

6th to 10th Std Science

**Samacheer Do You Know Box Content and Book Back
Questions With Answer
110 Lessons**



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அர்ப்பணிப்பு

அனைத்து போட்டித்தேர்வுகளுக்கும் உதவும் வகையில் உருவாக்கப்பட்ட இந்த புத்தகத்தை

போட்டித்தேர்வுக்கு பயிலும் மாணவர்களுக்காக அர்ப்பணிக்கிறோம்.

கொடுக்கப்பட்ட வினாக்களைப் பயிற்சி செய்து, நீங்கள் இந்த புத்தகத்தின் மூலம் போட்டித்தேர்வில் மிகப்

பெரிய வெற்றியடைய வாழ்த்துக்கள்.

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6th Science Lesson 1

1] Measurements

Do You Know?

On the moon where the gravitational force is less than that is on the earth, the weight will reduce but the mass will remain same. The moon's gravitational pull is one sixth of the earth's pull. Thus objects weigh six times lighter on the Moon than on the Earth.

In the earlier days, people used sand clock and sundial to measure the passage of time during day time. The shadow cast by a stick can be used to estimate time. A vessel having a small hole is filled with sand and it is used as a clock. The sand in the vessel is allowed to come down and it is used to estimate the time.

An odometer is a device used for indicating distance travelled by an automobile. The metric system or standard set of units was created by the French in 1790. A ruler or scale, used now-a-days to measure length, was invented by William Bedwell in the 16th century. A standard metre rod made of an alloy of platinum and iridium is placed at the Bureau of Weights and Measures in Paris. National Physical Laboratory in Delhi has a copy of this metre rod. One kilogram is equal to the mass of a certain bar of platinum-iridium alloy that has been kept at the International Bureau of Weights and Measures in Sevres, France since 1889.

Choose the correct answer:

- The height of a tree can be measured by
 - Metre scale
 - Metre rod
 - Plastic ruler
 - Measuring tape
- Conversion of 7 m into cm gives _____
 - 70 cm
 - 7 cm
 - 700 cm
 - 7000 cm
- Quantity that can be measured is called _____
 - Physical quantity

(b) measurement

(c) unit

(d) motion

4. Choose the correct one

(a) $\text{km} > \text{mm} > \text{cm} > \text{m}$ (b) $\text{km} > \text{mm} > \text{m} > \text{cm}$ (c) $\text{km} > \text{m} > \text{cm} > \text{mm}$ (d) $\text{km} > \text{cm} > \text{m} > \text{mm}$

5. While measuring the length of an object using a ruler, the position of your eye should be

(a) left side of the point.

(b) vertically above the point where the measurement is to be taken

(c) right side of the point

(d) any where according to one's convenience

Fill in the blanks:

1. SI unit of length is _____

2. 500 gm = _____ kilogram

3. The distance between Delhi and Chennai can be measured in _____

4. 1 m = _____ cm

5. 5 km = _____ m.

State True or False. If False, correct the statement.

1. We can say that mass of an object is 126 kg.

2. Length of one's chest can be measured using metre scale

3. Ten millimetre makes one centimetre.

4. A hand span is a reliable measure of length.

5. The SI system of units is accepted everywhere in the world.

Complete the analogy:

1. Sugar: Beam Balance: Lime Juice: _____?

2. Height of a person: cm :: Length of your sharpened pencil lead : _____?

3. Milk: Volume :: Vegetables: _____?

Match the following:

1. Length of the fore arm a. metre
2. SI unit of length b. second
3. Nano c. 10^3
4. SI unit of time d. 10^{-9}
5. Kilo e. Cubit

Arrange the following in the increasing order of unit.

1. Metre, 1 centimetre, 1 kilometre, and 1 millimetre.

Find the answer for the following questions within the grid.

1. 10^{-3} is one _____
2. SI unit of time is _____
3. Cross view of reading a measurement leads to _____
4. _____ is the one what a clock reads.
5. _____ is the amount of substance present in an object.
6. _____ can be taken to get the final reading of the recordings of different students for a single measurement.
7. _____ is a fundamental quantity.
8. _____ shows the distance covered by an automobile.
9. A tailor uses _____ to take measurements to stitch the cloth.
10. Liquids are measured with this physical quantity.

Answers:

Choose the correct answer:

1. Measuring Tape 2. 700cm 3. Physical quantity 4. $\text{km} > \text{m} > \text{cm} > \text{mm}$

5. Vertically above the point where the measurement is to be taken.

Fill in the blanks:

1. Meter 2. 0.5kilogram 3. Kilometre 4. 100cm 5. 5000m

State True or False:

1. True

2. False

Correct Statement: Length of one's chest can be measured using measuring tape.

3. True

4. False

Correct Statement: Hand span and cubit are not particular measurements as it varies from person to person.

5. True

Complete the Analogy:

1. Measuring Jar 2. mm 3. Mass

Match the following

1. Cubit 2. Metre 3. 10^{-9} 4. Second 5. 10^3

Arrange the following in the increasing order of unit:

1 millimetre, 1 centimetre, 1 meter, 1 kilometre

Find the answers for the following questions within the grid:

1. Millimetre 2. Second 3. Error 4. Time 5. Mass 6. Average 7. Length 8. Odometer 9. Tape 10. Litre

6th Science Lesson 2

2] Force and Motion

Do you know?

Aryabatta, an ancient Indian astronomer, said, "As the banks of the river appear to move back to a person in a boat floating gently in a river, the night sky studded with stars appear to move from the east

to the west and so the Earth rotates from the west to the east."

Forces are push or pull by an animate or inanimate agency.

Oscillations at Greater Speed: Ask your friend to hold the two ends of a stretched rubber band. Strike it in the middle. Do you see that it oscillates very fast? When the oscillation is very swift, it is called as vibration. Fast oscillations are referred to as vibrations.

All oscillatory motions are periodic, but not all periodic motions are oscillatory motion.

The distance travelled by an object in unit time is called speed of the object. If an object travelled a distance "d" in time "t" then, its speed is given as:

$$\text{Speed (s)} = \text{Distance travelled} / \text{Time taken} = d / t$$

Usain Bolt crossed 100 metre in 9.58 seconds and made a world record. If you are able to run faster than him, then Olympic Gold Medal is waiting for you.

A Cheetah is the fastest land animal running at a speed of 112 km/h.

Choose the correct answer:

1. Unit of Speed is

- (a) m
- (b) s
- (c) kg
- (d) m/s

2. Which among the following is an oscillatory motion?

- (a) Rotation of the earth about its axis.
- (b) Revolution of the moon about the earth.
- (c) To and fro movement of a vibrating string.
- (d) All of these

3. The correct relation among the following is

- (a) Speed = Distance x Time
- (b) Speed = Distance / Time
- (c) Speed = Time / Distance
- (d) Speed = 1 / (Distance x Time)

4. Gita travels with her father in a bike to her uncle's house which is 40 km away from her home. She takes 40 minutes to reach there

Statement 1: She travels at a speed of 1 Km / minute.

Statement 2: She travels at a speed of 1 km/hour.

(a) Statement 1 alone is correct.

(b) Statement 2 alone is correct.

(c) Both statements are correct

(d) Neither statement 1 nor statement 2 is correct.

Fill in the blanks:

1. A bike moving on a straight road is an example for _____ motion.

2. Gravitational force is a _____ force.

3. Motion of a potter's wheel is an example for _____ motion.

4. When an object covers equal distances in equal interval of time, it is said to be in _____ motion.

State true or false. If false, correct the statement:

1. To and fro motion is called oscillatory motion.

2. Vibratory motion and rotatory motion are periodic motions.

3. Vehicles moving with varying speeds are said to be in uniform motion.

4. Robots will replace human in future.

Match the following:



1. a. Circular motion



2. b. Oscillatory motion



3. c. Linear motion



4. d. Rotatory motion



5. e. Linear and rotator motion

Given below is the distance-travelled by an elephant across a forest with uniform speed. Complete the data of the table given below with the idea of uniform speed:

Distance (m)	0	4		12		20
Time (s)	0	2	4		8	10

Complete the analogy:

- Kicking a ball : Contact force :: Falling of leaf : _____?
- Distance : metre :: Speed : _____?
- Circulatory motion : A spinning top :: Oscillatory motion : _____?

Complete the web chart:

Non-periodic		
	Movement repeated after a fixed interval of time	Movement about an axis or a fixed centre

Answer in a word or two:

- The force which acts on an object without physical contact. _____
- A change in the position of an object with time. _____
- The motion which repeats itself after a fixed interval of time. _____
- The motion of an object which covers equal distances in equal intervals of time. _____
- A machine capable of carrying out a complex series of actions automatically. _____

Answers:

Choose the correct answers:

- s 2. To and fro movement of a vibrational string 3. Speed = Distance / Time 4. Statement 1 alone is correct

Fill in the blanks:

- Linear 2. Non-contact force 3. Rotatory 4. Uniform

State True or False:

- True
- False

Correct Statement: Vibratory motion and Oscillatory motion are periodic motions.

- False

Correct Statement: Vehicles moving with varying speed are said to be in non-uniform motion.

- False

Correct Statement: Robots cannot replace human in future.

Match the following:

- Linear motion 2. Rotatory motion 3. Oscillatory motion 4. Circular motion 5. Linear and Rotator motion

Given below is the distance-travelled by an elephant across a forest with uniform speed. Complete the data of the table given below with the idea of uniform speed:

Distance (m)	0	4	8	12	16	20
Time (s)	0	2	4	6	8	10

Complete the Analogy:

- Non-contact force 2. Meter/second 3. Swinging of a pendulum

Complete the web chart:

Non-periodic	Periodic motion	Rotational motion
Movement not repeated in a uniform interval	Movement repeated after a fixed interval of time	Movement about an axis or a fixed centre

Answer in a word or two:

- Non-contact force 2. Motion 3. Oscillatory motion 4. Uniform motion 5. Robots

6th Science Lesson 3

3] Matter Around Us

Do You Know?

Solid → Liquid → Gas

'Liquefaction of gases' is the process by which substances in their gaseous state are converted to the liquid state. When the pressure on a gas is increased, its molecules come closer together, and the temperature is reduced. This removes enough energy to make it change from the gaseous state to the liquid state.

A mixture is an impure substance and contains more than one kind of particles. In the mixture the components are mixed in any proportion.

In washing machines water is squeezed out from clothes and they are dried. This method is called centrifugation.

Rice husk also called chaff is the hard coating or protective covering on a seed or grains. It protects the seed during the growing season. Husk can be used as building material, fertilizer, insulation material and fuel.

Combination of methods are used sometimes for complete separation. If the mixture of sand and salt in water has to be separated several methods like sedimentation, decantation, filtration, evaporation and condensation are used.

In most houses people use commercial water filter to remove not only the impurities but also to kill the harmful germs in water using UV rays. Reverse Osmosis (RO) is a process of removing impurities from water to make it potable.

Choose the correct answer:

1. _____ is not made of matter.

- (a) Gold ring
- (b) Iron nail
- (c) Light ray
- (d) Oil drop

2. 200 ml of water is poured into a bowl of 400 ml capacity. The volume of water will be _____

- (a) 400 ml
- (b) 600 ml

(c) 200 ml

(d) 800 ml

3. Seeds from water-melon can be removed by _____

- (a) hand-picking
- (b) filtration
- (c) magnetic separation
- (d) decantation

4. Lighter impurities like dust when mixed with rice or pulses can be removed by _____

- (a) Filtration
- (b) sedimentation
- (c) decantation
- (d) winnowing

5. _____ is essential to perform winnowing activity.

- (a) Rain
- (b) Soil
- (c) Water
- (d) Air

6. Filtration method is effective in separating _____ mixture.

- (a) solid-solid
- (b) solid-liquid
- (c) liquid-liquid
- (d) liquid-gas

7. Among the following _____ is not a mixture.

- (a) Coffee with milk
- (b) lemon juice
- (c) Water
- (d) ice cream embedded with nuts

Fill in the blanks:

- Matter is made up of _____
- In solids, the space between the particles is less than in _____
- Grains can be separated from their stalks by _____
- Chillies are removed from 'Upma' by _____ method.
- The method employed to separate clay particles from water is _____
- Water obtained from tube wells is usually _____ water.
- Which among the following _____ will get attracted to by magnet? (safety pins, pencil and rubber band)

State true or false. If false, correct the statement:

- Air is not compressible.
- Liquids have no fixed volume but have fixed shape.
- Particles in solids are free to move.
- When pulses are washed with water before cooking, water is separated from them by filtration.
- Strainer is a kind of sieve which is used to separate a liquid from solid.
- Grain and husk can be separated by winnowing.
- Air is a pure substance.
- Butter from curd is separated by sedimentation.

Complete the given analogy.

- Solid: Rigidity: Gas : _____
- Large Inter-particle space: Gas :: _____: Solid.
- Solid: Definite shape :: _____: shape of the vessel.
- Husk-grains: winnowing :: sawdust -chalk piece: _____
- Murukku from hot oil : _____: coffee powder residue from decoction : _____
- Iron-sulphur mixture: _____ :: Mustard seeds from Urad-dhal : rolling

Match the following:

Property	Example
----------	---------

Breaks easily (brittle)	Metal pan
Bends readily	Rubber band
Can be stretched easily	Cotton wool
Gets compressed easily	Mud pot
Gets heated readily	Plastic wire

A	B	C
1) Separation of visible undesirable components	a) Water mixed with chalk powder	i) Magnetic separation
2) Separation of heavier and lighter components	b) Sand and water	ii) Decantation
3) Separation of insoluble impurities	c) Iron impurities	iii) Filtration
4) Separation of magnetic components from non-magnetic components	d) Rice and stone	iv) Hand-picking
5) Separation of solids from liquids	e) Husk and paddy	v) Winnowing

Answers:**Choose the appropriate answers:**

- Light ray
- 200 ml
- Hand picking
- Winnowing
- Air
- Solid-liquid
- Water

Fill in the blanks:

- Atoms
- Liquid and Gases
- Threshing
- Hand picking
- Filtration
- Impure
- Safety pins

State True or False:

- False

Correct statement: Air is highly compressible.

- False

Correct Statement: Liquid has fixed volume but have no fixed shape.

3. False

Correct Statement: Particles of solid cannot move freely.

4. False

Correct Statement: When pulses are washed with water before cooking water is separated from by the process of decantation.

5. True

6. True

7. False

Correct Statement: Air is a mixture of gas.

8. False

Correct Statement: Butter from curd is separated by churning.

Complete the given Analogy:

1. Flexibility 2. Little inter-particle space 3. Liquid 4. Filtration

5. Filtration and Filtration 6. Magnetic separation

Match the Following:

1. Mud pot 2. Plastic wire 3. Rubber band 4. Cotton wool 5. Metal pan

1. Separation of visible undesirable components – Rice and stone – Hand-picking

2. Separation of heavier and lighter components- Husk and Paddy- Winnowing

3. Separation of insoluble impurities – Water mixed with chalk powder- Filtration

4. Separation of magnetic components from non-magnetic components – Iron impurities- Magnetic separation

5. Separation of solids from liquids – Sand and water - Decantation

6th Science Lesson 4

4] The World of Plants

Do you know?

The leaves of Victoria amazonica plant grows upto 3 metres across. A mature Victoria leaf can support an evenly distributed load of 45 Kilograms or apparently young person

Nile is the longest river in the world. It is 6650 km long. The longest river in India is Ganges. It is 2525 km long.

Air spaces in stems and petioles of lotus are useful for floating in water.

The first land plant appeared around 470 million years ago. They were mosses and liverworts. The Amazon Rain Forest in South America produces half of the world's oxygen supply.

Thar Desert, also called Great Indian Desert, is an arid region of rolling sand hills on the Indian subcontinent. It is located partly in Rajasthan state, north-western India, and partly in Punjab and Sindh (Sind) Provinces, Eastern Pakistan.

World habitat day is observed on 1st Monday of October every year.

Bamboo is one of the fast growing plants, during active growth phase.

Choose the correct answer:

1. Pond is an example of _____ ecosystem.

(a) Marine

(b) freshwater

(c) deserts

(d) mountain

2. The important function of stomata is _____

(a) Conduction

(b) transpiration

(c) photosynthesis

(d) absorption

3. Organ of absorption is _____

(a) Root

(b) stem

(c) leaf

(d) flower

4. The habitat of water hyacinth is

- (a) Aquatic
- (b) terrestrial
- (c) desert
- (d) mountain

Fill in the blanks:

1. Earth's surface is covered by _____ % of water
2. The driest places on the Earth are _____
3. Fixation and absorption are the main functions of _____
4. Primary organs of photosynthesis are _____
5. Taproot system is present in _____ plants.

State True or False. If false, correct the statement.

1. Plants can live without water.
2. All plants have chlorophyll.
3. Plants have three parts: the root, the stem and leaves.
4. Mountain is an example for freshwater habitat.
5. Root is modified into spines.
6. Green plants need sunlight.

Match the following:

1. Mountain a. Monocot
2. Desert b. Branches
3. Stem c. Dry place
4. Photosynthesis d. Himalayas
5. Fibrous root e. leaves

Arrange the following in correct sequence.

1. Leaf – Stem – Root – Flower
2. Transpiration – Conduction – Absorption – Fixation

Answers:**Choose the correct answer:**

1. Freshwater 2. Transpiration 3. Root 4. Aquatic

Fill in the blanks:

1. More than 70% 2. Deserts 3. Root 4. Leaves 5. Dicotyledonous

Say True or False:

1. False

Correct Statement: Plants cannot live without water.

2. True

3. False

Correct Statement: Plant have several parts such as the root, stem, leaves, flowers, fruits and seeds.

4. False

Correct Statement: Rivers, Ponds, lakes and pools are the example for freshwater habitat. Mountains are example for the Terrestrial habitat.

5. False

Correct Statement: Leaves are modified into spines.

6. True

Match the following:

1. Himalayas 2. Dry place 3. Branches 4. Leaves 5. Monocot

Arrange the following in correct sequence.

1. Root- Stem- Leaf- Flower
2. Fixation- Absorption- Conduction- Transpiration

6th Science Lesson 5**5] The World of Animals****Do you know?**

In Jurong Birds Park, Singapore, Penguins are kept in a big glass case with ice bergs and the temperature is maintained at 0° C and below.

Animals change their location as the season changes. It is called migration. In Tamil Nadu bird sanctuaries are located at Vedanthangal, Kodiyakkarai and Koondhankulam. Many birds from foreign countries like Siberia and Russia

migrate to Vedanthaangal. Likewise, during summer and drought conditions birds from our country migrate to foreign countries. These birds are called migratory birds.

Spending winters in a dormant condition is called hibernation (Winter sleep). Eg. Turtle. On the other hand, spending the hot and dry period in an inactive state is known as aestivation (Summer sleep). Eg. Snail

Kangaroo rat does not drink water at all. It obtains the required water from the seed it eats.

The mountain goat namely Nilgiri Tahr can find small spaces on rock to climb with ease and keep its balance as it feeds.

Choose the correct answer:

1. The study of living beings or organisms is called.

- (a) Psychology
- (b) Biology
- (c) Zoology
- (d) Botany

2. Which of the following are the characteristics of living beings?

(i) Respiration (ii) Reproduction (iii) Adaptation (iv) Excretion

Choose the correct one

- (a) (i), (ii) and (iv) only
- (b) (i), (ii) only
- (c) (ii) and (iv) only
- (d) (i), (iv), (ii) and (iii)

3. Lizards breathe through their

- (a) skin
- (b) gills
- (c) lungs
- (d) trachea

4. All animals need

- (a) food and water only
- (b) water only
- (c) air, food and water

(d) food only

5. Which animal has the special organs of breathing called gills?

- (a) Earthworm
- (b) fox
- (c) fish
- (d) Frog

6. Choose the set that represents only biotic components of a habitat.

- (a) Tiger, Deer, Grass, Soil
- (b) Rocks, Soil, Plants, Air
- (c) Sand, Turtle, Crab, Rocks
- (d) Aquatic plants, Fish, Frog, Insects

7. Which of the following cannot be called as a habitat?

- (a) A desert with camels
- (b) A pond with fish and snails
- (c) Cultivated land with grazing cattle
- (d) A jungle with wild animals

8. Birds fly in the air with the help of

- (a) Heavy and strong bones
- (b) Soft and thick bones
- (c) Hollow and light bones
- (d) flat and thick bones

9. Paramecium moves from one place to other with the help of _____

- (a) Pseudopodia
- (b) flagella
- (c) foot
- (d) cilia

10. Kangaroo rat lives in

- (a) Aquatic habitat
- (b) desert habitat
- (c) Grass land habitat
- (d) mountain habitat

Fill in the blanks:

1. Water bodies, deserts, mountains are called _____
2. Based on the number of cells present animals are classified into _____ and _____
3. Tail of a bird acts as a rudder which helps to _____
4. Amoeba moves with the help of _____

State True or False. If false, write the correct statement.

1. Habitat is a living or dwelling place of an organism.
2. The geographical features and environmental conditions on earth remain same from one place to other.
3. Amoeba is a unicellular organism and it moves with pseudopodia.
4. Birds can see only one object at a time.
5. Paramecium is a multi-cellular organism.

Complete the following:

1. Tropical rain forests, grasslands and deserts are known as _____
2. Some living things are made of a single cell, called _____ organism.
3. The breathing organ of a fish is known as _____
4. The lizard _____ on the ground with its claw on its feet.

5. Camel stores _____ in its hump.

Answers:**Choose the correct answers:**

1. Biology 2. i, ii iv and iii 3. Lungs 4. Air, food and water 5. Fish 6. Aquatic plants, Fish, Frog, Insects
7. Cultivated land with grazing cattle 8. Hollow and light bones 9. Cilia 10. Desert Habitat

Fill in the blanks:

1. Habitats 2. Unicellular and Multicellular 3. Control the direction of movements 4. Pseudopodia (False foot)

Say True or False:

1. True
2. False

Correct Statement: The Geographical features and environmental conditions on earth vary from one place to other.

3. True
4. False

Correct Statement: Birds have binocular vision; it can see two objects at a time.

5. False

Correct Statement: Paramecium is a unicellular organism.

Complete the following:

1. Habitats 2. Unicellular 3. Gills 4. Moves 5. Fat

6th Science Lesson 6**6] Health and Hygiene****Do You Know?**

Soyabean is the highly rich source of protein.

Gooseberries contains nearly 20 times Vitamin C than Orange.

Sun screen lotion reduces your skin's ability to produce vitamin D by upto 95% which may lead to vitamin D deficiency.

80% of the Moringa leaves in the world are produced in India. The major countries which import Moringa

leaves are China, US, Germany, Canada, South Korea and European countries.

India has the second largest number of obese children in the world after China. According to a study it has been found that 14.4 million children in the country have excess weight.

Disease: Disease is a definite pathological process having a characteristic set of signs and symptoms.

Disorder: Disorder is a derangement or abnormality in function.

A Virus that contains R.N.A. instead of D.N.A is called a Retrovirus.

Choose the correct answer:

1. Our body needs _____ for muscle building.

- (a) Carbohydrate
- (b) fat
- (c) Protein
- (d) water

2. Scurvy is caused due to the deficiency of _____

- (a) Vitamin A
- (b) Vitamin B
- (c) Vitamin C
- (d) Vitamin D

3. Calcium is an example for

- (a) Carbohydrate
- (b) fat
- (c) protein
- (d) minerals

4. Bacteria are very small _____ microorganism.

- (a) Prokaryotic
- (b) eukaryotic
- (c) protozoa
- (d) acellular

5. We should include fruits and vegetables in our diet, because _____

- (a) They are the best source of carbohydrates
- (b) they are the best source of proteins
- (c) They are rich in minerals and Vitamins
- (d) they have high water content

State True of False. If false, write the correct statement.

1. There are three main nutrients present in food.
2. Fats are stored as energy by our body.

3. All bacteria have flagella.

4. Iron helps in the formation of haemoglobin.

5. Virus can grow and multiply outside host.

Fill in the blanks:

1. Malnutrition leads to _____

2. Iodine deficiency leads to _____ in adults.

3. Vitamin D deficiency causes _____

4. Typhoid is transmitted due to contamination of _____ and water.

5. Influenza is a _____ disease.

Complete the analogy:

1. Rice: Carbohydrate :: Pulses : _____

2. Vitamin D: Rickets :: Vitamin C : _____

3. Iodine: Goitre :: Iron: _____

4. Cholera: Bacteria :: Smallpox : _____

Match the following:

1. Vitamin A - a. Rickets
2. Vitamin B - b. Night blindness
3. Vitamin C - c. Sterility
4. Vitamin D - d. Beri beri
5. Vitamin E - e. Scurvy

Answers:

Choose the correct answer:

1. Protein 2. Vitamin C 3. Minerals 4. Prokaryotic 5. They are rich in minerals and vitamins

State True or False:

1. False

Correct Statement: There are six main nutrients present in the food.

2. True

3. False

Correct Statement: Not all the bacteria's have flagella. Only some bacteria's have flagella.

4. True

5. False

Correct Statement: Virus grow and multiply inside the host.

Fill in the blanks:

1. Deficiency diseases 2. Goitre 3. Rickets 4. Food 5. Viral(virus)

Complete the analogy:

1. Proteins 2. Scurvy 3. Anaemia 4. Virus

Match the Following:

1. Night blindness 2. Beri beri 3. Scurvy 4. Rickets 5. Sterility

6th Science Lesson 7

7] Computer – An introduction

Do you know?

ENIAC (Electronic Numerical Integrator and Computer) was the first computer introduced in the year 1946. This is the first General purpose Computer.

Choose the correct answer:

1. Who is the father of computer?

- (a) Martin Luther King
- (b) Graham Bell
- (c) Charlie Chaplin
- (d) Charles Babbage

2. Which of the following is another form of computer?

- (a) Blackboard
- (b) Mobile
- (c) Radio
- (d) Book

3. When was the first computer introduced?

- (a) 1980
- (b) 1947
- (c) 1946
- (d) 1985

4. Who is the computer's first programmer?

- (a) Lady Wellington
- (b) Augusta ada Lovelace
- (c) Mary Curie
- (d) Mary Comb

5. Pick out the odd one:

- (a) Calculator
- (b) Abacus
- (c) Flash card
- (d) Laptop

Fill in the blanks:

1. Data is _____ information.

2. World's first general purpose computer is _____

3. Information is _____ data.

4. Fifth generation computer has _____ intelligence.

5. _____ is the device that uses Index number.

State true or false:

- 1. Computer is an electronic device.
- 2. Sir Isaac Newton invented computer.
- 3. Computer can do calculations fast.

Match the following:

- 1. First generation computer - Artificial Intelligence
- 2. Second generation computer - Integrated Circuit
- 3. Third generation computer - Vacuum tubes
- 4. Fourth generation computer - Transistor
- 5. Fifth generation computer - Micro processor

Answers:

Choose the correct answers:

1. Charles Babbage 2. Mobile 3. 1946 4. Augusta ada Lovelace 5. Flash card

Fill in the Blanks:

1. Unprocessed 2. Abacus 3. Processed 4. Artificial 5. Analog Computer

State True or False:

1. True
2. False

Correct Statement: Charles Babbage invented the Computer.

3. True

Match the Following:

1. Vacuum tubes 2. Transistor 3. Integrated circuits
4. Microprocessor 5. Artificial Intelligence

6th Science Lesson 8**8] Heat****Do You Know?**

One day in 1922, the air temperature was measured at 59°C in the shade in Libya, Africa. The coldest temperature in the world was measured in the Antarctic continent. It was approximately -89°C. The minus sign (-) is used when the temperature falls below the freezing point of water, which is 0°C. If water becomes ice at 0°C, you can imagine how cold -89°C would be. Our normal body temperature is 37°C. Our body feels cool if the air temperature is around 15 to 20 degree Celsius.

Glassware used in kitchen and laboratory are generally made up of Borosilicate glass (pyrex glass). The reason is that the Borosilicate glasses do not expand much on being heated and therefore they do not crack.

Choose the best answers:

1. When an object is heated, the molecules that makes up the object

- (a) Begin to move faster
- (b) Lose energy
- (c) Become heavier
- (d) Become lighter

2. The unit of heat is

- (a) Newton
- (b) Joule
- (c) Volt
- (d) Celsius

3. One litre of water at 30°C is mixed with one litre of water at 50°C. The temperature of the mixture will be

- (a) 80°C
- (b) More than 50°C but less than 80°C
- (c) 20°C
- (d) Around 40°C

4. An iron ball at 50°C is dropped in a mug containing water at 50°C. The heat will

- (a) Flow from iron ball to water
- (b) Not flow from iron ball to water or from water to iron ball
- (c) Flow from water to iron ball
- (d) Increase the temperature of both

Fill in the blanks:

1. Heat flows from a _____ body to a _____ body.

2. The hotness of the object is determined by its _____

3. The SI unit of temperature is _____

4. Solids _____ on heating and _____ on cooling.

5. Two bodies are said to be in the state of thermal _____ if there is no transfer of heat taking place.

State true or false. If false, correct the statement:

1. Heat is a kind of energy that flows from a hot body to a cold body.
2. Steam is formed when heat is released from water.
3. Thermal expansion is always a nuisance.
4. Borosilicate glass does not expand much on being heated.
5. The unit of heat and temperature are the same.

Match the following:

1. Heat - 0°C
2. Temperature - 100°C
3. Thermal Equilibrium - Kelvin
4. Ice cube - No heat flow
5. Boiling water - Joule

Complete the analogy:

1. Heat: Joule :: Temperature: _____
2. Ice cube: 0°C :: Boiling water: _____
3. Total Kinetic Energy of molecules: Heat :: Average Kinetic Energy: _____

Answers:**Choose the best answers:**

1. Begin to move faster
2. Joule
3. Around 40°C
4. Not flow from iron ball to water or from water to iron ball

Fill in the blanks:

1. Hot, Cold
2. Kinetic energy
3. Kelvin
4. Expand, Contract
5. Equilibrium

Say True or False:

1. True

2. False

Correct Statement: Ice is formed when heat is released from water.

3. True

4. True

5. False

Correct Statement: The SI unit of heat is joule. The SI unit of temperature is Kelvin.

Match the following:

1. Joule
2. Kelvin
3. No heat flow
4. 0°C
5. 100°C

Complete the analogy:

1. Kelvin
2. 100°C
3. Average heat

6th Science Lesson 9**9] Electricity****Do You Know?**

Warning: All experiments with electricity should only be performed with batteries used in a torch or radio. Do not, under any circumstance, make the mistake of performing these experiments with the electricity supply in your home, farm or school. Playing with the household electric supply will be extremely dangerous.

Electric Eel is a kind of fish which is able to produce electric current. This fish can produce an electric shock to safeguard itself from enemies and also to catch its food.

Ammeter is an instrument used in electric circuits to find the quantity of current flowing through the circuit. This is to be connected in series.

Thomas Alva Edison (February 11, 1847 – October 18, 1931) was an American inventor. He invented more than 1000 useful inventions and most of them are electrical appliances used in homes. He is remembered for the invention of electric bulb.

Choose the best answers:

1. The device which converts chemical energy into electrical energy is

(a) Fan

(b) Solar cell

(c) Cell

(d) Television

2. Electricity is produced in

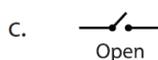
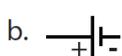
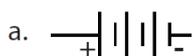
(a) Transformer

(b) Power station

(c) Electric wire

(d) Television

3. Choose the symbol for battery



4. In which among the following circuits does the bulb glow?



5. _____ is a good conductor.

(a) Silver

(b) Wood

(c) Rubber

(d) Plastic

Fill in the blanks:

1. _____ are the materials which allow electric current to pass through them.

2. Flow of electricity through a closed circuit is _____

3. _____ is the device used to close or open an electric circuit.

4. The long perpendicular line in the electrical symbol represents its _____ terminal.

5. The combination of two or more cells is called a _____

State true or false. If false, correct the statement:

1. In a parallel circuit, the electricity has more than one path.

2. To make a battery of two cells the negative terminal of one cell is connected to the negative terminal of the other cell.

3. The switch is used to close or open an electric circuit.

4. Pure water is a good conductor of electricity.

5. Secondary cell can be used only once.

Match the following:

sl.no.	Symbol	Description
1		open key
2		cell
3		bulb glows
4		battery
5		bulb does not glow

Arrange in sequence:

A cell, a device, electrical energy, is called, into, chemical energy, that converts.

Consider the statements given below and choose the correct option:

1. Assertion (A) : It is very easy for our body to receive electric shock.

Reason (R) : Human body is a good conductor of electricity.

(a) Both A and R is correct and R is the correct explanation for A

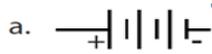
(b) A is correct, but R is not the correct explanation for A

(c) A is wrong but R is correct

(d) Both A and R is correct and R is not the correct explanation for A.

Answers:**Choose the best answers:**

1. Cell 2. Power station 3.



4.



5. Silver

Fill in the blanks:

1. Conductors 2. Current 3. Switch 4. Positive 5. Battery

Say True or False:

1. True
2. False

Correct Statement: To make a battery of two cells the negative terminal of one cell is connected to the positive terminal of the other cell.

3. True

4. False

Correct Statement: Pure water is a bad conductor of electricity.

5. False

Correct Statement: Secondary cells can be recharged and used again and again.

Match the following:

1. Cell 2. Bulb does not glow 3. Open key 4. Bulb glows 5. Battery

Arrange in sequence:

A device that converts chemical energy into electrical energy is called a Cell.

Consider the statements given below and choose the correct option:

1. Both A and R is correct and R is the correct explanation for A

6th Science Lesson 10**10] Changes Around Us****Do You Know?**

The change of state from solid to gas directly is called sublimation. Ex: Camphor

Water is known as the universal solvent. It dissolves a wide range of substance.

Choose the best answers:

1. When ice melts to form water, change occurs in its

- (a) Position
- (b) Colour
- (c) State
- (d) Composition

2. Drying of wet clothes in air is an example of

- (a) Chemical change
- (b) Undesirable change
- (c) Irreversible change

(d) Physical change

3. Formation of curd from milk is

- (a) A reversible change
- (b) A fast change
- (c) An irreversible change
- (d) An undesirable change

4. Out of the following an example of a desirable change is

- (a) Rusting
- (b) Change of seasons
- (c) Earthquake
- (d) Flooding

5. Air pollution leading to Acid rain is a

- (a) Reversible change

- (b) Fast change
 (c) Natural change
 (d) Human made change

Fill in the blanks:

1. Magnet attracts iron needle. This is _____ change. (a reversible / an irreversible)
2. Boiling of egg results in _____ change. (a reversible / an irreversible)
3. Changes that are harmful to us are _____ (desirable / undesirable)
4. Plants convert Carbon-di-oxide and water into starch. This is an example of _____ change. (natural / human made)
5. Bursting of fire crackers is a _____ change whereas germination of seeds is a _____ change. (slow / fast)

State true or false. If false, correct the statement:

1. Growing of teeth in an infant is slow change.
2. Burning of match stick is a reversible change.
3. Change of New moon to Full moon is human made.
4. Digestion of food is a physical change.
5. In a solution of salt in water, water is the solute.

Complete the analogy:

1. Curdling of milk: irreversible change :: Formation of clouds: _____ change
2. Photosynthesis: _____ change :: burning of coal: Human – made change
3. Dissolving of glucose: reversible change :: Digestion of food: _____ change
4. Cooking of food: desirable change :: decaying of food: _____ change
5. Burning of matchstick: _____ change :: Rotation of the Earth: Slow change

Circle the odd one out. Give reason for your choice:

1. Growth of a child, Blinking of eye, Rusting, Germination of a seed
2. Glowing of a bulb, lighting of a candle, breaking of a coffee mug, curdling of milk
3. Rotting of an egg, condensation of water vapour, trimming of hair, ripening of fruit
4. Inflating a balloon, popping a balloon, fading of wall paint, burning of kerosene

Answers:**Choose the best answer:**

1. State 2. Physical change 3. An irreversible change 4. Change of seasons 5. Human made change

Fill in the blanks:

1. A reversible change 2. An irreversible 3. Undesirable 4. Natural 5. Fast, Slow

Say True or False:

1. True
2. False

Correct Statement: Burning of matchstick is an irreversible chemical change.

3. False

Correct Statement: Change of New moon to Full moon is a natural change.

4. False

Correct Statement: The digested food undergoes chemical change.

5. False

Correct Statement: In a solution of salt in water, water is the solvent.

Complete the analogy:

1. Reversible change 2. Natural 3. Irreversible change 4. Undesirable change 5. Fast

Circle the odd one out. Give reason for your choice:

1. Blinking of eye. All the others are slow changes
2. Curdling of milk. All the others are fast changes.

3. Trimming of hair. All the others are slow changes.

4. Fading of wall paint. All the others are fast changes.

6th Science Lesson 11

11] Air

Do You Know?

A weathercock shows the direction in which the air is moving at a particular place. You can also make a wind sock to find the direction of the wind. Can you try it yourself?

When carbon-di-oxide is cooled to -57°C , it directly becomes a solid, without changing to its liquid state. It is called dry ice and is a good refrigerating agent. Dry ice is used in trucks or freight cars for refrigerating perishable items such as meat and fish while transporting them.

Choose the best answers:

1. _____ is the percentage of nitrogen in air.

- (a) 78%
- (b) 21%
- (c) 0.03%
- (d) 1%

2. Gas exchange takes place in plants using _____

- (a) Stomata
- (b) Chlorophyll
- (c) Leaves
- (d) Flowers

3. The constituent of air that supports combustion is _____

- (a) Nitrogen
- (b) Carbon-di-oxide
- (c) Oxygen
- (d) Water vapour

4. Nitrogen is used in the food packaging industry because it _____

- (a) Provides colour to the food
- (b) Provides oxygen to the food
- (c) Adds proteins and minerals to the food
- (d) Keeps the food fresh

5. _____ and _____ are the two gases, which when taken together make up about 99 percentage of air.

I. Nitrogen II. Carbon-di-oxide III. Noble gases IV. Oxygen

- (a) I and II
- (b) I and III
- (c) II and IV
- (d) I and IV

Fill in the blanks:

1. _____ is the active component of air.

2. The gas given out during photosynthesis is _____

3. _____ gas is given to the patients having breathing problems.

4. _____ can be seen moving in a beam of sunlight in a dark room.

5. _____ gas turns lime water milky.

State true or false. If false, correct the statement:

1. Inhaled air contains a large amount of carbon-di-oxide.
2. Planting trees help in decreasing global warming.
3. The composition of air is always exactly the same.

4. Whales come up to the water surface to breathe in oxygen.

5. The balance of oxygen in atmosphere is maintained through photosynthesis in animals and respiration in plants.

Match the following:

1. Moving Air - Photosynthesis
2. Layer in which we live - Troposphere
3. Stratosphere - Wind
4. Oxygen - Ozone layer
5. Carbon-di-oxide - Combustion

Complete the analogy:

1. Photosynthesis: _____ :: Respiration: Oxygen
2. 78% of air: Does not support combustion :: _____ : supports combustion

Answers:

Choose the correct answer:

1. 78% 2. Stomata 3. Oxygen 4. Keeps the food fresh 5. Nitrogen and Oxygen

Fill in the blanks:

1. Oxygen 2. Oxygen 3. Oxygen 4. Dust particles 5. Carbon-dioxide

Say True or False:

1. False

Correct Statement: Inhaled air contains large amount of oxygen.

2. True

3. False

Correct Statement: The composition of air varies from place to place.

4. True

5. False

Correct Statement: The balance of oxygen in atmosphere is maintained through photosynthesis in plants and respiration in animals.

Match the following:

1. Wind 2. Troposphere 3. Ozone layer 4. Combustion 5. Photosynthesis

Complete the analogy:

1. Carbon-dioxide 2. 21% of air

6th Science Lesson 12

12] The Cell

Do You Know?

Can you see a cell with your naked eyes? Cells are very minute and said to be microscopic cannot be seen with our naked eyes. They can be observed only through a specialized scientific instrument called "microscope". Now a days an electron microscope is used to magnify the cells and observe the cells.

Cell size has no relation to the size of an organism. It is not necessary that the cells of, say an elephant be much larger than those of a mouse.

Approximate number of cells in the human body is 3.7×10^{13} or 37,000,000,000,000.

Choose the best answers:

1. The unit of measurement used for expressing dimension (size) of cell is _____

- (a) Centimetre
- (b) millimetre
- (c) micrometre
- (d) Metre

2. Under the microscope Priya observes a cell that has a cell wall and distinct nucleus. The cell that she observed is

- (a) A plant cell
- (b) An animal cell
- (c) A nerve cell
- (d) A bacteria cell

3. A 'control centre' of the eukaryotic cell is

- (a) Cell wall
- (b) Nucleus
- (c) Vacuoles
- (d) Chloroplast

4. Which one of the following is not a unicellular organism?

- (a) Yeast
- (b) Amoeba
- (c) Spirogyra
- (d) Bacteria

5. Most organelles in a eukaryotic cell found in the_____?

- (a) Cell wall
- (b) Cytoplasm
- (c) Nucleus
- (d) Vacuole

Fill in the blanks:

1. The instrument used to observe the cell is _____
2. I control the food production of a cell. Who am I? _____
3. I am like a policeman. Who am I? _____
4. The term "cell" was coined by _____
5. The egg of an Ostrich is the _____ single cell.

State true or false. If false, correct the statement:

1. A cell is the smallest unit of life.

2. Nerve cell is the longest cell.

3. Prokaryotes were the first form of life on earth.

4. The organelles of both plants and animals are made up of cells.

5. New cells are produced from existing cells.

Match the following:

1. Control centre - Cell membrane
2. Food producer (Plant cell) - Mitochondria
3. Gate of the nucleus - Nucleus
4. Gate of the cell - Chloroplast
5. Energy producer - Nuclear membrane

Arrange in a correct sequence:

1. Elephant, cow, bacteria, mango, Rose plant.
2. Hen egg, ostrich egg, insect egg.

Complete the analogy:

1. Prokaryote: Bacteria :: Eukaryote: _____
2. Spirogyra: Plant cell :: Amoeba: _____
3. Food producer: Chloroplasts :: power house: _____

Answers:

Choose the correct answer:

1. Micro meter
2. A Plant cell
3. Nucleus
4. Spirogyra
5. Cytoplasm

Fill in the blanks:

1. The Microscope
2. Chloroplast
3. Cell Wall
4. Robert Hooke
5. Largest

Say True or False:

1. True
2. True
3. True
4. False

Correct Statement: The cells of both plants and animals are made up of Organelles.

5. True

Match the following:

1. Nucleus 2. Chloroplast 3. Nuclear membrane 4. Cell membrane 5. Mitochondria

Arrange in a correct sequence:

1. Bacteria, Rose plant, Mango, Cow, Elephant

2. Insect egg, Hen egg, Ostrich egg

Complete the analogy:

1. Alga 2. Animal cell 3. Mitochondria

6th Science Lesson 13

13] Human Organ Systems

Do You Know?

The smallest bone in our body is present inside the ear. It is called Stapes. It is only 2.8 millimetres long (average length). The longest bone in the body is the thigh bone. (Femur)

A new born baby has more than 300 bones. As the baby grows, some bones are joined together, hence the skeleton of an adult has 206 bones.

Each lung has about 300 million air sacs or alveoli. Yawning helps us to take in more amount of O_2 and to give out CO_2 .

Donate blood: Hospitals have blood banks where blood can be temporarily stored before it is given to the patients in need. Every healthy person over 18 years of age can donate blood. So that, it can be given to persons in need during emergencies of accidents or operations. Blood donation saves their life.

Brain is said to store as many as 100 million bits of information in a life time.

Take care of your sense organs: Do not read in very bright or very dim light and also in moving vehicle. Avoid exposing eyes to screens of television, computer, laptop and cell phone for a long time. Do not rub your eyes harshly. Wash your eyes gently with clean water, two or three times a day. Ears should be protected from hard blows. One should never try to prick ears with toothpicks or hairpins, which are dangerous practices because it may puncture the ear drum and cause ear infection. One should bath at least once a day to keep skin clean and fresh.

Why do we drink water? Our body contains about 70% water. Some parts have more water like the

grey matter of the brain (about 85%) and some less, like fat cell (about 15%). We normally consume 1.5 to 3.5 litres of water every day in the form of food and water.

Choose the best answers:

1. Circulatory system transports these throughout the body

(a) Oxygen

(b) Nutrient

(c) Hormones

(d) All of these

2. Main organ of respiration in human body is

(a) Stomach

(b) Spleen

(c) Heart

(d) Lungs

3. Breakdown of food into smaller molecules in our body is known as

(a) Muscle contraction

(b) respiration

(c) Digestion

(d) Excretion

Fill in the blanks:

1. A group of organs together make up an _____ system.

2. The part of the skeleton that protects the brain is _____
3. The process by which the body removes waste is _____
4. The _____ is the largest sense organ in our body.
5. The endocrine glands produce chemical substances called _____

State true or false. If false, correct the statement:

1. Blood is produced in the bone marrow.
2. All the waste products of the body are excreted through the circulatory system.
3. The other name of food pipe is alimentary canal.
4. Thin Tube like structures which are the component of circulatory system are called blood vessels.
5. The brain, the spinal cord and nerves form the nervous system.

Match the following:

1. Ear - cardiac muscle
2. Skeletal system - flat muscle
3. Diaphragm - sound
4. Heart - Air sacs
5. Lungs - protection of internal organs

Arrange in sequence:

1. Stomach → Large intestine → oesophagus → pharynx → mouth → small intestine → rectum → anus
2. Urethra → Ureter → urinary bladder → kidney

Complete the analogy:

1. Arteries: carry blood from the heart :: _____: carry blood to the heart.
2. Lungs: respiratory system :: _____: circulatory system

3. Enzymes: digestive glands :: _____: endocrine glands

Answers:**Choose the best answers:**

1. Oxygen, Nutrient and Hormones 2. Lungs 3. Digestive system

Fill in the blanks:

1. Organ 2. The Skull 3. Excretion 4. Skin 5. Hormones

Say True or False:

1. True
2. False

Correct Statement: All the waste products of the body are excreted through the excretory system.

3. True
4. False

Correct Statement: Thin like tube structures which are the components of the circulatory system are called as capillaries.

5. False

Correct Statement: The Brain, Spinal cord, the nerves and the sensory organ forms the nervous system.

Match the following:

1. Sound 2. Protection of internal organs 3. Flat muscle 4. Cardiac muscle 5. Air sacs

Arrange in sequence:

1. Mouth → Pharynx → Oesophagus → Stomach → Small intestine → Large intestine → Rectum → Anus
2. Kidney → Ureter → Urinary Bladder → Urethra

Complete the analogy:

1. Veins 2. Heart 3. Hormones

6th Science Lesson 14

14] Parts Of Computer

Do You Know?

A DVD is capable of storing 6 times more data than a CD.

Choose the best answers:

1. Which one of the following is an output device?

- (a) Mouse
- (b) Keyboard
- (c) Speaker
- (d) Pen drive

2. Name the cable that connects CPU to the Monitor

- (a) Ethernet
- (b) Power Cord
- (c) HDMI
- (d) USB

3. Which one of the following is an input device?

- (a) Speaker
- (b) Keyboard
- (c) Monitor
- (d) Printer

4. Which one of the following is an example for wireless connections?

- (a) Wi-Fi
- (b) Electric wires
- (c) VGA
- (d) USB

5. Pen drive is _____ device.

- (a) Output
- (b) Input
- (c) Storage
- (d) Connecting cable

Match the following:

1. VGA - Input device
2. Bluetooth - Connecting cable
3. Printer - LDMI
4. Keyboard - wireless connection
5. HDMI - output device

Answers:**Choose the best answers:**

1. Speaker 2. HDMI 3. Keyboard 4. Wi-Fi 5. Storage

Match the following:

1. Connecting cable 2. Wireless connection 3. Output device 4. Input device 5. LDMI

6th Science Lesson 15

15] Magnetism

Do You Know?

The directive property of magnets has been used for centuries to find directions. Around 800 years ago, the Chinese discovered that a suspended lode stone stops in the north-south direction. Chinese used these lode stones to find directions.

The navigators of that country used to keep a piece of lode stone suspended in their boats and during a storm or mist, they used the lode stone to locate directions.

Magnets lose their properties when they are placed near Cell phone, Computer, DVDs. These objects will also get affected by magnetic field.

Choose the best answers:

- An object that is attracted by magnet.
 - Wooden piece
 - Plain pins
 - Eraser
 - A piece of paper
- People who made mariner's compass for the first time.
 - Indians
 - Europeans
 - Chinese
 - Egyptians
- A freely suspended magnet always comes to rest in the _____.
 - North – East
 - South – West
 - East – West
 - North – south
- Magnets lose their properties when they are
 - Used
 - Stored
 - Hit with a hammer
 - Cleaned
- Mariner's compass is used to find the
 - Speed
 - Displacement
 - Direction
 - Motion

Fill in the blanks:

- Artificial magnets are made in different shapes such as _____, _____ and _____.

- The Materials which are attracted towards the magnet are called _____.
- Paper is not a _____ material.
- In olden days, sailors used to find direction by suspending a piece of _____.
- A magnet always has _____ poles.

State true or false. If false, correct the statement:

- A cylindrical magnet has only one pole.
- Similar poles of a magnet repel each other.
- Maximum iron filings stick in the middle of a bar magnet when it is brought near them.
- A compass can be used to find East-West direction at any place.
- Rubber is a magnetic material.

Match the following:

- Compass - Maximum magnetic strength
- Attraction - Like poles
- Repulsion - Opposite poles
- Magnetic poles - Magnetic needle

Circle the odd ones and give reasons:

- Iron nail, pins, rubber tube, needle.
- Lift, escalator, electromagnetic train, electric bulb.
- Attraction, repulsive, pointing direction, illumination.

Answers:**Choose the best answers:**

- Plain pins
- Chinese
- North-South
- Hit with a hammer
- Direction

Fill in the blanks:

- Bar magnet, Horseshoe magnet, Ring magnet
- Magnetic substances
- Magnetic
- Lode stones
- Two

Say True or False:

- False

Correct Statement: A cylindrical magnet has two poles.

2. True

3. False

Correct Statement: maximum iron fillings stick in the poles of a bar magnet when it is brought near them.

4. True

Correct Statement: A compass always indicates the North-South direction. By using this property of magnets the East-West direction can be determined which is always perpendicular to the compass needle in the same plane.

5. False

Correct Statement: Rubber is a non-magnetic material.

Match the following:

1. Magnetic needle 2. Opposite poles 3. Like poles 4. Maximum magnetic strength

Circle the odd ones and give reasons:

1. Rubber tube (Rubber is a non-magnetic material; all the others are magnetic material)

2. Electric bulb (Electric bulb does not have electromagnets. All the other has electromagnets)

3. Illumination (Illumination is not a magnetic property all the other denotes the property of a magnet)

6th Science Lesson 16

16] Water

Do You Know?

Water while passing through layers of soil dissolves salts and minerals to a maximum extent. These salts and minerals have been deposited in seas and oceans for millions of years and are still being deposited. In addition, the oceanic volcanoes which are present inside, also add salts to the sea. Water with large amounts of dissolved solids is not portable or suitable for drinking. Such water is called saline water.

Water freeze at 0° Celsius at normal pressure. Every year March 22nd is observed as the world water day.

The Himalayas: The Himalayas contain ice caps, ice bergs and glaciers. Ten of Asia's largest rivers flow from the Himalayas and more than a billion people's livelihoods depend on those rivers.

Water, is measured in litre and millilitre. Gallon is also a measure of volume of liquids. 1 Gallon = 3.785 litre. Water level in the reservoirs is measured in TMC (One thousand million cubic feet). Water released from dams is measured in cusec (cubic feet/sec).

Aquatic animals: During winter, water in lakes and ponds in the cold countries will be frozen and a solid

layer of ice is formed on the surface of water. Still aquatic animals living under the ice do not die. This is because the floating layer of ice acts as a protective coat, and doesn't permit heat to escape from water. So as the water at the surface alone turns to ice, it the existence of aquatic animals.

Koovam is an estuary! Estuaries are wetlands where water bodies meet the sea. It is a combination of fresh water from land meeting the salty seawater. Estuaries are home to unique plants and animal species.

Swamps are wetlands that are forested. They occur along large rivers or on the shores of large lakes. The water of a swamp may be freshwater, brackish water or seawater. Swaps are important for providing fresh water and oxygen to all life. Pichavaram Mangroves in Chidambaram, Muthupet mangrove wetland. Pallikaranai wetland in Chennai, Chembarambakkam in Kancheepuram is a few examples of swamps in Tamil Nadu.

Choose the best answers:

1. Around 97% of water available on earth is _____ water.

(a) Fresh

(b) Pure

(c) Salty

(d) Polluted

2. Which of the following is not a part of water cycle?

(a) Evaporation

(b) Condensation

(c) Rain

(d) Distillation

3. Which of the following processes add water vapour to the atmosphere?

i. Transpiration ii. Precipitation iii. Condensation iv. Evaporation

(a) ii and iii

(b) ii and iv

(c) i and iv

(d) i and ii

4. About 30% of the fresh water is found in?

(a) Glaciers

(b) Ground water

(c) Other sources of water

(d) 0.3%

5. Using R.O. (Reverse Osmosis) plant at home eliminates lot of non-potable water. The best way to effectively use the expelled water of R.O. plant is

(a) Make the expelled water go and seep near the bore well

(b) Use it for watering plants

(c) To drink the expelled water after boiling and cooling

(d) To use for cooking as the water is full of many nutrients

Fill in the blanks:

1. Only _____ percent of natural water is available for human consumption.

2. The process of changing water into its vapour is called _____

3. _____ is built on rivers to regulate water flow and distribute water.

4. Water levels in rivers increase greatly during _____

5. Water cycle is also called as _____

State true or false. If false, correct the statement:

1. Water present in rivers, lakes and ponds is unfit for use by human beings.

2. Seas are formed when the water table meets the land surface.

3. The evaporation of water takes place only in sunlight.

4. Condensation results in the formation of dew on grass.

5. Sea water can be used for irrigation as such.

Match the following:

1. Flood - Lake

2. Surface water - Evaporation

3. Sun light - Water vapour

4. Cloud - Pole

5. Frozen water - Increased rain fall

Complete the analogy:

1. Population explosion: Water scarcity :: Recycle: _____

2. Ground water: _____ :: Surface water: lakes

Answers:

Choose the best answer:

1. Salty 2. Distillation 3. Transpiration and Evaporation 4. Ground water 5. Use it for watering plants

Fill in the blanks:

1. 0.3% 2. Evaporation 3. Dam 4. Raining season 5. Hydrological cycle

Say True or False:

1. False

Correct Statement: Water present in rivers, lakes and ponds is fit for use by human beings.

2. False

Correct Statement: Ponds are formed when the water table meets the land surface.

3. True

4. True

5. False

Correct Statement: Sea water cannot be used for irrigation because of its high salinity.

Match the following:

1. Increased rainfall 2. Lake 3. Evaporation 4. Water vapour 5. Pole

Complete the Analogy:

1. Water management 2. Tube wells

6th Science Lesson 17

17] Chemistry In Everyday Life

Do You Know?

When we cut onion, we get tears in the eyes with irritation, because of the presence of a chemical, propanethial s-oxide in onion. This is easily volatile. When we cut onion some of the cells are damaged and this chemical comes out. It becomes vapour and reach our eyes result in irritation and tears in eyes. When we crush the onion, more cells will be damaged and more chemicals come out.

Earthworms take organic wastes as food and produce compost castings. So earthworms are known as Farmers' friends because of the multitude of services they provide to improve soil health and consequently plant health.

In 1824, Joseph Aspdin invented Portland cement by burning finely ground chalk and clay in a kiln. It was named "Portland" cement because it resembled the high-quality building stones found in Portland, England.

Choose the best answers:

1. Soaps were originally made from _____.

(a) Proteins

(b) Animal fats and vegetable oils

(c) Chemicals extracted from the soil

(d) Foam booster

2. The saponification of a fat or oil is done using _____ solution for hot process.

(a) Ammonium hydroxide

(b) Sodium hydroxide

(c) Hydrochloric acid

(d) Sodium chloride

3. Gypsum is added to the cement for _____.

(a) Fast setting

(b) Delayed setting

(c) Hardening

(d) Making paste

4. Phenol is _____.

(a) Carbolic acid

(b) Acetic acid

(c) Benzoic acid

(d) Hydrochloric acid

5. Natural adhesives are made from _____.

(a) Protein

(b) Fat

(c) Starch

(d) Vitamins

Fill in the blanks:

1. _____ gas causes tears in our eyes while cutting onions.
2. Water, coconut oil and _____ are necessary for soap preparation.
3. _____ is called as farmer's best friend.
4. _____ fertilizer is eco-friendly.
5. _____ is an example for natural adhesive.

State true or false. If false, correct the statement:

1. Concentrated phenol is used as a disinfectant.
2. Gypsum is largely used in medical industries.
3. Plaster of Paris is obtained from heating gypsum.
4. Adhesives are the substances used to separate the components.
5. NPK is the primary nutrients for plants.

Match the following:

1. Soap - C_6H_5OH
2. Cement - $CaSO_4 \cdot 2H_2O$
3. Fertilizers - NaOH
4. Gypsum - RCC
5. Phenol - NPK

Complete the analogy:

1. Urea: Inorganic fertilizer ::Vermi compost: _____
2. _____: Natural adhesives ::Cello tape: Artificial adhesives.

Answers:**Choose the best answers:**

1. Animal fats and vegetable oils
2. Sodium hydroxide
3. Delayed setting
4. Carbolic acid
5. Starch

Fill in the blanks:

1. Propanethial-s-oxide
2. Animal fat
3. Earthworms
4. Organic
5. Starch dissolved in water

Say True or False:

1. False

Correct Statement: Low concentrated phenol is used as a disinfectant.

2. False

Correct Statement: Gypsum is largely used in cement preparations.

3. True

4. False

Correct Statement: Adhesives are the substances used to join the components.

5. True

Match the following:

1. NaOH
2. RCC
3. NPK
4. $CaSO_4 \cdot 2H_2O$
5. C_6H_5OH

Complete the Analogy:

1. Organic fertilizers
2. Starch dissolved in water