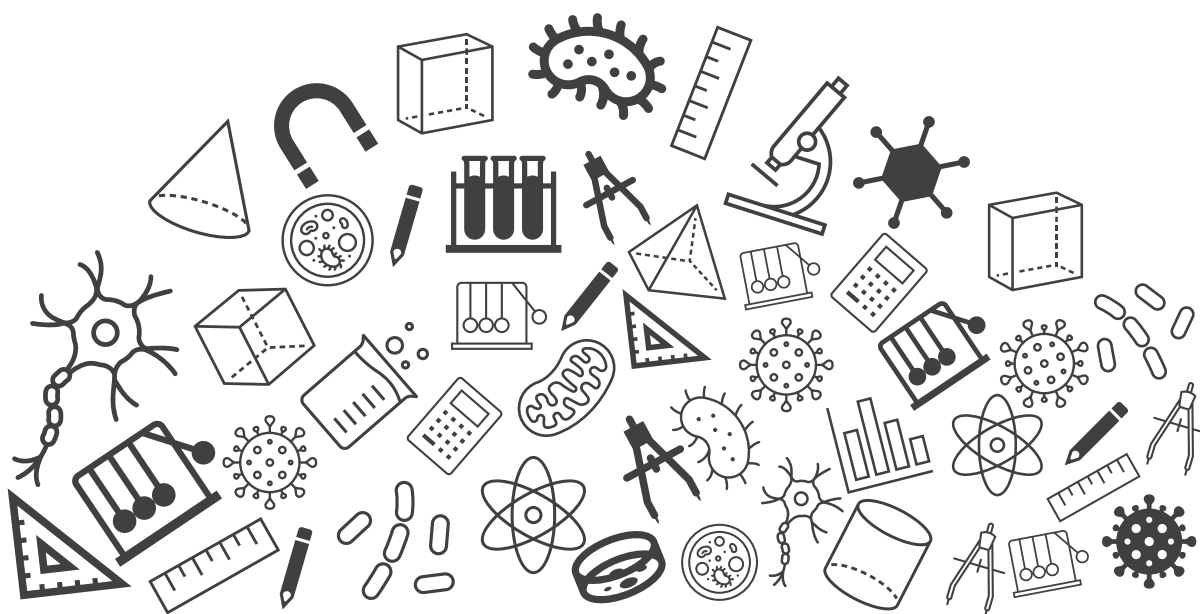




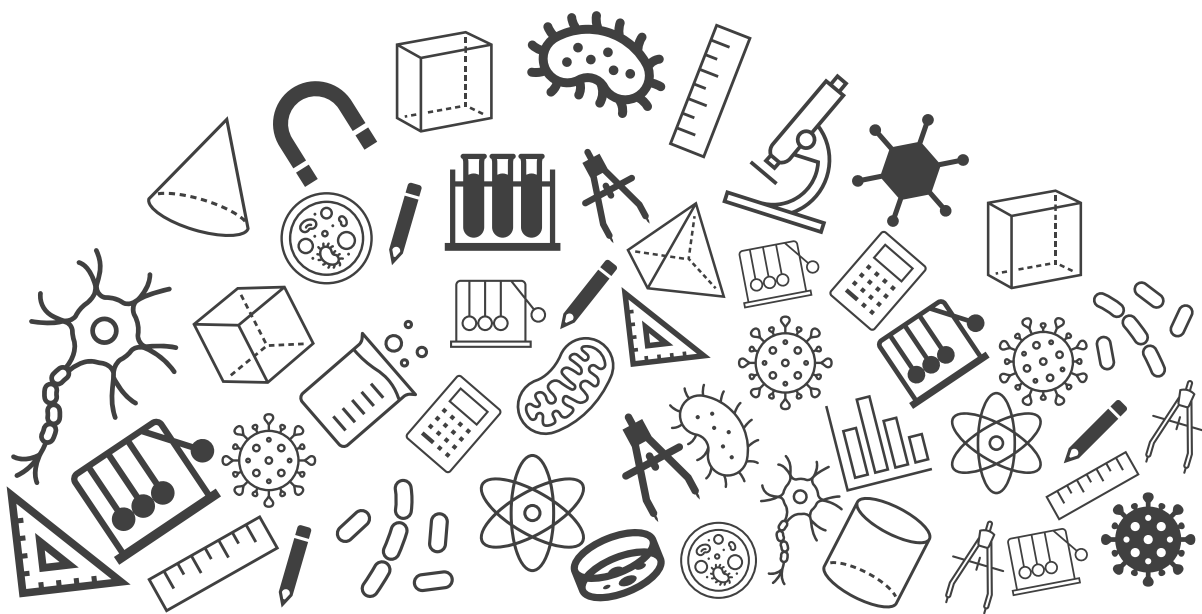
Grade 07 : Science

Exam Important Questions





Heat



Heat

Topic : Exam Important Questions

1. Why are ventilators provided near ceilings in the rooms of our houses? [2 marks]

Ventilators are provided near ceilings in the rooms of our houses because the hot air is lighter and rises out of the room through the ventilators. [1 mark]

Cool fresh air rushes into the room through the doors and windows to occupy its place. [1 mark]

2. Write two differences between conduction and convection. [2 marks]

[1 mark for each difference]

Conduction	Convection
1. In conduction, the transfer of heat occurs due to vibration of particles without their actual movement.	Convection is the movement of heat by actual motion of matter.
2. It is a predominant mode of heat transfer in solids.	It is a predominant mode of heat transfer in fluids (liquids and gases).

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3. At a camp site there are tents of two shades – one made with black fabric and the other with white fabric. Which one will you prefer for resting on a hot summer afternoon? Give reason for your choice. Would you like to prefer the same tent during winter?

[2 marks]

For resting on a hot summer afternoon, the tent with white fabric would be preferred.

[0.5 marks]

This is because white colour is a bad absorber of heat. The tent with white fabric would reflect most of the sunlight falling on it as compared to the black tent. This will keep the tent cool during summer.

[0.5 marks]

No, the same white colour tent would not be preferred in winters. Instead, we would prefer the tent made with black fabric.

[0.5 marks]

This is because black colour is a good absorber of heat. It will absorb most of the sunlight falling on it and will help keep the tent warm during winter.

[0.5 marks]

4. a) What is the function of kink present in a clinical thermometer?
b) Why is it not present in a laboratory thermometer?

[3 marks]

a) Kink which is present in a clinical thermometer prevents mercury present in the glass tube to fall back in the bulb. This allows us to note the reading when the thermometer is taken out of the mouth.

[1.5 marks]

b) A laboratory thermometer has to measure temperature change continuously. Moreover, the reading is taken while the thermometer is still surrounded by the substance of which the temperature is to be measured. Hence, kink is not present in a laboratory thermometer.

[1.5 marks]

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5. Explain the stepwise procedure that needs to be followed to measure the body temperature using a clinical thermometer?

[2 marks]

One should follow these steps to measure his/her body temperature using a clinical thermometer:

Step 1: Wash the thermometer properly with an antiseptic solution and if in case, antiseptic solution is not available, then wash it with clean water.

[0.5 marks]

Step 2: Hold it definitely and give a few jerks which will bring the level of mercury down below 35 °C.

[0.5 Marks]

Step 3: Place the bulb of the thermometer under the tongue.

[0.5 marks]

Step 4: Wait for one minute, take the thermometer out and note the reading keeping the level of mercury along the line of sight.

[0.5 marks]

This reading gives the exact body temperature.

It is necessary to state the temperature with its unit denoted by °C.

It should be handled with care as on hitting against some hard object it can break.

6. Shopkeepers selling ice blocks usually cover them with jute sacks. Explain why.

[2 marks]

Shopkeepers selling ice blocks usually cover them with jute sacks because materials like jute sacks, and sawdust act as insulators and cannot allow escape or entry of heat through them.

[1 mark]

These insulators help the ice not to melt immediately. So, shopkeepers used to cover ice blocks with jute sacks.

[1 mark]

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7. Classify the following materials into good conductors of heat and poor conductors of heat (or insulators):

Wood, Plastic, Copper, Air, Paper, Glass, Stainless steel, Aluminium, Thermocol, Rubber

[2 marks]

Material which allow heat to pass through them easily are called conductors of heat.

While the materials which don't allow heat to pass through them easily are called bad conductors (insulators) of heat.

Based on the above definition, here the materials that are good conductors of heat are:

Copper, Stainless steel, Aluminium

And the materials that are bad conductors of heat are:

Wood, Plastic, Air, Paper, Glass, Thermocol, Rubber

8. Define temperature ? Name the device which is used to measure temperature.

[2 marks]

Temperature is the measure of degree of hotness or coldness of a body.

[1 mark]

A device called thermometer is used to measure the temperature of a body.

[1 mark]