

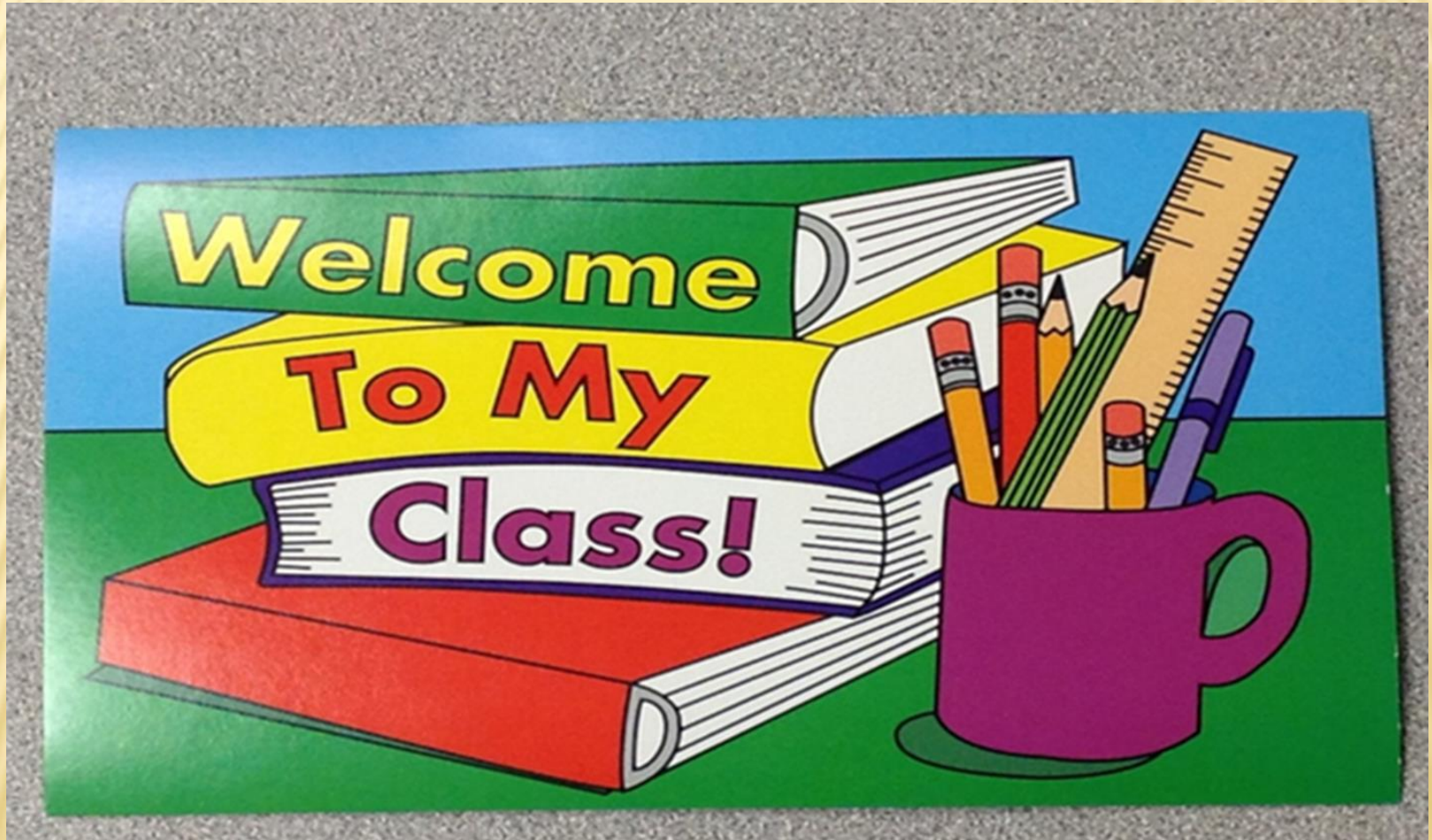


Pakistan School
Kingdom of Bahrain



CLASS: 9

SUBJECT : PHYSICS



ENGAGING STARTER

- ✖ Ali is making ice cream at home .Help Ali to choose the correct mold
- ✖ to freeze the ice cream .
- ✖ Which mold is best to use ?
- ✖ In which mold ice cream will freeze fast?



TOPIC

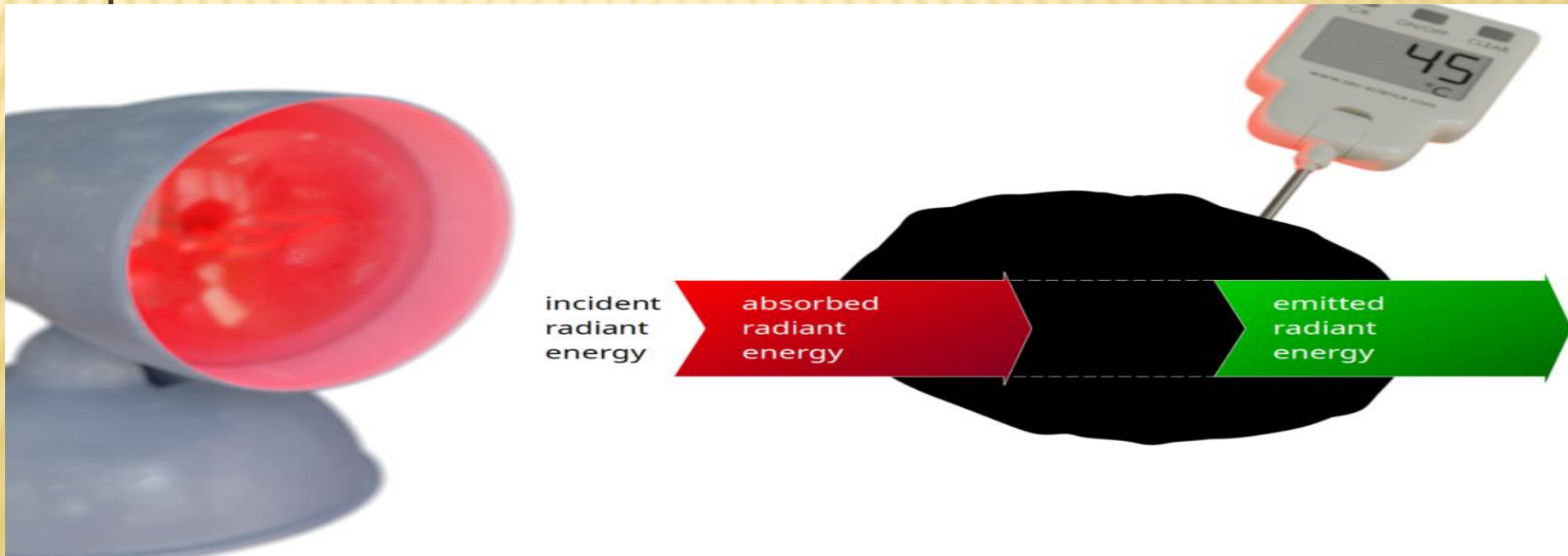
✗ Applications and consequences of radiations

OBJECTIVE

- ✘ At the end of this lesson students will be able to:
- ✘ Describe the applications of radiations and uses of conductors and insulators in daily life.

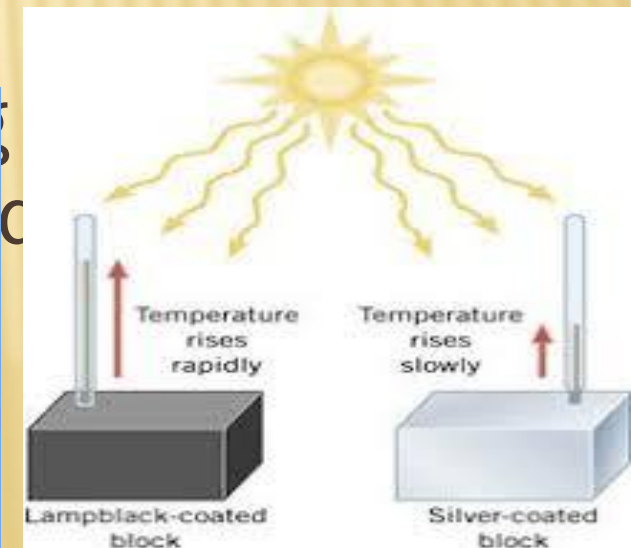
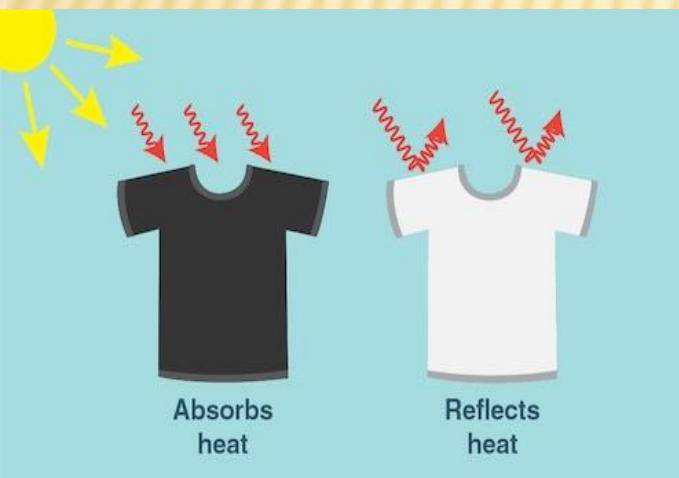
ABSORPTION OF HEAT:

- ✗ Different objects absorb different amount of heat radiations falling upon them reflecting the remaining part. The amount of heat absorbed by a body depends upon the color and nature of its surface.



FOR EXAMPLE:

- ✗ ☐ A black and rough surface absorbs more heat than a white or polished surface.
- ✗ ☐ Since good absorbers are also good radiators of heat. Thus, a black colored body gets hot



USE IN DAILY LIFE:

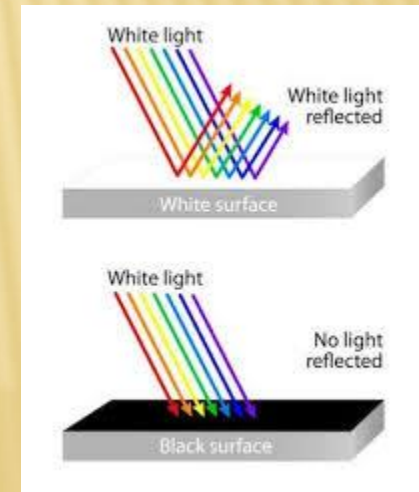
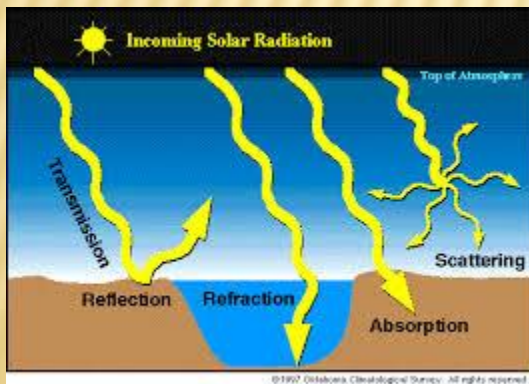
- ✗ ☐ The bottoms of cooking pots are made black to increase the absorption of heat from fire.



REFLECTION OF HEAT:

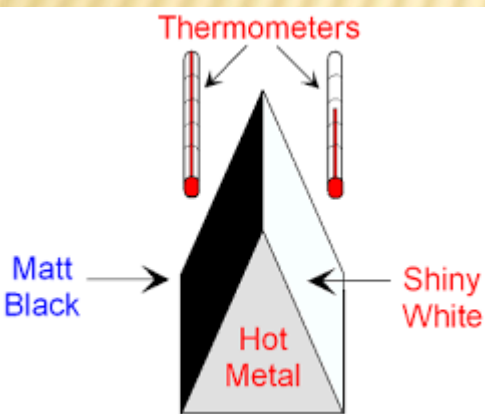
Reflection of Heat:

□ Like light rays, heat radiations also obey laws of reflection. The amount of heat reflected from an object depends upon its color and nature of the surface.



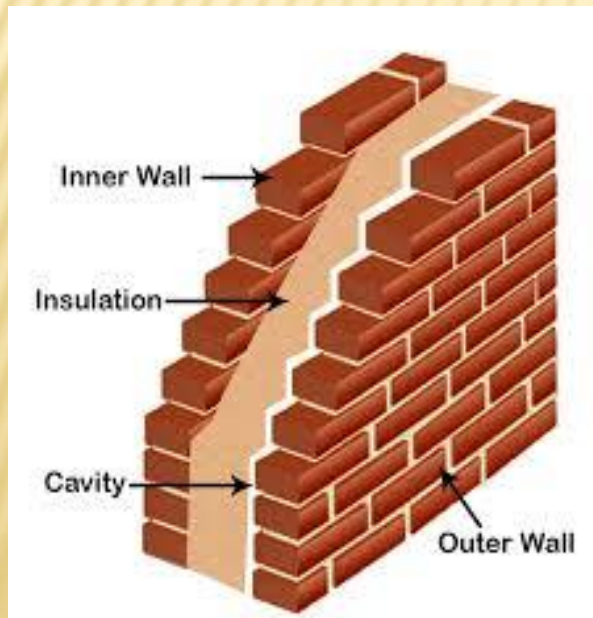
FOR EXAMPLE:

- White surfaces reflect more than colored or black surfaces.
- Similarly, polished surfaces are good reflectors than rough surfaces and reflection of heat radiations is greater from polished surfaces.
- Hence, we wear white or light colored clothes in summer which reflect most of the heat radiation reaching us during the hot day.
- We polish the interior of the cooking and hot-pots for reflecting back most of the heat radiation within them.

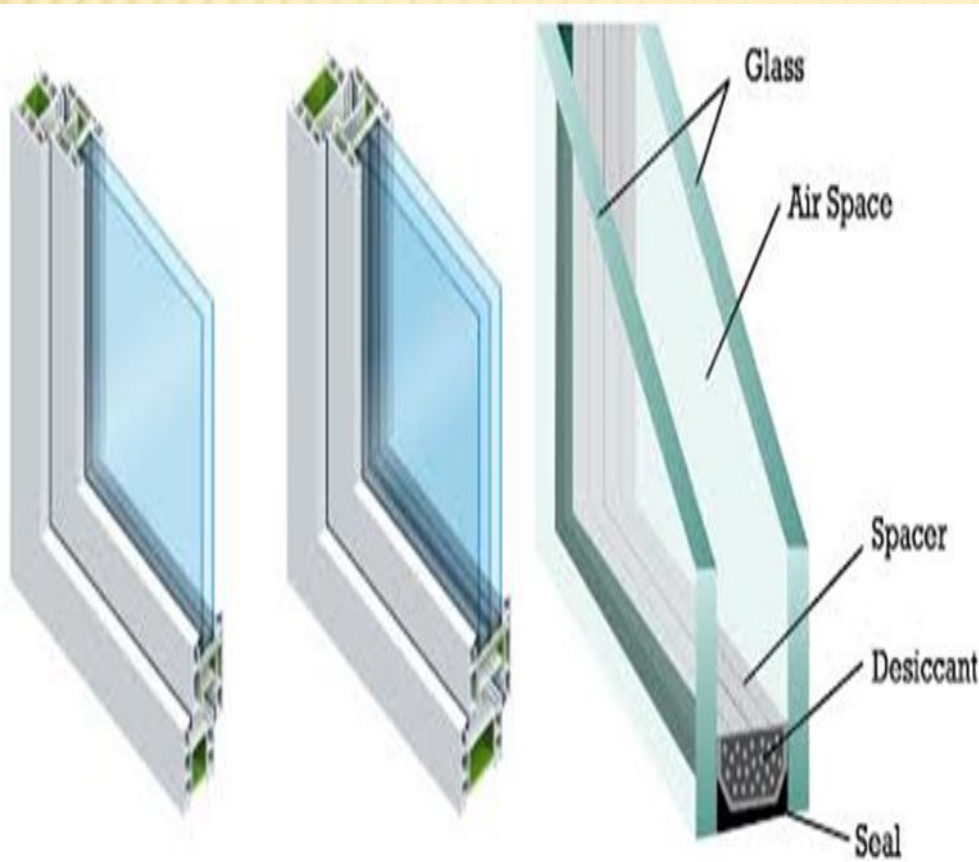


IMPORTANT MEASURES TO SAVE ENERGY IN HOUSES:

- ✗ In houses, good thermal insulation means lower consumption of fuel. For this, following measures may be taken to save energy.
- ✗ ☐ Hot water tanks are insulated by plastic or foam lagging.
- ✗ ☐ Wall cavities are filled with plastic foam or wool



- ✖ Ceiling of rooms is covered by insulating materials (false ceiling).
- ✖ □ Double glazed window panes are used. These window panes have air between glass sheets that provides good insulation.



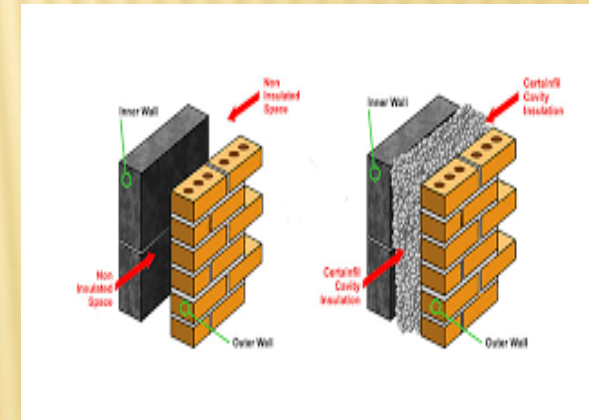
USES OF CONDUCTORS:

- ✗ Good conductors are used when quick transfer of heat is required through a body. Thus
- ✗ i. Cookers, cooking plate, boiler, radiators and condensers of refrigerators, etc. are made of
- ✗ metals such as aluminum or copper.
- ✗ ii. Similarly, metal boxes are used for making ice, ice creamed.



USES OF NON-CONDUCTORS:

- ✖ i. Insulators or bad conductors are used in home utensils such as handles of sauce pans, hot plates, spoons, etc. they are made up of wood or plastic.
- ✖ ii. Air is one of the bad conductors or best insulator. That is why cavity walls i.e. two walls separated by an air space and double glazed windows keep the houses warm in winter and cool in summer.
- ✖ iii. Materials which trap air i.e. wool, felt, fur, feathers, polystyrenes, fiber glass are also bad conductors. Some of these materials are used for laggings to insulate water pipes, hot water cylinders, ovens, refrigerators, walls and roofs of houses.
- ✖ iv. Woolen cloth is used to make warm winter clothes.



PLENARY

- Radiation depends on And
- We have to wear black clothes in
(summer / winter).
- The base of pans are made up of black color .
Why?
- Describe any one use of conductors.
- Air is the good conductor of heat. T /F

HOMEWORK

✕ Search and write some uses of conductors and insulators in daily life .

MESSAGE



 ALLAH

HAFIZ