

PHYSICS - X-PART-1 CLASS 54



Different Sources of Energy

1. Fuels

- * Fuels are substances that release plenty of heat energy on burning.
- * Classify them into solids, liquids and gases, and tabulate.

Solid	Liquid	Gas
* Fire wood * Wood charcoal * Coke	* Kerosene * Petrol * Diesel	* Biogas * LPG * CNG

Combustion of fuels

- * Fuels burn with the help of oxygen.

Complete combustion

- * Complete combustion is a reaction in which fuels react intensively with oxygen, producing carbon dioxide, steam, heat and light.

Partial combustion.

- * If sufficient oxygen is not available, the rate of combustion decreases. If oxygen is not sufficient, large quantities of carbon monoxide, soot and a little of carbon dioxide will be formed. This type of burning is partial combustion.

1. What are the conditions favourable for the complete combustion of different fuels?

- * The solid fuels must be dry.
- * Liquid fuels must evaporate easily.
- * The ignition temperature should be attained.
- * Sufficient oxygen must be available for burning.

2. What are the features of complete combustion?

- * Carbon monoxide is not formed.
- * More heat is generated

3. Write down the situations/specialities for partial combustion.
 - * Insufficient availability of O_2
 - * Partial dryness
 - * Lack of facilities for the removal of oxygen.
4. What are the drawbacks of partial combustion?
 - * Loss of fuel
 - * Economic loss
 - * Fuel loss
 - * Atmospheric pollution
 - * Wastage of time
 - * More smoke is produced

Fossil Fuels

- * Fossil fuels are formed by the transformation of plants and animals that went under the earth's crust millions of years ago. The transformation took place in the absence of air under high pressure and high temperature.
- * Coal, petroleum and natural gases are fossil fuels.

1.Coal

- * Coal is the most abundant fossil fuel on the earth.
- * The main component of coal is **carbon**.
- * Based on the carbon content, it is classified into four groups as peat, lignite, anthracite and bituminous coal.
- * When coal is distilled in the absence of air, the substances obtained are ammonia, coal gas, coal tar and coke.

2. petroleum

1. Which are the products obtained from fractional distillation of petroleum?
 - * Petroleum gas- Petrol – Diesel- Kerosene - Naphtha – Fuel oil – Lubricating oil - Grease – Wax ...

Worksheet

1. Make posters that fossil fuels are precious and that they are to be used judiciously.