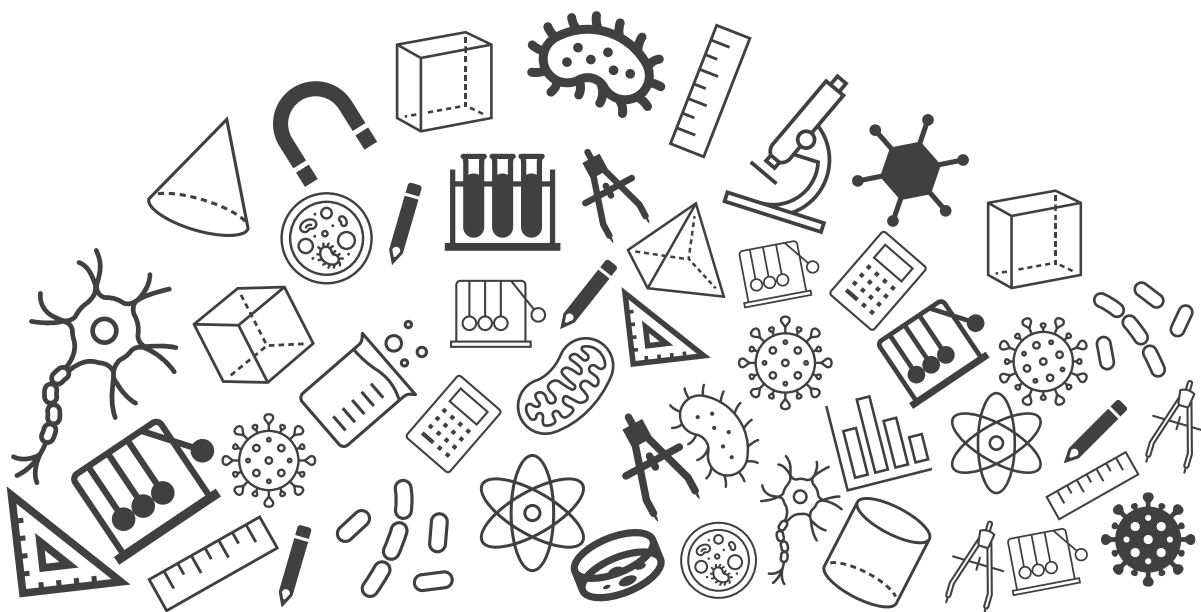




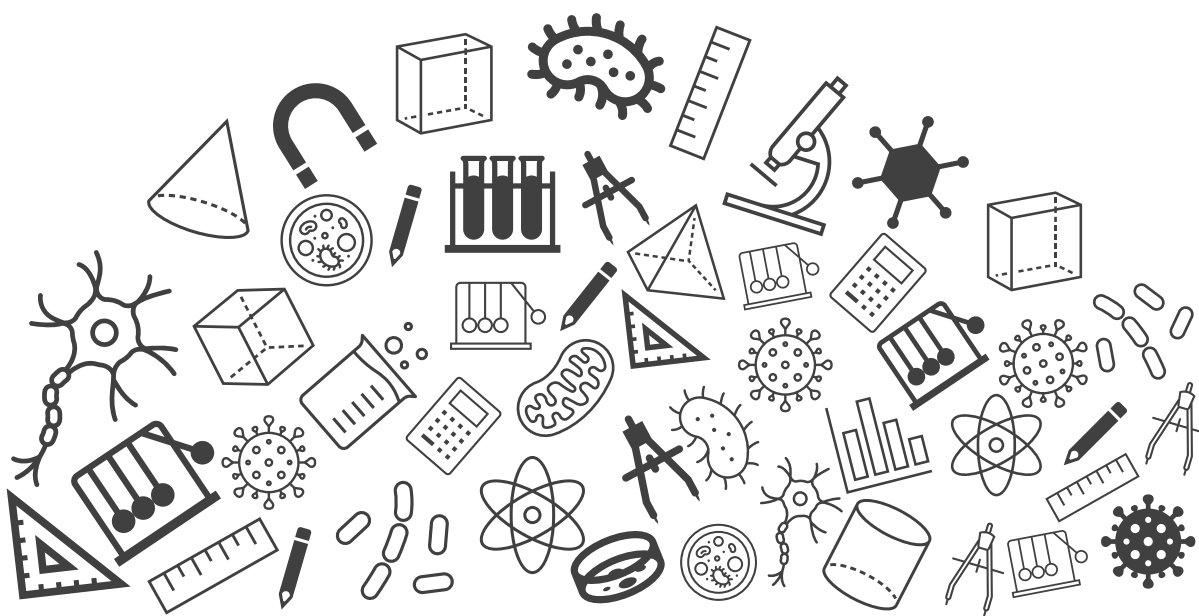
Grade 08 : Science

Exam Important Questions





Combustion and Flame



Combustion and Flame

1. What are the harmful effects of burning fossil fuels?

The harmful effects of burning fossil fuels are:

- **Air pollution:** The burning of fossil fuels releases smoke and harmful gases into the atmosphere causing air pollution.
- **Respiratory diseases:** The fine carbon particles released on burning fossil fuels are dangerous pollutants that can cause respiratory diseases, such as asthma.
- **Carbon monoxide poisoning:** Incomplete combustion of some fuels gives carbon monoxide gas. Carbon monoxide is a very poisonous gas. When inhaled in larger amounts, it is fatal.
- **Global warming:** Global warming is a gradual increase in the Earth's temperature caused by the increased level of carbon dioxide and other gases (methane, water vapour and nitrous oxide) in the atmosphere.

2. What are the three essential requirements to produce fire? How fire extinguisher is useful for controlling the fire. [2 marks]

The three essential requirements to produce fire are:

1. Fuel: Any combustible substance in the fire triangle can act as fuel.
2. Oxygen: To react with the combustible substance
3. Heat: To raise the temperature of the fuel beyond the ignition temperature [1 mark]

A fire extinguisher extinguishes the fire either by cutting the supply of air or by bringing down the temperature of the fuel below its ignition temperature, or both. [1 mark]

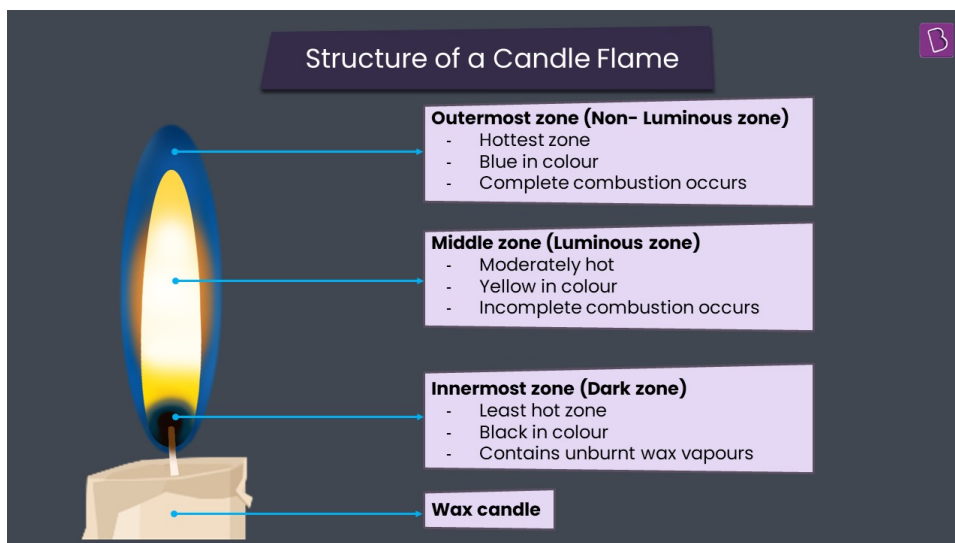
3. Write any four characteristics of an ideal fuel. [4 marks]

An ideal fuel is one that possesses the following characteristics:

- It should be easily available. [1 mark]
- It should be economical. [1 mark]
- It should produce a large amount of heat. [1 mark]
- It should not leave behind any undesirable substance or residue after burning. [1 mark]

Combustion and Flame

4. Make a labelled diagram of a candle flame. [3 marks]



- Outermost zone (Non- Luminous zone) [1 mark]
 - Middle zone (Luminous zone) [1 mark]
 - Innermost zone (Dark zone) [1 mark]
5. Which zone of a flame does a goldsmith use for melting gold and silver and why? [2 marks]
- A goldsmith uses the outermost zone of the flame for melting gold and silver. [1 mark]
 - This is because the outermost zone is the hottest zone of the flame. [1 mark]
6. Boojho wants to separate the following materials as combustible and non-combustible substances. Can you help him?
Charcoal, chalk, stone, iron rod, copper coin, straw, cardboard, glass, paper, candle, wood, water. [3 marks]

The substances that burn or catch fire easily are called combustible substances whereas the substances that do not burn or catch fire easily are called non-combustible substances.

The substances given can be classified as combustible and non-combustible substances as follows:

- Combustible substances: Charcoal, straw, cardboard, paper, candle, and wood. [1.5 marks]
- Non-combustible substances: Chalk, stone, iron rod, copper coin, glass, and water [1.5 marks]

Combustion and Flame

7. Abida and Ramesh were doing an experiment in which water was to be heated in a beaker. Abida kept the beaker near the wick in the yellow part of the candle flame. Ramesh kept the beaker in the outermost part of the flame. Whose water will get heated in a shorter time? [3 Marks]

- The water in Ramesh's beaker will heat up in a shorter time because the outermost zone or non-luminous zone of a flame is the hottest zone, where complete combustion of wax takes place. (1 mark)
- The yellow part of the flame in which Abida has kept the beaker is the middle zone or luminous zone, where partial combustion of wax takes place. Therefore, the yellow part is less hot than the outermost part. (1 mark)

