# CLASS VIII
# CHEMISTRY

## CHAPTER - 5: COAL & PETROLEUM

- **Resources:** Anything, which is used by human being for survival or welfare can be called as resources

- Resources are two types
- **Natural Resources and Manmade Resources**
  i) Natural Resources: Resources that are obtained from nature are called natural resources. Eg. air, sunlight, soil, water, etc.
  ii) Manmade Resources: Resources that made by man are called manmade resources. Eg. Plastic, Paper, etc

**Type of natural resources**

I) Inexhaustible natural resources:- the resources which present unlimited in nature and are not likely to be exhausted by human activities are inexhaustible natural resources . eg: sunlight, air.

II) Exhaustible natural resources:- the resources which are present limited in nature and are likely to be exhausted by human activities are called exhaustible natural resources.
Eg. Wild life, Forest, Coal, Petroleum.

**FOSSIL FUELS**

Coal, Petroleum and Natural Gas are fossil fuels.

**COAL**

When coal burns, it gives large amount of heat. Coal is made up of carbon, nitrogen, oxygen and sulphur. Under high pressure and high temperature, the dead vegetation converted into coal by the process of carbonization. As it is formed from remains of vegetation, it is called fossil fuel.

USAGE OF COAL

1. It is one of the fuels, use to cook food.
2. It is also used in thermal power plants to produce electricity.
3. It uses in many industries

**Coal is processed in industry to get.**

- **Coke** - a tough, porous and black substance.
  Use in manufacturing units of steel and for extraction of metals.

- **Coke Tar** – black, thick liquid with unpleasant smell.
  Used for making roads earlier. Nowadays bitumen, a petroleum product is used in place of coal tar for metalling the roads
  Use for making dyes, drugs and explosives

- **Coal Gas -** it is obtained during the processing of coal to get coke.
  Coal Gas was used for street lighting
  Coal Gas is being used as fuel in many industries

## ASSIGNMENT

1. Differentiate between exhaustible and inexhaustible natural resources. Classify the following substances as exhaustible and inexhaustible resources- sunlight, plastic, water, air, wildlife, soil, coal, rubber.

2. Why coal is called a fossil fuel?

3. Write 3 uses of coal.

4. Define carbonization.

5. Name some useful products when coal is processed in industry.

6. Write the characteristics and uses of coke.

7. How is coal gas obtained?

8. Name the petroleum product which is used for metalling the roads.

9. Write the characteristics of coal tar.

10. Name the substance from which naphthalene balls and other insect repellents are obtained.

**Note:** Answers will be uploaded within 3 – 4 days

# CLASS VIII
# REVISION WORK SHEET

## 1) NAME THE FOLLOWING

a) Two synthetic indicators _____ _____
b) Acid present in ant bite _____
c) The chemical name of baking soda _____
d) Changes in which new substances are formed, are called _____
e) The process of depositing a layer of zinc on iron is called _____

## 2) COMPLETE THE EQUATIONS

a) Magnesium + Oxygen →
b) Magnesium Oxide + Water →
c) Carbon dioxide + Lime water →
d) Iron + Oxygen + Water →
e) Copper Sulphate + Iron →

## 3) WRITE DOWN THE COLOUR CHANGES

a) Hydrochloric acid with red litmus solution –
b) Soap with turmeric –
c) Lemon juice with china rose —

## 4) NAME THE ACID OR BASE PRESENT IN

a) Vinegar –
b) Curd –
c) Soap —
d) Window Cleaner —
e) Spinach —

# CLASS IX
# CHEMISTRY
# CHAPTER 1
# MATTER IN OUR SURROUDINGS

**Important Points to Remember**

**Matter:** Anything which occupies space and has mass is called matter

- Matter is not continuous. It is particulate in nature ie. it is made up of particles

**Characteristics of particles of matter**

i) Particles of matter are extremely small.

ii) Particles of matter have space between them.

iii) Particles of matter are continuously moving.

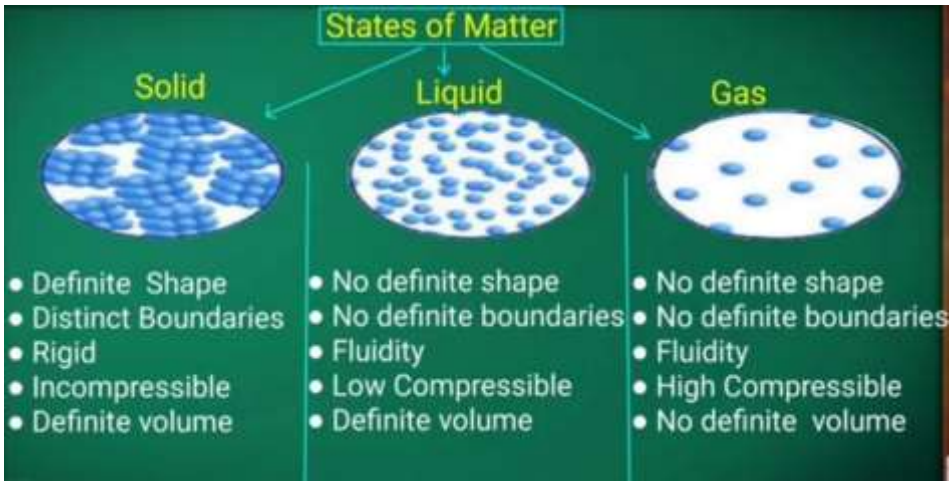
iv) Particles of matter attract each other.

**States of Matter**

* Solids have a definite shape and a fixed volume. They have distinct boundaries and have negligible compressibility. They are rigid (difficult to change their shape)

* Liquids have no definite shape, however have fixed volume. They are compressible. Liquids flow and change shape, so they are not rigid, but can be called fluid.

* Gases have neither a definite shape nor a fixed volume. They are highly compressible than solid and liquid. They can flow.



**Diffusion**

* The intermixing of particles of two different types of matter on their own is called diffusion

* Increase in temperature increases kinetic energy of the particles. So on heating diffusion become faster.

* Kinetic energy is the energy possessed by an object due to its motion.

* The rate of diffusion is very high in gases due to less intermolecular force and large intermolecular space.

* The gases from the atmosphere diffuse and dissolve in water. There gases especially oxygen and carbon dioxide are essential for the survival of aquatic plants and animals.

* Due to high speed of particles and large space between them gases shows very fast diffusion.

**ASSIGNMENT**

1. What are the characteristics of particles of matter?

2. Which of the following are not matter – plastic, danger, tree, love, air, hot.

3. In which of the following, the particles have highest attraction- cotton, iron nail, milk.

4. What does LPG and CNG stands for?

5. Arrange the 3 states of matter in order decreasing intermolecular force of attraction – liquid, solid and gases.

6. Sponge is a solid yet we are able to compress it .why?

7. If we add a drop of ink in 2 beakers:
   Beaker A - Hot water and Beaker B - Cold water.
   In which beaker the rate of diffusion will be more? Why?

**8.** The smell of hot cooked food reaches us in seconds. How?

**9.** An Almirah is solid whereas milk is liquid at room temperature. Why?

**10.** Identify the characteristics of particles of matter in each cases.

a. When we dissolve 50gm of salt in a glass of water, the level of water remains same.
b. If we burn an incense stick in a corner of a room, we can feel the fragrance far away from it.
c. If we try to break a stream of water with our finger, the stream of water changes its path of flow, but the flow continues without any break.

**Note:** Answers will be uploaded within 3 – 4 days

# CLASS -IX

## REVISION WORKSHEET

**1) NAME THE FOLLOWING**

a) Two Greenhouse Gases
b) Two Synthetic Fibers
c) Two Solid Fuels
d) Two substances used for purification of water

**2) WRITE ONE USE OF THE FOLLOWING ELEMENTS**

a) Aluminum
b) Gold
c) Mercury
d) Iron

**3) WRITE FULL FORM OF**

a) CFCs
b) LPG
c) CNG
d) PCRA

**4) COMPLETE THE EQUATIONS**

a) $CuSO_4+Zn \rightarrow$
b) $SO_2+H_2O \rightarrow$

**5) FILL IN THE BLANKS**

a) _____ is a non-metal, which is stored in water.

b) _____ is a non-metal which is used in fertilizer to enhance the growth of plant.

c) The lowest temperature at which a substance catches fire is called _____

d) The process of conversion of dead vegetation into coal is called _____