class VI

Hello dear Students

I am your science teacher Prabha Samadhiya. I think everyone knows me. I am sending you questions answers of chapter 1. Please write down in your cw copy

chapter 1

Sources of food

I New words.

caffeine - A stimulant found in teas and coffees.

Autotrophs - Any organism capable of self nourishment by using inorganic material as a source of nutrients and using photosynthesis as a source of energy.

II Define these terms

1. Carnivores - Animals which eat flesh of other animals. Examples → Lion,

Tiger, leopard, frog, lizard, owl, vulture, snake etc.

2 Herbivores :- Animals which eat plants or plant parts. Examples cow, buffalo, horse, goat, sheep, deer, giraffe, elephant, rat, zebra, rabbit, squirrel etc.

3 Omnivores :- Animals which eat plants as well as other animals. Examples :- Crow, Sparrow, hen, bear, human beings.

4 Scavengers :- Carnivores which eat dead animals are called Scavengers. Examples :- Vultures, jackals etc.

5 Decomposers :- Organisms who feed on dead plants and animals i.e fungi and bacteria.

III Answer the following questions
(Very short type)

Q1 Name the organisms that feed on dead plants and animals.
Ans Fungi and bacteria

Q2 In which category of food are rice, maize and bajra grouped?
Ans Rice, maize and bajra are called cereals.

Q3 Name the category of people who do not eat meat and eggs.
Ans The people who do not eat meat and eggs are called vegetarians

Q4 Name any two scavengers.
Ans Vultures and jackals.

Q5 Which food items add taste and aroma to our food?
Ans Spices add taste and aroma to our food. Examples:- Cardamom, clove, pepper etc

IV Answer the following questions (Short Type)

Q1 What are the main functions of food?

Ans. The main functions of food are

- Food provides us energy for doing all life activities.
- → It provides material needed for growth and reproduction.
- → It provides materials for repair of damaged cells and to replace dead cells in the body.
- → It keeps us healthy and enables us to fight against infections.

Q2 Writes the types of animals on the basis of the food they eat

Ans. Depending upon the food, animals are classified as.

1. Herbivores
2. Carnivores

3 Omnivores.
4 Decomposers.
5 Scavengers.

1 Herbivores - Herbivores means plant eater. So animals that eat plants or plants parts are called herbivores or herbivorous animals. Cow, buffalo, horse, goat, sheep, deer, giraffe, elephant, rat, zebra, rabbit, squirrel etc are herbivores.

2 Carnivores → Carnivores means meat-eater. So animals that eat flesh of other animals are called carnivores or carnivorous animals. Lion, tiger, leopard, frog, lizard, owl, vultures, snake etc are carnivores

Paste any two pictures on blank side of the copy.

3 Omnivores :- Omnivore means all things eater. So, animals that eat plants as well as other animals are called omnivorous animals or omnivorous animals. Crow sparrow, hen, bear, human beings etc are omnivorous animals.

Paste two pictures of Omnivorous animals on blank side of the copy.

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4 Decomposers :- Fungi and bacteria feed on dead plant and animals. They are called decomposers.

5 Scavengers :- Carnivores that eat dead animals are called scavengers. Examples → Vultures, jackal

They are useful for our environment because they clear the dead animals found on the earth

Q3 Name four food items that we get from animals.

Ans. Four food items that we get from animals are meat, egg, fish, honey.

Q4 Name two sources of oil.

Ans Mustard and ground nut.

Q5 Why are scavengers called 'nature's cleaners?

Ans Scavengers are called nature's cleaner because they clear the animals found on the earth.

V Answer the following questions (Long type)

Q1 How different parts of plant can be used as source of food. Explain with examples.

Ans. The different parts of plant used as sources of food :-

Cereals:- Wheat, rice, maize, jowar and bajra are called cereals. Cereals are rich source of carbohydrates and main staple food of human beings.

Pulses:- Pulses are seeds which are rich in proteins. Bengal gram (chana), green gram (moong) black gram (urid) lentil (masur) pigeon pea (arhar) beans, soyabean are some examples of commonly used pulses.

Fruits:- Many flowers change into fruit. Apple, peach, pear, mango, banana, chickoo, guava, grapes, orange, papaya etc are fruits. They are rich in sugar, vitamins and minerals.

Dry fruits:- Some fruits like groundnut, walnut, coconut, cashewnut and almond are dried and stored to be eaten. They are rich in oil and vitamins.

Vegetables :- Vegetables are a rich sources of minerals and vitamins and form the food roughage. Vegetables may be derived from -

- Roots :- Carrot, Radish, Turnip.
- Stems :- Potato, Onion, Ginger.
- Leaves :- Spinach, Lettuce, Cabbage.
- Fruits :- Tomato, Brinjal, Chilli.
- Flowers :- Broccoli, Cauliflower, Banana

Q2 What are herbivores? Describe their special characteristics.

Ans Herbivores means plant eater. So animals that eat plants or plant parts are called herbivores or herbivorous animals. Cow, Buffalo, horse, goat, sheep, deer, giraffe, elephant, rat etc are herbivores.

Herbivores have special characteristics

→ Squirrel, rabbits and rats have sharp front teeth to gnaw nuts and seeds.

- Horses and cows have broad and blunt teeth to grind the food.

- Elephants have long trunks to lift their food and put it into their mouth.

Paste or draw any 3 pictures of herbivores on blank side of your copy.

Q3 What are carnivores? Describe characteristics of carnivores?

Ans: Carnivores means meat-eater. So animals that eat flesh of other animals are called carnivores or carnivorous animals. Lion, tiger, leopard, frog, lizard, owl, snake etc are carnivores.

Carnivores have special characteristics

- Lions and tigers have sharp teeth and powerful jaws for catching and tearing their prey.

→ Snakes swallow their prey as a whole because of having movable lower jaw and a large number of teeth in it.

→ Eagles have curved, pointed beaks to tear the flesh of their prey.

→ Chameleons and frogs have a long sticky tongue to catch their prey (insects)

Paste or draw any 3 pictures of carnivores on blank side of your copy

Q4 What are scavengers and decomposers? How are they useful for our environment?

Do it by yourself

Q.1 Ritika is fond of 'Tandoori Chicken'. But when ever she visit a vegetarian restaurant, she never misses to place the order for 'Shahi Paneer'. Is Ritika a non vegetarian or omnivore? Justify.

Ans.

Q2. Name the animals who eat plants as well as other animals.

Ans.

Q3. Why is vulture called a scavenger?

Ans.

Q4 Is lion a carnivore?

Ans.

class VI.

chapter 2 (1)

Component of food.

I Keyterms

Nutrients :- Essential components of the diet.
Starch :- Complex carbohydrate, stored food in plants.
Balanced diet :- A diet that contain all the nutrients in the right amount.
Malnutrition :- shortage of one or more nutrients in body due to improper diet.

II Define these terms

1. Balanced diet :- The diet which contains all the essential nutrients in right proportion is called a balanced diet.
2. Dehydration :- The excessive loss of water from the body is called dehydration

3 **Roughage** :- Dietary fibres (mainly cellulose) that are needed for bowel movement.
(bowel - intestine).

4 **Amino acid** :- Proteins are made up of smaller units or molecules called amino acid.

5 **Malnutrition** :- Shortage of one or more nutrients in body due to improper diet or unbalanced diet.

6 **Undernutrition** :- When the body gets less than the required food, even if it is balanced it becomes weak and sick. This unhealthy state of the body is called undernutrition.

7. **Constipation** :- Lack of fibres in our diet causes the stool to become hard and difficult to pass out. This condition is known as constipation.

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III Answer the following questions (Very short)

Q1 Where is cellulose occurs?
Ans Cellulose occurs in the cell wall of plant cells, wood and in the form of fibres in cotton and jute.

Q2 Name the disease characterised by swollen neck and caused due to the deficiency of iodine in food.
Ans. Goitre

Q3 Name the disease caused due to the deficiency of calcium in food.
Ans. Rickets

Q4. Which nutrients protect our body against diseases?
Ans. Minerals are protective foods that protect our body from various diseases.

Q5 Mention the diseases caused due to deficiency of vitamin
Ans: Beri Beri - Vitamin B_1
Skin disorders - Vitamin B_2
Anaemia, convulsion in infants - Vitamin
Anaemia - Vitamin B_9
Anaemia - Vitamin B_{12}

Q6. Name Two energy - giving compon of food.
Ans: Carbohydrates - cereals, potato etc
Fats - Ghee, oils, butter

Q7 Name three types of carbohydra
Ans: The three types of carbohydrates are
1. Sugars.
2. Starch
3. Cellulose.

Q8 Name two sources each of Sugar and Starch.
Ans The main sources of
1. Sugars → fruits, honey, table sugar, jaggery etc

2. Starch → wheat, rice, maize and potato.

Q9. What is known as instant source of energy?
Ans. Glucose is called the instant source of energy.

Q10 List two food items rich in saturated fats
Ans. Butter and ghee.

Q11 Why should we avoid eating excess of fats?
Ans We should avoid eating excess of fats because excess of fats leads to a condition called obesity.

Q12 Which of the two give us more energy, carbohydrates or fats?
Ans. Fats give energy twice

the amount of energy given by carbohydrate.

IV. Answer the following questions (Short type)

Q1. Name the major nutrients in our food.

Ans. The major nutrients in our food are carbohydrate, fats, proteins, vitamins, minerals, roughage.

Q2. Mention the difference between micromineral and macromineral.

Micromineral	Macromineral
1. They are needed in a small amount by our body.	They are needed in a large amount by our body
2. Examples:- Copper, zinc, cobalt, iron etc	Examples:- calcium, magnesium, sodium etc.

Q3 State the role of sodium and potassium in our body.

Ans Sodium and potassium maintain body's water balance in our body and the acid - base balance in the blood and tissue

Q4 Why are minerals and vitamins called protective nutrients?

Ans Minerals and vitamins are called protective nutrients because they help us to protect against the development of deficiency diseases like beri beri, Scurvy etc They help our body to remain healthy by carrying body processes.

Q5 What is roughage? Why is the presence of fibres in food essential?

Ans Roughage are the undigestible portion of food obtained from plants. We get roughage or dietary fibres from vegetables.

Q3 state the role of sodium and potassium in our body -

Ans Sodium and potassium maintain body's water balance in our body and the acid - base balance in the blood and tissue

Q4 Why are minerals and vitamins called protective nutrients?

Ans Minerals and vitamins are called protective nutrients because they help us to protect against the development of deficiency diseases like beri beri, scurvy etc. They help our body to remain healthy by carrying body processes.

Q5 What is roughage? why is the presence of fibres in food essential?

Ans Roughage are the undigestible portion of food obtained from plants. We get roughage or dietary fibres from vegetables.

, whole grains, pulses and fresh fruits.

The presence of dietary fibres is important because it help to get rid of undigested food and help in the retention of water. It also reduces excess of acidity in the stomach.

Q6 What is PEM ? Explain it briefly.

Ans PEM means Protein - energy malnutrition. It is caused due to shortage of protein, fats and carbohydrates in the diet. This disease is called marasmus. Children suffering from marasmus are very thin and weak and are not able to move. Growth of the body stops and the tissue are slowly destroyed.

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V Answer the following questions (Long Type)

Q. What are the three types of carbohydrates? Explain them in brief.

Ans - The three types of carbohydrates are → sugar, starch and cellulose

Sugars :- Sugars are simple carbohydrates having sweet taste. These are soluble in water. Glucose, lactose, fructose and sucrose are examples of sugar.

Starch :- Starch is a complex carbohydrate present in our food. Starch is tasteless, odourless and like a white powder.

Cellulose :- cellulose is also a complex carbohydrate. It is also tasteless and a white substance. It occur in the cell wall of plant cell, wood

and in the form of fibres in cotton and jute.

Q2. Explain different types of fats with the help of example.

Ans. Fats are greasy food.
Fats are of Two types

1. Unsaturated fats :- Fats of plant origin are called unsaturated fats. They are liquid at room temperature and are considered healthy for humans, Eg :- vegetable oil.

2. Saturated fats :- Fats of animal origin are called saturated fats. They are solid at room temperature. eg :- butter and ghee.

Q3 Name some fat - soluble vitamins. Write their functions and sources.

Ans Vitamin A, D, E and K are

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fat soluble vitamins

(From book)

Write table on lining side of copy and from the table write only about vitamin A, D E and K

Table

(12)

Q4 Write names of any five minerals Write their functions and sources.

Ans Minerals are calcium, iron iodine phosphorus, sodium and potassium.

(From book) Write table on lining side of copy.

Table

VI Give reasons.

Q1 Why should we eat different foods?

Ans: We should eat different foods because different foods have different nutrients - so, to get all the nutrients we must eat a variety of food every day.

Q2 Why the British sailors are called 'Limeys'?

Ans: The British sailors are called limeys because. British Admiral Nelson used to carry ample supply of lemons on sea voyages. Cas lemon are a good source of vitamin C which are ~~sour~~ sour in taste.

Q3 Why are animal proteins better than plant proteins?

Ans The animals proteins are better than plant proteins

because animals proteins contain all the 20 amino acids needed for the proper functioning of our body. Plant proteins lack some of these essential amino acids.

04 Why does our body never suffer fat deficiency?

Ans Our body never shows fat deficiency because excess of carbohydrates and proteins are converted into fats which are stored in the body.

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chapter 3 (15)

Cloth Materials - Fibre to Fabric

I Key Term

1. Fabric :- Material we use for clothing.
Yarn :- Loose threads of which fabric is made of.
Fibres :- Very thin strand which make up a yarn.
Ginning :- The process of separating cotton fibres from seeds.
Spinning :- The process of making yarn from fibres.
Sericulture :- Rearing of silkworms for the production of silk.
Looms :- Machines used to make fabric by weaving yarn.

II Define these terms

Natural fibres :- Fibres which comes from plants (ie from their stem, bark, leaf, seed, etc) and animals (ie hair or insect cocoon).
Eg - jute, wool, silk, cotton and linen.

2 Synthetic fibres or man-made fibres:- Man-made fibres are also called synthetic fibres. Nylon, rayon, acrylic and polyester are man-made fibres and manufacture in factories.

3 Ginning:- The process of separating cotton fibres from the seeds by combing is called ginning.

II Answer the following questions (Very short)

Q1 Which fabric is good absorbent of water?

Ans Cotton fabrics are good absorbents of water.

Q2 Which natural fibre is used to make gunny bags?

Ans Jute is used to make gunny bags.

Q3 Name two states where jute is grown.
Ans West Bengal and Assam.

Q4 Which fibre is obtained from sheep?
Ans Wool is obtained from sheep.

Q5 Name the very thin strands that make up yarns.
Ans Fibres are the very thin strands that make up yarns.

Q6 In which category of fibres are nylon, rayon, acrylic and polyester categorised?
Ans Nylon, rayon, acrylic and polyester are examples of man-made fibres or synthetic fibres.

Q7 Name the process of separating the cotton fibres from its seeds.
Ans The process of separating the cotton fibres from its seeds is called ginning.

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Q8 Which process is used to pick cotton fibres from cotton bolls?

Ans The process which is used to pick cotton fibres from cotton bolls is called hand picking.

Q9 What is yarn?

Ans Fabrics are made of loose thread called yarns.

IV Answer the following questions (Short type)

Q1 What are natural fibres? Give ~~two~~ examples of natural fibres.

Ans Natural fibres comes from plants (i.e from their stem, bark, leaf, seed, etc) and animals (i.e. hair ~~of~~ or insect cocoon). Jute, wool, silk, cotton and linen are examples of natural fibres.

~~Jute comes from jute plant~~

Wool from sheep.
Silk from silkworms.
Cotton from cotton plant.
Linen from flax plant.

Q2 What are man-made fibres? Give two examples of man-made fibres.

Ans Man-made fibres are also called synthetic fibres. Nylon, rayon, acrylic and polyester are examples of man-made fibres.

Q3 Give three properties of man-made fibres.

Ans Three properties of man-made fibres are -

- They do not wrinkle easily.
- They are very strong and easy to clean.
- They catch fire easily.

Q4 What are the sources of natural fibres

Ans The sources of natural fibres are.
Jute comes from jute plant.
Wool comes from sheep.
Silk comes from silkworms.

Cotton from cotton plant.
Linen from flax plant.

Q5 Where are cotton and jute grown in India?

Ans: Cotton → In India cotton is grown in Maharashtra, Madhya Pradesh, Tamil Nadu, Karnataka, Gujarat, Uttar Pradesh, Andhra Pradesh, Haryana and Punjab.

Jute — In India jute is grown in Meghalaya, Bihar, Assam, West Bengal and Odisha.

Q6 What is the use of cotton gins?

Ans Cotton guns are used to separate cotton fibres from cotton seeds quickly and easily.

Q7. Give two properties of silk fibre.

Ans. Two properties of silk fibre are

- It keep our body warm in cold weather
- It is a good absorbent of

V. Answer the following questions (Long types).

Q How is cotton fabric obtained? Explain in brief with the help of flow chart.

Ans Cotton fabrics is obtained from cotton plants

cotton plant
↓
cotton balls
↓
cotton fibres
↓
Ginning
↓
Spinning
↓
Weaving
↓
cotton fabrics

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Ans Different steps are involved

Handpicking - The fruit of cotton plants are called cotton balls The seeds with cotton febres are picked from the cotton ball by hand

Ginning The process of separating cotton fibres from the seeds by combing is called ginning.

Spinning The fibres are cleaned by machines to remove the impurities like leaves, Twigs. The process of making yarn from fibre is called spinning

Weaving :- The yarn is then woven to make fabric.

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02 What are plant fibres. ? Write any three plant fibres and mention their sources.

Ans Fibres which we get from plants are called plant fibres, from stem, bark leaf, seed etc,
Examples -
Cotton fibre
Jute fibre
Linen

1 Cotton is a soft, fluffy fibres that grows in a boll around the seeds of cotton plant.

2 Jute is a natural fibre obtained from the stem of jute plant. It is also known as golden fibres.

3 Linen - Linen fibre is made from flax seed or linseed, from which linseed oil is obtained

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Q3 How is jute obtained ? Mention its uses and area where it is grown ?

Ans Jute is a natural fibre obtained from the stem of jute plant.

Uses
Jute is used for making ropes, mats, strong packing materials like gunny bags, carpets, jute bags and decorative articles.

Area
Jute is mainly grown in Meghalaya, Bihar, Assam, West Bengal and Odisha.

Extra Questions

Q1. Why types of temperature and climatic condition are required for the growth of cotton plant?

Ans The cultivation of cotton plant requires high temperature, plenty of bright sunlight, long frost - free days and light rainfall.

Q2 What type of climate and soil is required for growing jute plant?

Ans Warm and humid climate is the best for growing jute plant. Jute grows best on well drained fertile soil. High temperature favours the growth of jute plant.

Do it yourself.

1 Wool, silk, cotton and jute are called natural fibres. Why are they called so?

Ans.

Q. We prefer to wear cotton clothes in Summer? Why?

Ans.

Chapter 4.

Kinds of Material

Key terms

Solubility : The ability of a substance to dissolve in the given liquid.

Soluble :- Material dissolving in water.

Insoluble :- Material not dissolving in water.

Opaque objects : Objects through which we cannot see.

Translucent objects :- Objects through which we can see but not clearly.

Transparent objects :- Objects through which we can see clearly.

II Define these terms

1 lustrous and non lustrous objects

lustrous - These are the objects which shine. examples - Copper, iron, Silver, gold and aluminium.

Nonlustrous objects :- These are the objects which do not shine. Examples - Wood and rubber.

2 Magnetic and nonmagnetic substances.

Magnetic substances → The objects which can be attracted by magnets are called magnetic materials or substance Examples - iron, nickel

Nonmagnetic substances → The objects which cannot be attracted by magnets are called nonmagnetic materials or substances Examples - wood, paper, glass.

III Answer the following questions (Very short)

Q1 Name the property of dissolving an objects in water.

Ans The property of dissolving an object in water is called Solubility.

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Q2 Which substances will sink having more density than water or less density than water?

Ans: The substances which have density more than water will sink.

Q3. Is note book an opaque object?

Ans: Yes. note book is an opaque object (opaque objects through which we cannot see).

Q4. Name the objects that allow heat to pass through them.

Ans: The objects that allow heat to pass through them are gold, silver.

Q5 Write one example of transluc objects.

Ans: Thin sheet of plastic.

Q6 What are the materials which cannot be compressed called?

Ans: The materials which cannot be compressed are said to be hard.

Q7 What are the materials through which objects cannot be seen called?

Ans The materials through which objects cannot be seen are called opaque objects

Q8 Which materials do not allow electric current to pass through them?

Ans The materials that do not allow electric current to pass through them are called insulators.

Q9 What are soluble materials

Ans Materials which dissolve in water are called soluble materials.

Q10 Write one magnetic material.

Ans Iron.

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IV Answer the following question (short type)

Q1 Common salt is soluble in water, whereas sand is not. what is meant by this statement.

Ans Common salt is soluble in water and sand does not dissolve in water. It means that common salt is soluble substance and Sand is insoluble substance

Q2 Mention different properties of material.

Ans The different properties of material are.

(1) - Appearance.
(a) Lustrous objects
(b) Non lustrous objects

2. Tesxture
(a) Soft
(b) hard.

3 Solubility
(a) Soluble materials
(b) Insoluble materials

4 Transparency
(a) Opaque objects
(b) Translucent objects
(c) Transparent objects

5 Heat conductivity / Electrical conductivity
(a) Conductors
(b) Insulators

6 (a) Magnetic materials
(b) Non magnetic materials

Q3 Mention the differences between conductor and insulators of electricity.

Ans

Conductors	Insulators
1 The objects that allow Electric current to pass	The objects that do not allow electric current to pass

Conductor	Insulator
through them are called conductors or good conductors of electricity	through them are called insulators or bad conductors of electricity
2) Examples - Copper, aluminium, tap water.	Examples - Wood, air, duster, highlighter.

04. Write two examples each of sinking and floating objects.

Ans: Sinking objects - Iron, coin.

Floating objects - Plastic, Wood

05. Define opaque objects with examples.

Ans: The objects through which we are not able to see at all are called opaque objects. Examples - Note book, wood, brick.

06. Why do some objects made of metal become dull after some time?

Ans Metals like iron or aluminium etc reacts with moist air and get oxidised and they lose their shine

Q7 Why are most of the cooking vessels made of aluminium and steel?
Q8 Why is a cooking vessel not made from paper or cloth?
Ans The cooking vessels are made of aluminium and steel because aluminium and steel let the heat to pass through them easily and cook the food quickly. But paper and cloth catch fire easily and burn down when heated.

V Answer the following questions (long type).

Q1 How are different material grouped on the basis of transparency?
Ans Group materials on the basis of transparency.

1 Opaque objects :- The objects through which we are not able to

see at all are called opaque objects - eg- note book, wood, brick etc.

2. Translucent objects - The objects through which we are able to see but not clearly are called translucent objects. Eg - ground glass, thin sheet of plastic, butter paper etc.

3. Transparent objects :- The objects through which we are able to see very clearly are called transparent objects. Eg air, water, glass.

Q.2 Define different properties of materials recorded on the basis of which they can be classified.

Ans. Different properties are :

1. Lustrous objects → These are the objects which shine.

2 Non lustrous objects :- These are the objects which do not shine.

3 Soft - Materials which can be compressed are said to be soft.

4 Hard - Materials which cannot be compressed are said to be hard.

5. Soluble materials - Materials which dissolve in water are soluble materials

6. Insoluble materials - Materials which do not dissolve in water are called insoluble materials.

7 Opaque objects :- Objects through which we are not able to see at all are called opaque objects. e.g. - notebook, wood, brick etc.

8 Translucent objects - Objects through which we are able to see, but not clearly are called translucent objects eg. ground glass, thin sheet of plastic, butter paper etc.

9. Transparent objects – Objects through which we are able to see very clearly are called transparent objects. e.g air, water, glass etc

10 Conductors :- Objects that allow heat to pass through them are called conductors.

11 Insulators :- Objects that do not allow heat to pass through them are called insulators.

Q3 On the basis of which common property would you like to group these objects ~~and why~~.

(a) Paper, sand, a metal key, sponge, leaf, cork, an eraser, an iron nail

Paper – Float
Sand – Insoluble. ~~objects~~ materials
A metal key – Magnetic materials
Sponge –

9. Transparent objects – Objects through which we are able to see very clearly are called Transparent objects. e.g. air, water, glass etc

10 Conductors :- Objects that allow heat to pass through them are called conductors.

11 Insulators :- Objects that do not allow heat to pass through them are called insulators.

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03 On the basis of which common property would you like to group these objects ~~given~~

(a) Paper, Sand, a metal Key, sponge, leaf, cork, an eraser, an iron nail

Paper – Float
Sand – Insoluble. ~~objects~~ materials
A metal Key – Magnetic materials
Sponge –

Leaf - float
Cork - float
An eraser - Sink
An iron nail - Sink

b Sugar, salt, apple, chair, orange table, flowervase, fan, biscuit.

Sugar - Soluble.
Salt - Soluble.
Apple - Soft
Chair - Hard
Orange - Soft
Table - Hard.
Flowervase - Non magnetic material
fan - Magnetic material.
Biscuit - Insoluble.

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Activity (38)

Do it yourself

Group objects on the basis of floating or sinking in water

Dried leaves, a lemon, lid of a pen, a sharpener, an eraser, thin wooden sticks, a coin, a metal key, a sewing needle, pins, iron nail

Take a tumbler and fill water in it. One by one, place each of these materials in the tumbler.
Observe whether it floats or sinks in water.
Group them in the table given below

	Objects	Floats / Sink
1		
2		
3		
4		
5		

Chapter 5

Separation of Substances

Key terms

Mixture :- A substance containing two or more substances mixed together

Sediment :- A substance that settles down at the bottom of a liquid

Residue :- A substance that remains in the filter

Filtrate :- A substance that flows through the filter

Solution :- A mixture of solute and solvent

Solute :- A substance that dissolves in a liquid

Solvent :- A liquid in which a solute dissolves

II Define these terms

Components → The substances which make up a mixture are called its components

Hand picking — The method of separating a mixture into its component by hand is called hand picking

Threshing — The process used to separate grain / seed from stalk is called threshing.

Winnowing — The method of separating husk from grains with the help of wind.

Sieving — The method of separating a mixture of various sized particles by passing them through a suitable sieve.

Sedimentation - The process of settling down of a solid at the bottom of a liquid is called sedimentation.

Decantation - A mixture made of two liquid that do not mix with each other can be separated by us using the method of decantation.

Filtration - The method of separating insoluble solid component from a liquid by passing them through a filter.

Miscible liquid - Liquid that mix with each other are called miscible liquid eg - Water and milk

Immiscible liquid - Liquid that do not mix with each other are called immiscible liquid. eg - Oil and water

Evaporation - The process of converting water into water vapour.

Saturated solution - A solution in which no more solute can be dissolved at a given temperature.

Sediment - The substance that settles at the bottom of a liquid is called a sediment.

III Answer the following questions (Very short)

Q1. Name the process of settling down of a solid at the bottom of a liquid.

Ans. Sedimentation is the process of settling down of a solid at the bottom of a liquid.

Q2. Name the substance that flows through the filter paper.

Ans The substance that flows through the filter paper is called filtrate.

Q3 Define evaporation

Ans The process of converting water into water vapour is called evaporation

Q4. Which is a solvent, water or sugar?

Ans Water is a solvent.

05 What is meant by saturated solution?

Ans A solution in which no more solute can be dissolved at a given temperature is called a saturated solution.

06 Name the method used to obtain salt from sea water.

Ans The method used to obtain salt from sea water is called evaporation.

07 In which solution can no more solute be dissolved?

Ans. In saturated solution no more solute be dissolved.

08 What is the liquid which dissolves a solid in it called?

Ans. The liquid which dissolves a solid in it is called Solvent.

09. Which method is used to separate lighter components of a mixture by wind?

Ans Winnowing is the method used.

to separate lighter components of a mixture by wind.

Q10 which method can be used to separate saw dust from a mixture of saw dust and water?

Ans Filtration is the method used to separate saw dust from a mixture of saw dust and water.

IV answer the following questions (: short type).

Q1 What do you understand by handpicking?

Ans. The method of separating a mixture into its components by hand is called hand picking.

Q2 What do you understand by threshing?

Ans. The process used to separate grain seeds from stalks is called threshing.

Q3 How is common salt obtained from sea water?

Ans Common salt is obtained from sea water by evaporation method. In order to separate common salt from sea water, the sea water is trapped in shallow pits and is left in the sun for long. The sun's heat evaporates all the water leaving the salt behind.

Q4 How do we separate impurities and bran from flour? why?

Ans We separate impurities and bran from flour by sieving method. Sieving removes impurities before grinding the floor. The impurities are stones, husk, and stalk.

Q5 Why do we need to separate the components of a mixture?

Ans The component of a mixture are separated because:

→ To obtain two different but useful components of a mixture eg butter is a useful component which is separated from milk by churning

- To remove harmful components or impurities of a mixture eg :- small pieces of stones and husk are separated from rice or dal before cooking

- To remove useless components of a mixture eg tea granules are separated from tea.

V Answer the following questions (Long type)

Q1. Explain different methods of separation of component of mixtures with examples.

Ans Following methods of separation of component of mixture

are

1. Hand picking - The method of separating a mixture into its component by hand is called hand picking.

Eg - stones and husk can be separated from rice by using the

2. Threshing - The process used to separate grain seeds from stalks is called threshing.

Eg Grain seeds are attached to the ~~ear~~ stalks after harvest. To separate grain seeds from stalks, the stalks are threshed on a wooden board.

3. Winnowing - The method of separating husk from grains with the help of wind.

Eg The mixture of grains and husk is taken in a winnowing basket and tilted to allow the

mixture to fall down slowly. The heavier lighter husk particles get carried away by wind, whereas the heavier grain particles fall down vertically.

4 Sieving - The method of separating a mixture of various sized particles by passing them through a suitable sieve.

Eg Pebbles are being separated from sand using a larger sieve at a construction site.

5 Sedimentation - The process of settling down of a solid at the bottom of a liquid is called sedimentation.

Eg Mixture of sand in water. The sand settles at the bottom of a liquid is called a sediment

6 Decantation - The separation process in which two immisible liquid are separated. This is done by pouring out the clear upper layer of liquid

Eg. Separation of a mixture of oil from water.

7 Filtration - The method of separating insoluble solid components from a liquid by passing them through a filter.

Eg Separation of sand and water using a filter paper.

Q2 What is a saturated solution? Write an activity to prepare saturated solution.

Ans A solution in which no more solute can be dissolved at a given temperature is called a saturated solution

Take a beaker and put 100ml of water in it. Add one tea spoonful of salt to water and stir it with a glass rod until the salt dissolve completely. Again add a ~~tsp~~ tsp of salt and stir it well. We go on adding more and more salt in water with constant stirring to dissolve it. After adding a number of spoons of salt, we will find that some salt is left undissolved at the bottom of beaker. This means that no more salt can be dissolved in the quantity of water which we took in the beaker. The solution is now said to be saturated.

Q3 Differentiate between sedimentation decantion and filtration.

Ans: Sedimentation	Decantation	Filtration
The process of settling down of a solid at the bottom of a liquid.	The process in which two immsible liquid are separated	The method of separating insoluble solid compone

Sedi-	Decantation This is done by pouring out the clear upper layer of liquid	Filtration Separating or from a liquid by passing them through filter.

Q4 Write an activity to separate salt from water

Ans: Take a china dish and add some water to it. Mix a teaspoon of salt in it. Stir the mixture well.

Can you see any salt in the china dish?

It seems to disappear, but has it really?

Now, heat the china dish containing the mixture of salt and water till all the water boils away.

What is left in the china dish?

We have separated salt from water by evaporating the water.