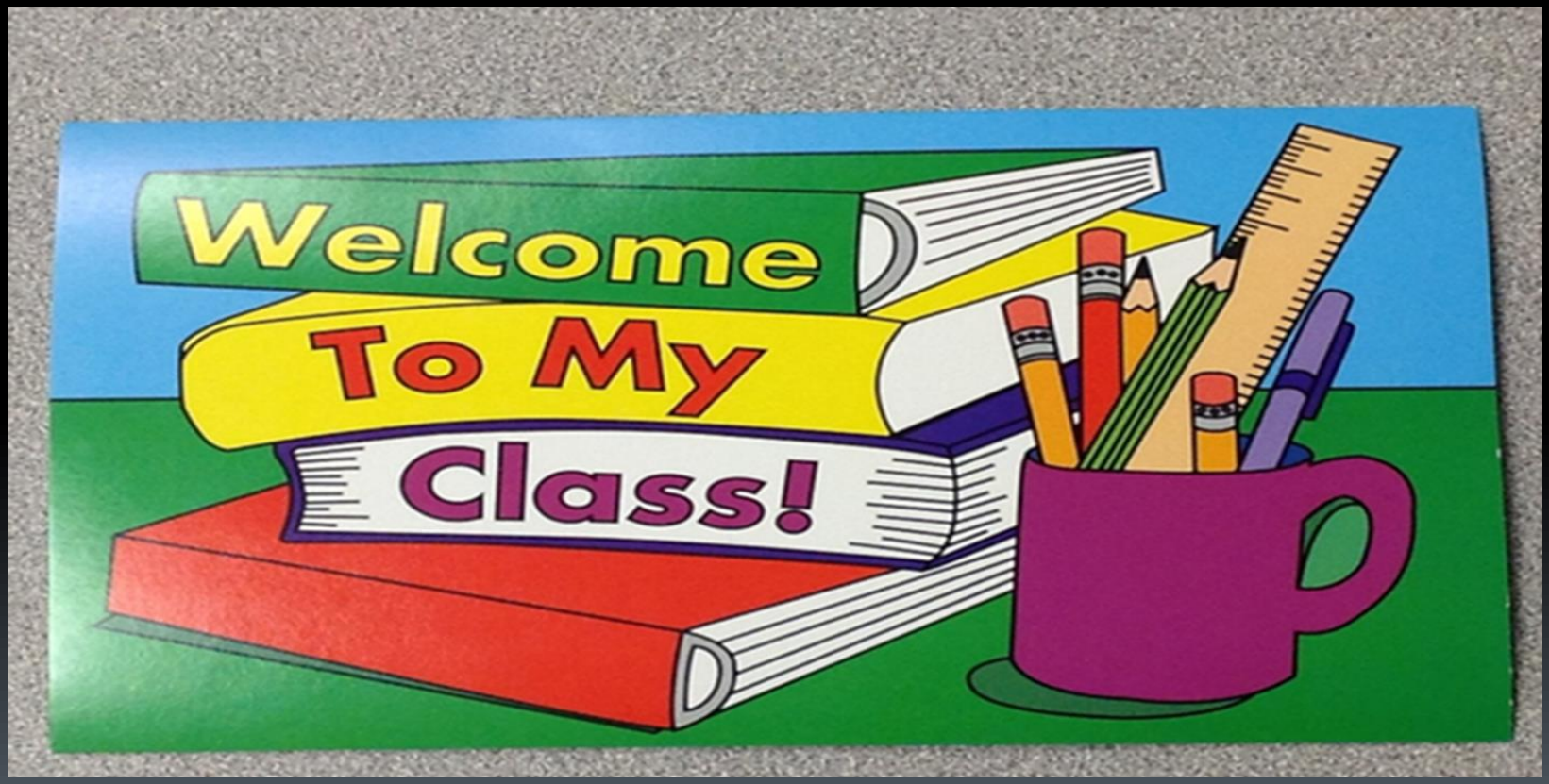
Pakistan School
Kingdom of Bahrain

Class: 9
Subject : Physics



Engaging starter

- How does sun light reach to us ?
- Is it by
- Conduction?
- Convection ?
- Radiation?
- Justify your answer.

topic

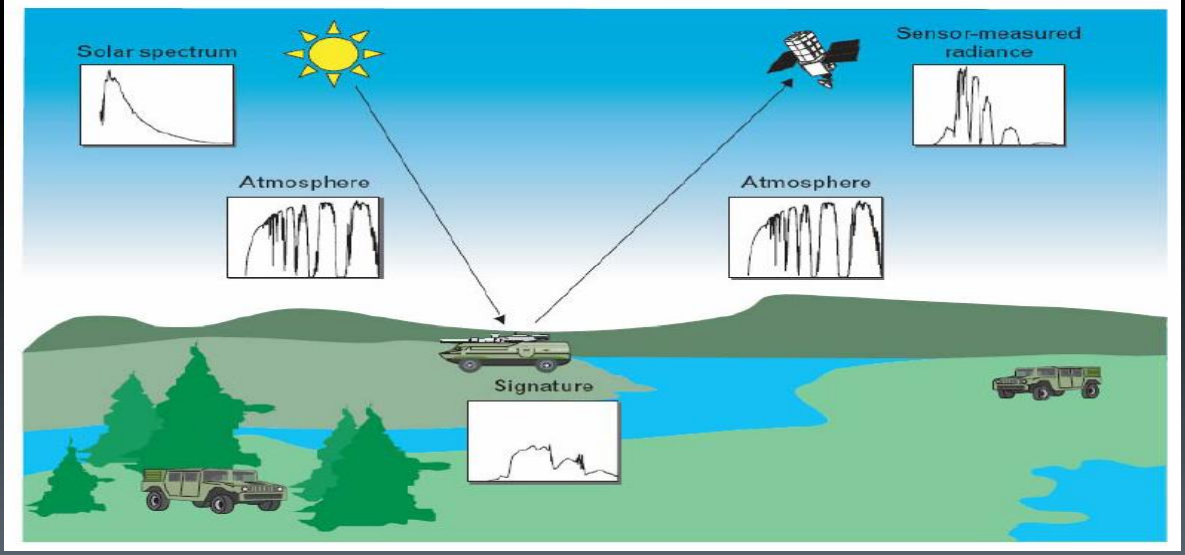
- Radiation

Objective

- At the end of this lesson students will be able to:
- Describe the mode of transfer of heat by radiation.

Radiation

- "Radiation is the mode of transfer of heat from one place to another in the form of
- waves called electromagnetic waves".

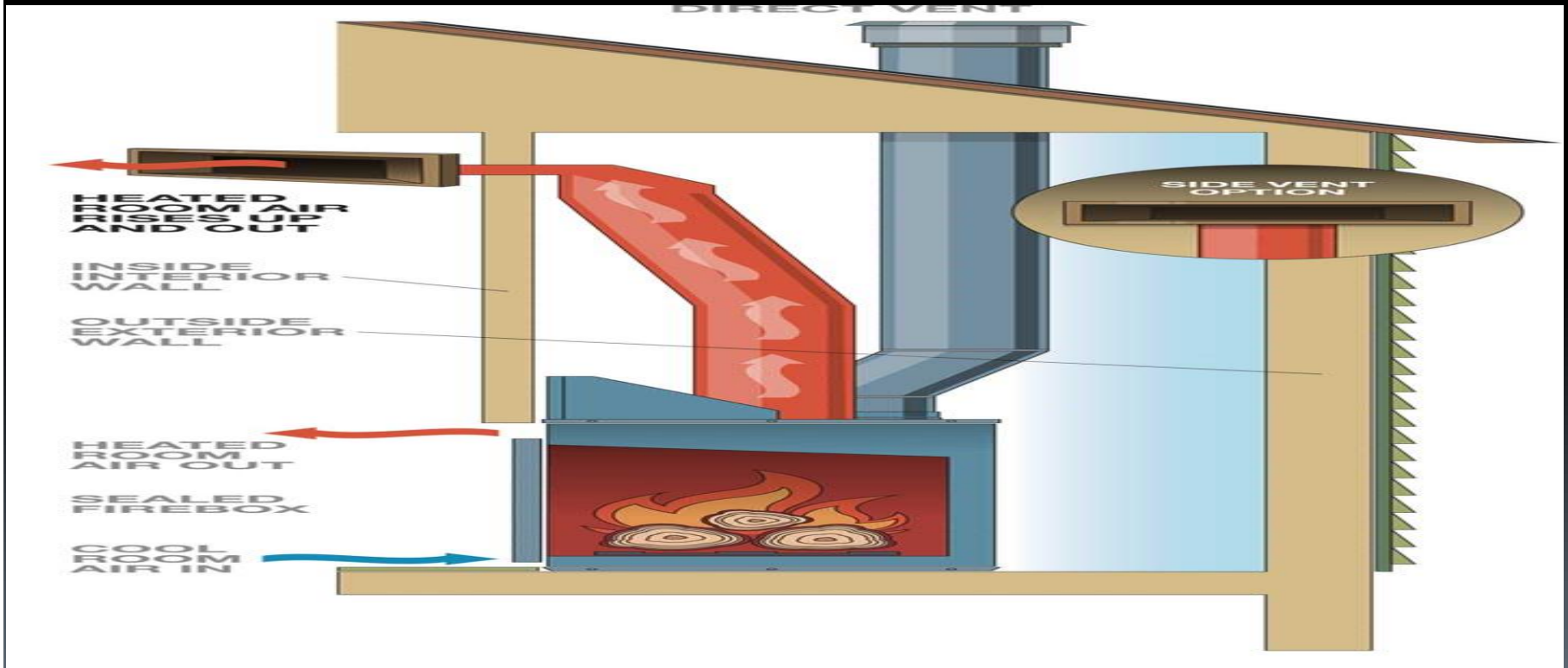


Explanation:

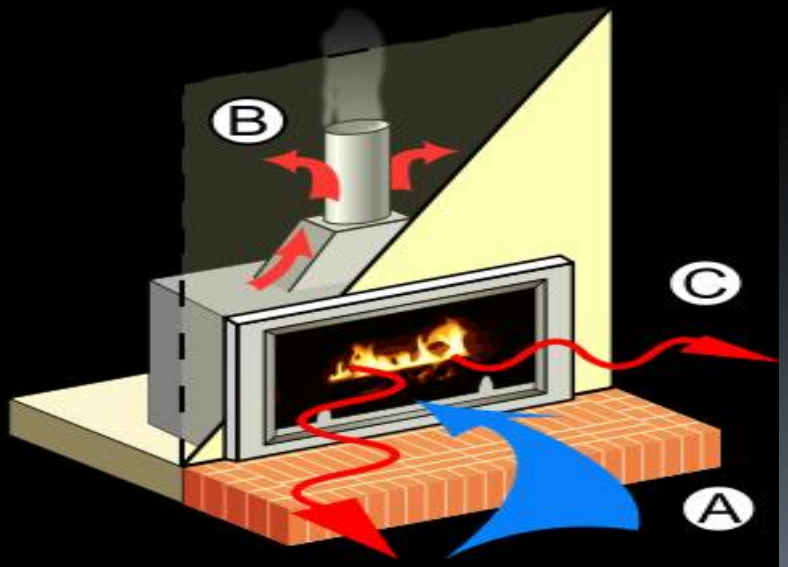
- Our Sun is the major source of heat energy. It reaches us neither by conduction nor by
- Convection, because the space between the Sun and the Earth's atmosphere is empty.(?)
- There is a third mode called radiation by which heat travels from one place to another. It is through radiation that
- Heat reaches us from the Sun.

Heat from fire place :

- Heat does not reach us by conduction through air from a fireplace because air is a poor conductor of heat. Heat does not reach us by convection because the air getting heat from the fireplace does not move in all directions.

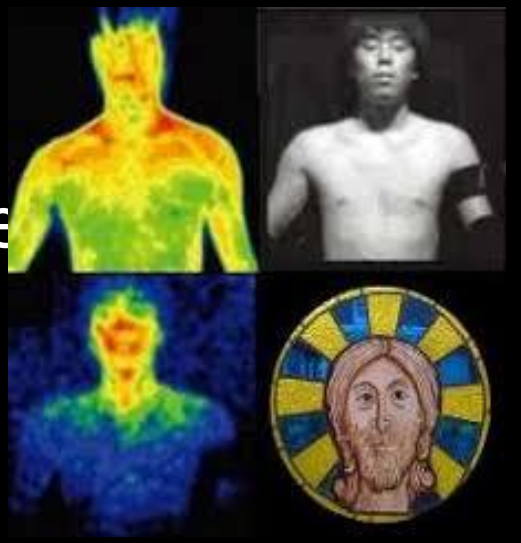


- Hot air moves upward from the fireplace. Heat from the fireplace reaches us directly by a different process in the form of waves called radiation. A sheet of paper or cardboard kept in the path of radiations stop these waves to reach us.



Factors:

- Radiations are emitted by all bodies. The rate at which radiations are emitted depends upon
- various factors such as
- i. Color and texture of the surface
- ii. Surface temperature
- iii. Surface area
- Remember That:
- All the objects, lying inside a room including the walls, roof and floor of the room are radiating heat. However, they are also absorbing heat at the same time.



Radiation of Heat through Objects:

- When temperature of an object is higher than its surroundings then it is radiating more heat than it is absorbing. As a result, its temperature goes on decreasing till it becomes equal to its surroundings. At this stage, the body is giving out the amount of heat equal to the amount of heat it is absorbing.

Absorption of Heat in Objects:

- When temperature of an object is lower than its surroundings, then it is radiating less heat than it is absorbing. As a result, its temperature goes on increasing till it becomes equal to its surroundings.

plenary

- Heat from sun reaches us by .....
- There are ....factors on which radiation depends.
- Describe any one factor on which radiation depends.

homework

- Search and write some applications of radiations in daily life.

message

- ALLAH HAFIZ