

# SELECTION

6

SCIENCE

ANBU NILAYAM  
MADURAI - 625001

# SELECTION

SIXTH STANDARD

⑥

SCIENCE

TERM-I + TERM-II + TERM-III

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**SELECTION****SIXTH STANDARD****⑥ SCIENCE****TERM - I****Unit - 1 Measurements****Evaluation****I. Choose the correct answer.****1. The height of a tree can be measured by**

- a) metre scale                      b) metre rod  
c) plastic ruler                      d) measuring tape

**Ans : d) measuring tape****2. Conversion of 7m into cm gives .....**

- a) 70cm      b) 7cm      c) 700cm      d) 7000cm

**Ans : c) 700cm****3. Quantity that can be measured is called .....**

- a) Physical quantity      b) Measurement  
c) Unit                      d) Motion

**Ans : b) Measurement****4. Choose the correct one**

- a) km > mm > cm > m                      b) km > mm > m > cm  
c) km > m > cm > mm                      d) km > cm > m > mm

**Ans : c) km > m > cm > 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.

**Ans : b) Vertically above the point where the measurement is to be taken.****II. Fill in the blanks.**

1. SI unit of length is .....

**Ans : metre**

2. 500 gm = ..... kilogram

**Ans : 0.5**

**3. Find the odd one out**

**Kilogram, Millimetre, Centimetre, Nanometre**

**Ans : Kilogram**

**4. What is the SI Unit of mass?**

**Ans : Kilogram**

**5. What are the two parts present in a measurement ?**

**Ans : 1. Number 2. Unit**

**VIII. Find the answer for the following questions within the grid**

1.  $10^{-3}$  is one \_\_\_\_\_ **Ans : millimetre**
2. SI Unit of time is \_\_\_\_\_ **Ans : second**
3. Cross view of reading a measurement leads to \_\_\_\_\_  
**Ans : Error**
4. \_\_\_\_\_ is the one what a clock reads . **Ans : Time**
5. \_\_\_\_\_ is the amount of substance present in an object  
**Ans : Mass**
6. \_\_\_\_\_ can be taken to get the final reading of the recordings of different of students for a single measurement.  
**Ans : Average**
7. \_\_\_\_\_ is a fundamental quantity.  
**Ans : Length**
8. \_\_\_\_\_ shows the distance covered by an automobile  
**Ans : Odometer**
9. A tailor uses \_\_\_\_\_ to take measurements to stitch the cloth  
**Ans : Tape**
10. Liquids are measured with this physical quantity  
**Ans : Litre**

A		P		L						R		K							
C		O		E						O		S							
M		K		N						R		I							
P		R		G						R		T							
R	H	E	S	T	E	D	L	L	I	T	R	E	D	A					
L		T		H							H			P					
O		E		O							K			E					
A		M		S							R			V					
V		I		E							T			O					
E		L		K							S			S					
R		L		I							K			H					
A		I		T							V			P					
G		M		X							N			U					
E		Z		D							E	S	K	P	G	I	W	M	F
Z	T	D	K	H							O	D	O	M	E	T	E	R	

**IX. Answer briefly.****1. Define measurement.**

**Ans :** The comparison of an unknown quantities with some known quantities is known as measurement.

**2. Define mass.**

**Ans :** Mass is the measure of the amount of matter in an object.

**3. The distance between two places is 43.65 km. Convert it into metre and cm.**

**Ans :** The distance between two places is 43.65 km.

**a) Converting into metre :**

1 kilometre = 1000 metre

$\therefore$  43.65 kilometre =  $43.65 \times 1000 = 43,650$  metre

**b) Converting into centimetre:**

1 metre = 100 centimetre

$\therefore$  43650 metre =  $43650 \times 100 = 43,65,000$  centimetre

**4. What are the rules to be followed to make accurate measurement with scale?**

**Ans :**

- ★ One end of the object to be measured has to coincide with '0' of the scale.
- ★ Always keep the object parallel to the scale.
- ★ Your eye must be exactly in front of vertically above the point where the measurement has to be taken.

**X. Solve the following****1. The distance between your school and your house is 2250 m. Express this distance in kilometre.**

**Solution :**

The distance between our school and our house = 2250m

1000 metre = 1 kilometre

$$= \frac{225\cancel{0}}{100\cancel{0}} = \frac{225}{100} = 2.25$$

2250 metre = 2.25 kilometre
-----------------------------

**2. While measuring the length of a sharpened pencil, reading of the scale at one end is 2.0 cm and at the other end is 12.1 cm. What is the length of the pencil?**

**Solution :**

- ★ Reading of the scale at one end of pencil = 2.0cm

Unit - 3 Matter Around Us
---------------------------

**Evaluation****I. Choose the correct answer**

1. \_\_\_\_\_ is not made of matter

- a) gold ring      b) iron nail      c) light ray      d) oil drop

**Ans : c) light ray**

2. 200 ml of water is poured into a bowl of 400ml capacity.

The volume of water will be \_\_\_\_\_

- a) 400 ml    b) 600 ml    c) 200ml    d) 800ml

**Ans : c) 200 ml**

3. Seeds from water-melon can be removed by \_\_\_\_\_ method.

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

**Ans : a) hand - picking**

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

- a) filtration      b) sedimentation  
c) decantation    d) winnowing

**Ans : d) winnowing**

5. \_\_\_\_\_ is essential to perform winnowing activity

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

**Ans : d) Air**

6. Filtration method is effective in separating \_\_\_\_\_ mixture

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

**Ans : b) solid-liquid**

7. Among the following \_\_\_\_\_ is not a mixture

- a) Coffee with milk      b) lemon juice  
c) water      d) ice cream embedded with nuts.

**Ans : c) water**

**II) Fill in the blanks**

1. Matter is made up of \_\_\_\_\_ **Ans : atoms**

2. In solids, the space between the particles is less than in \_\_\_\_\_.  
**Ans : liquid and gas**

3. Grains can be separated from their stalks by \_\_\_\_\_  
**Ans : Threshing**

4. Chillies are removed from 'upma' by \_\_\_\_\_ method.  
**Ans : hand picking**

5. The method employed to separate clay particles from water is \_\_\_\_\_  
**Ans : Filtration**

6. Water obtained from tube wells is usually \_\_\_\_\_ water .  
**Ans : Muddy**

7. Which among the following \_\_\_\_\_ will get attracted to by magnet? (safety pins, pencil and rubber band) **Ans : safety pins**

**Ans :**

<b>Property</b>	<b>Example</b>
<b>Breaks easily ( brittle)</b>	<b>Mud pot</b>
<b>Bends readily</b>	<b>Plastic wire</b>
<b>Can be stretched easily</b>	<b>Rubber band</b>
<b>Gets compressed easily</b>	<b>Cotton wool</b>
<b>Gets heated readily</b>	<b>Metal pan</b>

**b)**

	<b>A</b>	<b>B</b>	<b>C</b>
i	Separation of visible undesirable components	water mixed with chalk powder	Magnetic separation
ii	Separating of heavier and lighter components	sand and water	Decantation
iii	Separation of insoluble impurities	iron impurities	Filtration
iv	Separation of magnetic components from non - magnetic components	rice and stone	Hand-picking
v	Separation of solids from liquids	husk and paddy	Winnowing

**Ans :**

	<b>A</b>	<b>B</b>	<b>C</b>
i	Separation of visible undesirable components	rice and stone	Hand-picking
ii	Separating of heavier and lighter components	husk and paddy	Winnowing
iii	Separation of insoluble impurities	water mixed with chalk powder	Decantation
iv	Separation of magnetic components from non - magnetic components	iron impurities	Magnetic separation
v	Separation of solids from liquids	sand and water	Filtration

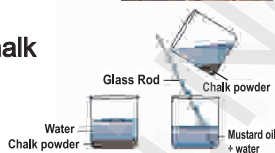


**2. Using suitable apparatus from your laboratory separate the mixture of chalk powder, mustard oil, water and coins. Draw a flow chart to show the separation process.**

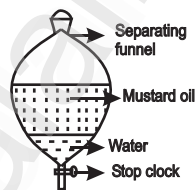
**Ans :** 1. By the process of hand picking coins can be separate.



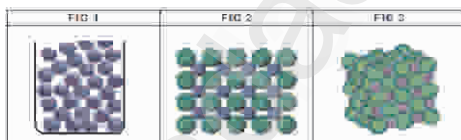
2. By the method of decantation chalk powder can be separated.



3. Water mixed with mustard oil is a heterogeneous mixture. It can be separated by separating funnel.



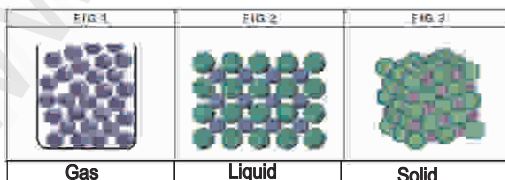
**3. Justify your answer.**



Arrangement of particles in three different phases of matter is shown above.

- Which state is represented by Fig. 1?
- In which state will the inter particle attraction be maximum?
- Which one of them cannot be contained in an open vessel?
- Which one can take the shape of its container?

**Ans :**



- The fig 1 represents a gaseous state.
- In fig 3 between the solid particles the inter particle attraction will be maximum.
- In fig 1 gaseous state cannot be contained in an open vessel.
- In fig 2 the liquid state can take the shape of its container.

<b>Unit - 5. The World of Animals</b>
---------------------------------------

**Evaluation****I Choose the correct answers .****1. The study of living beings or organisms is called**

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

**Ans : b) Biology****2. Which of the following are 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)

**Ans : d) (i), (iv), (ii) and (iii)****3. Lizards breathe through their**

- a) Skin    b) Gills    c) Lungs    d) Trachea

**Ans : c) Lungs****4. All animals need**

- a) Food and water only    b) Water only  
c) Air, food and water    d) Food only

**Ans : c) Air, food and water****5. Which animal has the special organs of breathing called gills**

- a) Earthworm    b) Fox    c) Fish    d) frog

**Ans : c) Fish****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 plant, Fish, Frog, Insects

**Ans: d) Aquatic plant, 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

**Ans : c) Cultivated land with grazing cattle****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

**Ans : c) Hollow and light Bones****9. Paramecium moves from one place to other with the help of**

- a) Pseudopodia    b) Flagella    c) Foot    d) Cilia

**Ans : d) Cilia**

7. **Nostrils** : It can keep its nostrils closed to avoid dust.

**Additional Questions & Answers**

**II Choose the correct answers.**

**1. Animal which undergoes wintersleep \_\_\_\_\_**

- a) Penguin      b) Snail  
c) Frog          d) Turtle                      **Ans : d) Turtle**

**2. Animal which undergoes summer sleep \_\_\_\_\_**

- a) Snail          b) Turtle  
c) Rabbit        d) Polar Bear                **Ans : a) Snail**

**3. Animal called as "ship of the desert " is \_\_\_\_\_**

- a) Lion          b) Mountain Goat  
c) Camel        d) Kangaroo                 **Ans : c) Camel**

**II. Fill in the blanks.**

1. An example for unicellular organism \_\_\_\_\_ **Ans : Amoeba**

2. An example for multicellular organism \_\_\_\_\_ **Ans: man**

3. \_\_\_\_\_ protects the body of fish. **Ans : Scales**

4. Bird sanctuary found in Tamilnadu is \_\_\_\_\_ **Ans : Vedanthangal**

5. \_\_\_\_\_ does not drink water at all. **Ans : Kangaroo rat**

6. Our state animal is \_\_\_\_\_ **Ans : Nilgiri Tahr**

**III. Give very short answer.**

**1. What is adaptation ?**

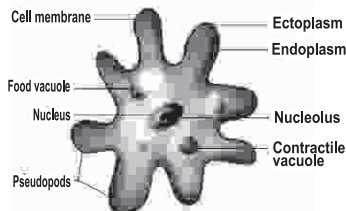
**Ans :** The presence of specific body features for certain habits which enable a plant or an animal to live in a particular habitat is called adaptation.

**2. What is migration ?**

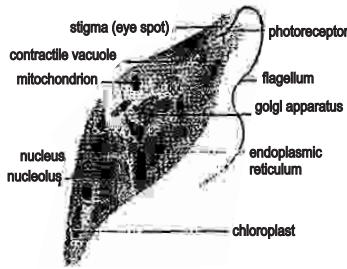
**Ans :** When an animals change their location as the season changes. It is called as migration.

**IV. Draw and label the parts a) Amoeba b) Euglena.**

**Ans : a) Amoeba**



**b) Euglena.**



**Activity : 1**

Look at the below picture and prepare a chart for the following interpretation.

- \* How does the climate differ in these habitats?
- \* Name some animals that exist in these habitats.
- \* Can an animal survive if it is shifted from one habitat to another contrasting habitat?



**Ans :**

- \* The climate differ in these habitats due to geographical features and environmental conditions.
- \* Animals that exist in these habitats are Cow, Rabbit, Ducks etc.
- \* No, a animal cannot survive if it is shifted from one habitat to another contrasting habitat.

**Activity : 2**

Collect the pictures of various ecosystems like lake, pond, forest, desert, mountains, and Polar regions and prepare a chart of animals in these places.

**Ans:**

Lakes	Ponds
	
Frog	Fish
Forests	Deserts
 	
Bird Lion	Camel
	
Lizard	
Mountains	Polar Regions
	 
Mountain Goat	Penguins Polar Bear

<b>Unit - 7 Computer - An Introduction</b>
--

**Evaluation****I. Choose the Correct answer :****1. Who is the father of computer ?**

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

**Ans : d) Charles Babbage****2. Which of the following is another form of computer ?**

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

**Ans : b) Mobile****3. When was the first computer introduced ?**

- a) 1980    b) 1947    c) 1946    d) 1985    **Ans : c) 1946**

**4. Who is the computer's first programmer ?**

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

**Ans : b) Augusta ado Lovelace****5. Pick out the odd one.**

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

**Ans : c) Flash card****II. Fill in the blanks.**

1. Data is \_\_\_\_\_ information.    **Ans : collection of**

2. World's first general purpose computer is \_\_\_\_\_

**Ans : ENIAC**

3. Information is \_\_\_\_\_ data. **Ans : a form of processed**

4. Fifth generation computer has \_\_\_\_\_ intelligence.

**Ans : Artificial**

5. \_\_\_\_\_ is the device that uses Index number.

**Ans : Analogue computer****III. State True or False. If false, correct the statement.**

1. Computer is an Electronic device.    **Ans: True**

2. Sir Isaac Newton invented Computer.    **Ans : False.**

**Correct statement : Charles Babbage** invented Computer.

3. Computer can do calculations fast.    **Ans : True**

**IV. Match the following**

First generation Computer	-	Artificial Intelligence
Second generation Computer	-	Integrated Circuit
Third generation Computer	-	Vacuum tubes
Fourth generation Computer	-	Transistor
Fifth generation Computer	-	Micro processor

**SELECTION****SIXTH STANDARD****6 SCIENCE****TERM - II****Unit - 1 Heat****Evaluation****I. Choose the appropriate answer.**

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

- a) begin to move faster      b) lose energy  
c) become heavier          d) become lighter

**Ans : a) begin to move faster**

**2. The unit of heat is**

- a) newton                      b) joule  
c) volt                         d) celsius

**Ans : b) joule**

**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

**Ans : 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.

**Ans : b) not flow from iron ball to water or from water to iron ball.**

**II. Fill in the blanks.**

1. Heat flows from a \_\_\_\_\_ body to a \_\_\_\_\_ body.

**Ans : higher temperature, lower temperature**

2. The hotness of the object is determined by its \_\_\_\_\_.

**Ans : temperature**

3. The SI unit of temperature is \_\_\_\_\_.

**Ans : kelvin**

**VIII. Give short answer.**

**1. What difference do you think heating the solid will make in their molecules ?**

**Ans :** ★ The molecules in the solid move faster and vibrate when heating.

★ Spread apart and occupy more space.

★ So solid expands when heated.

**2. Distinguish between heat and temperature.**

**Ans :**

S. No.	Heat	Temperature
1.	Heat not only depends on the temperature of the substance but also depends on how many molecules are there in the object.	Temperature is related to how fast the atoms or molecules move or vibrate within the substance.
2.	Heat measures the total Kinetic Energy of the molecules in the substance.	Temperature measures the average kinetic energy of molecules.
3.	SI unit is joule.	SI unit is kelvin.

**IX. Answer in detail.**

**1. Explain thermal expansion with suitable examples.**

**Ans :** 1) Gaps are left in between rails while laying a railway track.

★ During summer season the rails made of iron expand due to hot sunshine.

★ The ends of the rails come closer and they may hit each other.

★ To avoid this, expansion gaps are left between the ends of rails.

**2) Gaps are left in between two joints of a concrete bridge :**

★ The concrete slabs expand during hot summer.

★ Their edges may hit each other and cause dislocation.

★ To prevent this gaps are left in between two joints of a concrete bridge.



**Unit - 2. Electricity**

**Evaluation**

**I. Choose the correct answer.**





**1. The device which converts chemical energy into electrical energy is \_\_\_\_\_**

- a) fan
  - b) solar cell
  - c) cell
  - d) television
- Ans : c) cell**

**2. Electricity is produced in \_\_\_\_\_**

- a) transformer
  - b) power station
  - c) electric wire
  - d) television
- Ans : b) power station**

**3. Choose the symbol for battery**

- a) 
  - b) 
  - c)   
Open
  - d) \_\_\_\_\_
- Ans : a) **

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

- a) 
  - b) 
  - c) 
  - d) 
- Ans : d) **

**5. \_\_\_\_\_ is a good conductor**

- a) silver
  - b) wood
  - c) rubber
  - d) plastic
- Ans : a) Silver**

**II. Fill in the blanks**

- 1. \_\_\_\_\_ are the materials which allow electric current to pass through them. **Ans : Conductors**
- 2. Flow of electricity through a closed circuit is \_\_\_\_\_. **Ans : current**
- 3. \_\_\_\_\_ is the device used to close or open an electric circuit. **Ans : Switch**
- 4. The long perpendicular line in the electrical symbol represents its \_\_\_\_\_ terminal. **Ans : positive**
- 5. The combination of two or more cells is called a \_\_\_\_\_. **Ans : battery**

**III. True or False. If False, give the correct statement**

- 1. In a parallel circuit, the electricity has more than one path. **Ans : True**



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

**Ans : False**

**Correct statement :** To make a battery of two cells, the **positive** 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.

**Ans : True**

4. Pure water is a good conductor of electricity.

**Ans : False**

**Correct statement :** Pure water is a **non conductor** of electricity.

5. Secondary cell can be used only once.

**Ans : False**

**Correct statement :** Secondary cell can be used **again and again**

#### IV. Match the following.

Sl.No.	Symbol	Description
1		a) open key
2		b) cell
3		c) bulb glows
4		d) battery
5		e) bulb does not glow

**Ans :**

Sl.No.	Symbol	Description
1		d) battery
2		e) bulb does not glow
3		a) open key
4		c) bulb glows
5		b) cell

#### V. Arrange in sequence

A CELL      A DEVICE      ELECTRICAL ENERGY  
IS CALLED      IN TO      CHEMICAL ENERGY  
THAT CONVERTS

**ANS :**















A DEVICE THAT CONVERTS CHEMICAL ENERGY INTO ELECTRICAL ENERGY IS CALLED A CELL.

**4. Wind mills**

★ In wind mills, wind energy is used to rotate the turbine to produce electricity.

★ Here kinetic energy is converted into electrical energy.

**2. Tabulate the different components of an electric circuit and their respective symbols.****Ans :**

Sl.No.	Electric component	Figure	Symbol	Remarks
1	Electrical cell	 Cell		Longer terminal refers positive and shorter terminal refers negative.
2	Battery	 Battery		Two or more cells connected in series
3	Switch-open		 Open	Switch is in off position
4	switch-closed		 Closed	Switch is in on position
5	Electric bulb			The bulb does not glow
				The bulb glows
6	Connecting wires			Used to connect devices

**3. Write short notes on conductors and insulators.****Ans :**

S. No.	Conductors	Insulators (Non-Conductors)
1.	The materials which allow electric charges to pass through them are called conductors.	The materials which do not allow electric charges to pass through them are called insulators or non-conductors.
2.	Examples: Copper, iron, aluminum, impure water, earth etc.,	Examples: plastic, glass, wood, rubber, china clay, ebonite etc.,



(v). During this process, oxygen is released by plants.

(vi). Such oxygen is available to animals and human beings for breathing.

### VI. Analogy

1. Photosynthesis : \_\_\_\_\_ :: Respiration : Oxygen

**Ans : Carbon-di-oxide**

2. 78% of air : Does not support combustion :: \_\_\_\_\_ : Supports combustion

**Ans : 21 % of air**

**VII. Observe the given figure carefully and answer the questions.**

**1. What will happen if we remove plants from the aquarium?**

**Ans :** If we remove the aquatic plants from the tanks, the fish would not get oxygen. So they will soon die.

**2. What will happen if we remove the fish from the aquarium and keep it (with green plants) in a dark place?**

**Ans : ★** In the absence of sunlight the green plants will not be able to perform photosynthesis.

★ So they will die in due course.



**VIII. Give very short answer**

**1. What is atmosphere? Name the five layers of atmosphere.**

**Ans :** Our earth is surrounded by a huge envelope of air called the atmosphere.

Five layers of atmosphere are :

1. The troposphere
2. The stratosphere
3. The mesosphere
4. The ionosphere
5. The exosphere

**2. How do the roots of land plants get oxygen for breathing?**

**Ans : ★** The roots of land plants have root hair.

★ Using them, plants absorb oxygen from the soil.

**3. What should be done if the clothes of a person catch fire accidentally? Why?**

**Ans : ★** The person should be covered with thick bed sheet and then dropped in the ground and made to roll.

★ Because this deprives oxygen and cut off the fire.

**IV. Answer briefly.****1. Why is oxygen carried in rockets along with fuel?**

**Ans :** In rockets, as they go high in the atmosphere, the availability of oxygen is considerably reduced. Therefore in rockets along with fuel, oxygen is also carried for combustion.

**2. Write any 5 uses of air.**

**Ans :** (i) Air is used by plants and animals for breathing.

(ii) Compressed air is used to fill tyres of various kinds of vehicles.

(iii) Air plays an important role in maintaining the water cycle in the nature.

(iv) It helps the patients having breathing difficulties.

(v) Blowing air is used to turn the blades of wind mills.

**Activity : 1****Air is everywhere**

Let us take an empty glass bottle. Is it really empty or does it have something inside?

Now, shall we turn the glass bottle upside down? Can you agree that there is still something inside the empty glass bottle? Let us do the following activity to find what is there inside an empty glass bottle.

**Fig 1****Fig 2**

Dip the open mouth of the bottle into the trough filled with water as shown in Fig 1.

Observe the bottle. Does water enter the bottle? \_\_\_\_\_

**Ans : No. Water does not enter the bottle.**

Now tilt the bottle slightly. Now again dip the open mouth of the bottle as shown in Fig 2. Do you think that water will enter the bottle? \_\_\_\_\_

**Ans : Yes**

Kindly observe the Fig 2 carefully. You can see bubbles coming out of the bottle.

When you perform the experiment, can you hear the bubbly sound? can you now guess what was inside the bottle?

**Ans : Yes, I can hear a bubbly sound. There was air inside the bottle.**

### Unit - 6. Human Organ Systems

#### Evaluation

#### I. Choose the correct answer.

1. Circulatory system transports these throughout the body

- a) Oxygen                      b) Nutrient  
c) Hormones                  d) All of these              **Ans : d) All of these**

2. Main organ of respiration in human body is

- a) Stomach                      b) Spleen  
c) Heart                         d) Lungs                      **Ans : d) Lungs**

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

- a) Muscle contraction        b) Respiration  
c) Digestion                    d) Excretion                **Ans : c) Digestion**

#### II. Fill in the blanks.

1. A group of organs together make up an \_\_\_\_\_ system.

**Ans : organ**

2. The part of the skeleton that protects the brain is \_\_\_\_\_

**Ans : skull**

3. The process by which the body removes waste is \_\_\_\_\_

**Ans : excretion**

4. The \_\_\_\_\_ is the largest sense organ in our body.

**Ans : skin**

5. The endocrine glands produce chemical substances called \_\_\_\_\_

**Ans : hormones**

#### III. True or False. If False, give the correct statement

1. Blood is produced in the bone marrow. **Ans : True**

2. All the waste products of the body are excreted through the circulatory system. **Ans : False**

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

3. The other name of food pipe is alimentary canal. **Ans : False**

**Correct statement :** The other name of food pipe is oesophagus.

4. Thin tube like structures which are the component of circulatory system are called blood vessels. **Ans : False**

**Correct statement :** Thin tube like structures which are the component of circulatory system are called blood capillaries.

3. Differentiate between the voluntary muscles and involuntary muscles.

Ans :

S.No.	Voluntary muscles	Involuntary muscles
1.	Voluntary muscles can be controlled by our will.	Involuntary muscles cannot be controlled by our will.
2.	Eg : muscles of arm	Eg: cardiac muscles

IX. Answer in detail

1 List out the functions of Endocrine system and Nervous system.

Ans :

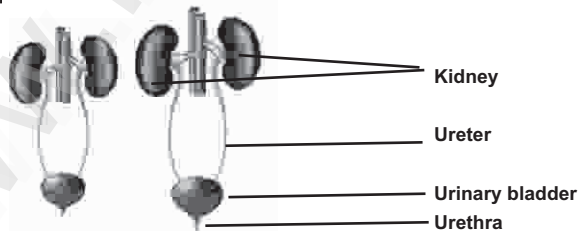
a) Functions of Endocrine System:

1. Endocrine system regulates various functions of the body and maintains the internal environment.
2. Endocrine glands are present in the body, produce chemical substances called hormones.

b) The Functions of the Nervous System :

1. **Sensory Input** : The conduction of signals from sensory receptors.
2. **Integration**: The interpretation of the sensory signals and the formulation of responses.
3. **Motor output** : The conduction of signals from the brain and spinal cord to effectors, such as muscle and gland cells.

2. Label the diagram given below to show the four main parts of the urinary system and answer the following questions.



A. Which organ removes extra salts and water from the blood?

Ans : Nephrons

B. Where is the urine stored?

Ans : Urinary bladder

<b>Additional Questions &amp; Answers</b>
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**I. Choose the best answer.**

1. The adult human skeletal system consists of \_\_\_\_\_ bones.

a) 306      b) 206      c) 216      d) 210      **Ans : b) 206**

2. The longest bone in the body is \_\_\_\_\_

a) Ulna      b) Tibia      c) Femur      d) Stapes      **Ans : c) Femur**

3. Each lung has about \_\_\_\_\_ air sacs or alveoli

a) 300      b) 400      c) 200      d) 350      **Ans : a) 300**

4. Skin produces vitamin \_\_\_\_\_ with the help of sunlight.

a) A      b) B      c) C      d) D      **Ans : d) D**

5. The grey matter of the brain has \_\_\_\_\_ % of water.

a) 85      b) 70      c) 15      d) 65      **Ans : a) 85**

**II. Fill in the blanks.**

1. The ..... bone is present at the base of the buccal cavity.      **Ans : hyoid**

2. .... produces bile      **Ans : Liver**

3. During respiration the exhaled air contains more amount of .....      **Ans : carbon-di-oxide**

4. The heart is surrounded by a double layered membrane called .....      **Ans : pericardium**

**III. Analogy**

a. biceps : pull up the arm :: \_\_\_\_\_ : pull the arm down

**Ans : Triceps**

b. \_\_\_\_\_ : Digestion :: Small intestine : Absorption

**Ans : Stomach**

**IV. Give very short Answer.**

1. What is diaphragm?

**Ans :** Diaphragm is a large flat muscle forming the floor at the chest cavity.

2. What are the two major divisions of the skeletal system.

**Ans :** (i) Axial skeleton      (ii) Appendicular skeleton

**V. Give short Answer.**

1. What is pulse rate?

**Ans :** The number of beats per minute is called the pulse rate.  
A resting person usually has a pulse rate between 72 to 80 beats per minute.



# SELECTION

## SIXTH STANDARD

### 6 SCIENCE

### TERM - III

#### UNIT - 1. Magnetism

#### Evaluation

#### I. Choose the appropriate answer

##### 1. An object that is attracted by magnet.

- a) wooden piece
- b) plain pins
- c) eraser
- d) a piece of paper

**Ans : b) plain pins**

##### 2. People who made mariner's compass for the first time.

- a) Indians
- b) Europeans
- c) Chinese
- d) Egyptians

**Ans : c) Chinese**

##### 3. A freely suspended magnet always comes to rest in the.....direction.

- a) North - east
- b) South - west
- c) East - west
- d) North - south

**Ans : d) North - south**

##### 4. Magnets lose their properties when they are

- a) used
- b) stored
- c) hit with a hammer
- d) cleaned

**Ans : c) hit with a hammer**

##### 5. Mariner's compass is used to find the

- a) speed
- b) displacement
- c) direction
- d) motion

**Ans : c) direction**

#### II. Fill in the Blanks

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

**Ans : Bar, Horse shoe, Ring.**

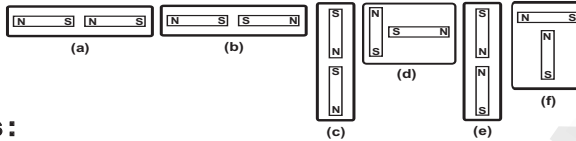
2. The Materials which are attracted towards the magnet are called.....

**Ans : Magnetic Substances**

3. Paper is not a.....material.

**Ans : Magnetic**

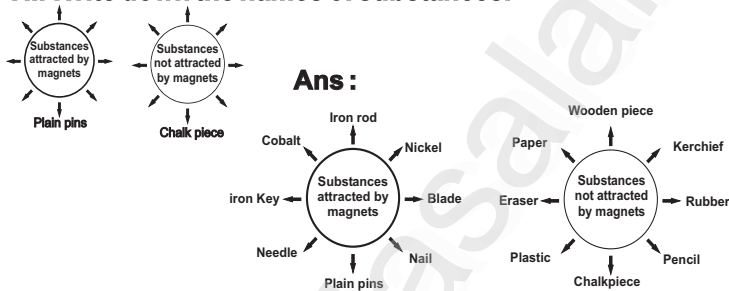
**VI. The following diagrams show two magnets near one another. Use the words, "Attract, Repel, Turn around" to describe what happens in each case.**



**Ans :**

- a) Attract    b) Repel    c) Attract    d) Turn around**  
**e) Repel    f) Turn around**

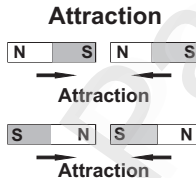
**VII. Write down the names of substances.**



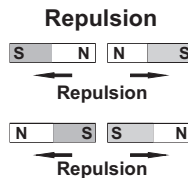
**VIII. Give short answer**

**1. Explain the attraction and repulsion between magnetic poles.**

**Ans :**



(Unlike poles (S-N, N-S) attract each other.)



Like poles (N-N, S-S) repel each other.

**2. A student who checked some magnets in the school laboratory found out that their magnetic force is worn out. Give three reasons for that ?**

**Ans : Reasons :** Magnets lose their magnetic force by,

- ★ When heated
- ★ When dropped
- ★ When hammered

**IX. Answer in detail**

**1. You are provided with an iron needle. How will you magnetize it ?**

**Ans :** ★ Take an iron needle and place it on a table.

★ Now take a bar magnet and place one of its poles near one edge of the needle.

### UNIT - 3. Chemistry in Everyday life

#### Evaluation

#### I. Choose the appropriate answer

1. Soaps were originally made from.....

- a) proteins                                      b) animal fats and vegetable oils  
c) chemicals extracted from the soil      d) foam booster

**Ans : b) animal fats and vegetable oils**

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

**Ans : b) Sodium hydroxide**

3. Gypsum is added to the cement for.....

- a) fast setting                                  b) delayed setting  
c) hardening                                  d) making paste

**Ans : b) delayed setting**

4. Phenol is.....

- a) carbolic acid                                 b) acetic acid  
c) benzoic acid                                 d) hydrochloric acid

**Ans : a) carbolic acid**

5. Natural adhesives are made from.....

- a. protein                                         b) fat  
c. starch                                         d) vitamins

**Ans : c) starch**

#### II. Fill in the blanks

1.....gas causes tears in our eyes while cutting onions.

**Ans : Propanethial S-Oxide**

2. Water, coconut oil and.....are necessary for soap preparation.

**Ans : Sodium hydroxide**

3.....is called as farmer's best friend.

**Ans : Earthworms**

4.....fertilizer is ecofriendly.

**Ans : Organic**

5.....is an example for natural adhesive.

**Ans : Starch**

#### III. True or False. If False, give the correct statement

1. Concentrated phenol is used as a disinfectant.

**Ans : False**

**Correct Statement :** Low Concentrated Phenol is used as a disinfectant.

2. Gypsum is largely used in medical industries.

Ans : False

**Correct Statement :** Epsom is largely used in medical industries.

3. Plaster of Paris is obtained from heating gypsum.

Ans : True

4. Adhesives are the substances used to separate the components.

Ans : False

**Correct Statement :** Adhesives are the substances used to bind the components.

5. NPK are the primary nutrients for plants. Ans : True

#### IV. Match the following

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

Ans :

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

#### V. Arrange the following statements in correct sequence

1. Pour that solution into an empty match box, soap can be obtained after drying.

2. Take necessary quantity of water in a jar.

3. Then add coconut oil drop by drop and stir it well.

4. Add concentrated sodium hydroxide in the jar and allow it to cool.

5. Try this soap to wash your hand kerchief.

6. Cover your work area with old newspaper.

**Ans : Correct Sequence :**

1. Cover your work area with old newspaper.

2. Take necessary quantity of water in a jar.

3. Add concentrated sodium hydroxide in the jar and allow it to cool.

4. Then add coconut oil drop by drop and stir it well.

5. Pour that solution into an empty match box, soap can be obtained after drying.

6. Try this soap to wash your hand kerchief.

**UNIT - 4. Our Environment**

### Evaluation

**I. Choose the appropriate answer**
**1. Identify the fresh water ecosystem.**

- a) Pond                      b) Lake  
c) River                     d) All of them

**Ans : d) All of them**

**2. Producers are.....**

- a) Animals                 b) Birds  
c) Plants                    d) Snakes

**Ans : c) Plants**

**3. It is a biodegradable waste.**

- a) Plastic                    b) Coconut Shell  
c) Glass                     d) Aluminium

**Ans : b) Coconut Shell**

**4. It is an undesirable change that occurs in air and water.**

- a) Recycling                b) Reuse  
c) Pollution                 d) Reduce

**Ans : c) Pollution**

**5. Usage of chemical pesticides and fertilizers causes.....pollution.**

- a) Air Pollution             b) Water Pollution  
c) Noise Pollution         d) None of the above

**Ans : b) Water Pollution**

**II. Fill in the blanks**

1. Primary consumers that eat plants are called.....

**Ans : Herbivores**

2. Temperature, light and wind are.....factors.

**Ans : physical**

3.....is the process of converting waste materials into new materials.

**Ans : Recycling**

4. Water pollution can spread.....diseases in man.

**Ans : cholera**

5. The 3R's are Reduce,.....and Recycle.

**Ans : Reuse**

**III. True or False. If False, give the correct statement**

1. The Pacific ocean is an example of an aquatic ecosystem.

**Ans : True**

2. Bacteria and fungi are called decomposers.

**Ans : True**

3. Human and animal wastes are examples of non-biodegradable waste.

**Ans : False**

**Correct Statement :** Human and animal wastes are examples of bio degradable waste.

**2. Explain the link between waste and dangerous diseases like dengue and malaria ?**

**Ans :** ★ Dumping of garbage and stagnation of water pools, let mosquitoes to breed.

★ They can spread unwanted diseases like dengue and malaria.

**X. See the diagram and answer the following questions.**

**1) Explain what is happening in the picture ?**

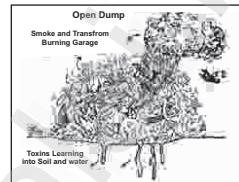
**Ans :**

★ Fires in the open dump, burns the unhealthy chemicals and pollute the ecosystem.

★ These chemicals are present in the air we breathe.

★ The left over ash from burning waste pollutes the soil.

★ When it rains, some of the dangerous chemicals goes into the ground.



**2) What types of pollution are caused by open dumps ?**

**Ans :** ★ Air pollution    ★ Land pollution    ★ Water pollution

**Additional Questions & Answers**

**I. Choose the best answer :-**

1.....produce their own food

- a) Carnivores                      b) Producers  
c) Herbivores                      d) Consumers    **Ans : b) Producers**

2. In India an average person produces.....waste per day

- a) 0.45 kg                      b) 1.45 kg                      c) 4.5kg                      d) 0.145 kg  
**Ans : a) 0.45kg**

3. ....is important to create pollution free environment.

- a) 2R                      b) 1R                      c) 3R                      d) None of the above  
**Ans : c) 3R**

**II. Fill in the blanks :**

1. Producers are also called as.....**Ans : autotrophs**

2.....inter connects all food chains. **Ans : Food web**

3. The process converting waste materials into better quality product is..... **Ans : Creative reuse / upcycling**

4. India produces.....of solid waste every day.

**Ans : 532 million / kilos**

**Activity : 2**

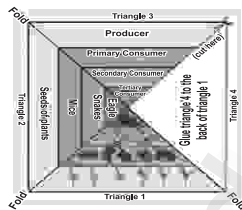
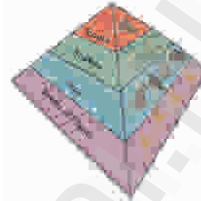
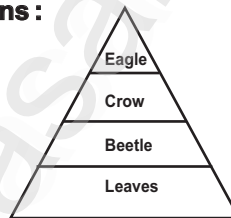
Take a square paper. Fold its diagonals. Draw three lines in three triangles as shown in the picture.

Cut from the edge of the diagonal to the center as shown in the picture.

If you fold this triangle and paste behind the third triangle you get a pyramidal shape.

In one of the triangles, draw images of each of the organisms in the different levels.

In another triangle write the names of the organisms. In the last triangle, write the energy level of the organism. Have a look at the following example. You must come up with different organisms!

**Ans :****Activity : 3**

Take two mud pots or glass jars and fill them up with garden soil. In the first pot, mix wastes such as banana peel, some vegetable peels and a few tree leaves into the soil. In the second pot, mix a piece of plastic carry bag, sweet wrapper and metal foil into the soil.

What happen to the waste materials placed in both pots ?

Do you notice a difference between first and second pot ?

Observe the changes over two weeks and discuss with your classmates.

**Ans :**

- \* In the first pot of the materials is biodegradable waste.
- \* In the second pot of the materials is non-biodegradable waste.
- \* In the first pot contains decomposed materials, and the second pot contains non decomposed materials.

**Activity : 4**

Student Activity.

<b>UNIT - 5. Plants in Daily Life</b>
---------------------------------------

### Evaluation

#### I. Choose the correct answer

1. One of the following birds is an example of plant pollinator

- |                 |           |                              |
|-----------------|-----------|------------------------------|
| a) Duck         | b) Parrot |                              |
| c) Humming bird | d) Dove   | <b>Ans : c) Humming bird</b> |

2. Natural Mosquito repellent is

- |           |           |                      |
|-----------|-----------|----------------------|
| a) Nutmag | b) Bamboo |                      |
| c) Ginger | d) Neem   | <b>Ans : d) Neem</b> |

3. Which of the following is not a root ?

- |           |           |                        |
|-----------|-----------|------------------------|
| a) Potato | b) Carrot |                        |
| c) Radish | d) Turnip | <b>Ans : a) Potato</b> |

4. Which of the following medicinal plants has anticancer properties ?

- |             |           |                          |
|-------------|-----------|--------------------------|
| a) Amla     | b) Tulasi |                          |
| c) Turmeric | d) Aloe   | <b>Ans : c) Turmeric</b> |

5. Which is the national tree of India ?

- |                |               |                             |
|----------------|---------------|-----------------------------|
| a) Neem tree   | b) Jack tree  |                             |
| c) Banyan tree | d) Mango tree | <b>Ans : c) Banyan tree</b> |

#### II. Fill in the Blanks

1. Every year, October.....is celebrated as world food day. **Ans : 16**

2.....is an example of textile fibre. **Ans : Cotton**

3. I am the state tree of Tamilnadu. Who am I.....?

**Ans : Palm tree**

4. The juice of the leaves of .....plant relieves cough and bronchitis.

**Ans : Tulasi**

5. The edible seeds of leguminous plants are called.....

**Ans : Pulses**

#### III. True or False - If false give the correct answer

1. Plants grown for decorative purposes are called as softwood. **Ans : False**

**Correct Statement :** Plants grown for decorative purposes are called as **ornamental plants.**

2. Silkworm eats mulberry leaves. **Ans : True**

3. Cauliflower is used for ornamental purpose. **Ans : False**

**Correct statement :** Cauliflower is used for **food** purpose.



**3. Name any five plants and their parts that we eat.****Ans :**

S. No.	Plants	Parts eaten
1.	Carrot	Root
2.	Spinach	leaves
3.	Sugarcane	Stem
4.	Rice	Seed
5.	Guava	Fruit

**VIII. Answer in detail****1. Write short notes on - Timber yielding plants.****Ans : Timber yielding plants :**

★ All commercial timbers are classified into two classes as Hardwoods and softwoods based essentially on their structure.

**Hardwoods :**

★ Hardwoods are angiosperms (flowering plants), the largest group of land plants.

★ High - quality furniture, desks, flooring, and wooden construction are being made only using hardwood.

★ E.g: Teak, Jackfruit.

**Softwoods :**

★ Softwoods come from gymnosperm (non.flowering plants) trees.

★ Softwoods have a wide range of applications such as making plywood, wooden boxes, medium-density Fibreboard (MDF) and paper making.

★ E.g : katampu, Pine.

**2. Comment on importance of plant animal interaction.****Ans : Animal - plant Interactions**

Animals rely on plants for their food and shelter. This relationship benefits not only animals but also plants.

Such relationship is economically significant.

**A) Silk Production :**

★ Silkworms feed on mulberry leaves and live on mulberry plants.

★ This relationship between a worm and a plant is economically useful for us in silk production.

**IV. Give short Answer :****1. Write short note on - Plywood.****Ans :**

- ★ The finely cut wooden boards from the wood are layered one above the other to make plywood.
- ★ This is a kind of composite wood.

**Activity : 1****Tabulate the names of vegetables, Cereals and pulses you know.****Ans :**

S.No.	Vegetables	Cereals	Pulses
1.	Brinjal	Paddy	Groundnut
2.	Plantain	Wheat	Chick peas
3.	Tomato	Ragi	Green gram
4.	Drumstick	Millets	Moong dhal
5.	Village Beans	Sorghum	Dhoor dhal

**Activity : 2****How do Rava, Maida, Sago and Vermicelli are made ? Discuss with your friends.****Ans :**

Rava	The refined product from maida is Rava.
Maida	Maida is the remains of refined wheat.
Sago	Tapioca is dried and Powdered.
Vermicelli	Prepared from Tapioca.

**UNIT - 6. Hardware and Software**

**Evaluation**

**I. Choose the correct answer**

**1. Find out the part that is not found in CPU ?**

- a) Mother Board
- b) SMPS
- c) RAM
- d) Mouse

**Ans : d) Mouse**

**2. Which of the following is correct ?**

- a) Free and open source
- b) Free and Traditional Software
- c) Passive and open source
- d) Passive and Traditional source

**Ans : a) Free and open source**

**3. LINUX is a**

- a) Paid Software
- b) Licensed Software
- c) Free and Proprietary Software
- d) Free and Open source software

**Ans : d) Free and open source software**

**4. Find out Paid and Proprietary software from the given list**

- a) Windows
- b) MAC OS
- c) Adobe Photoshop
- d) All the above

**Ans : d) All the above**

**5.....is a Operating System**

- a) Android
- b) Chrome
- c) Internet
- d) Pendrive

**Ans : a) Android**

**II. Match the following**

1. MAC OS	-	Free and Open source Software
2. Software	-	Paid and Proprietary Software
3. Hardware	-	Input Device
4. Keyboard	-	RAM
5. LINUX	-	Geogebra

**Answer :**

<b>1. MAC OS</b>	-	<b>Paid and Proprietary Software</b>
<b>2. Software</b>	-	<b>Geogebra</b>
<b>3. Hardware</b>	-	<b>RAM</b>
<b>4. Keyboard</b>	-	<b>Input Device</b>
<b>5. LINUX</b>	-	<b>Free and Open source Software</b>

**III. Short answer****1. What is Hardware and Software ?****Hardware :**

- ★ Hardware is the parts of the computer which we can touch and feel.
- ★ Hardware includes Input and Output devices, Cabinet, Hard Disk, Mother Board, SMPS, CPU, RAM, CD Drive and Graphics Card.

**Software :**

- ★ Hardware is lifeless without software in a computer.
- ★ Software are programmed and coded applications to process the input information.
- ★ The Software processes the data by converting the input information into coding or programmed language.
- ★ Touching and feeling the software is not possible but we can see the functions of the software in the form of output.

**2) What do you mean by Operating System? How it Works?****Ans :****System Software :**

- ★ System Software (Operating system) is software that makes the hardware devices process the data inputted by the user and to display the result on the output devices like Monitor.
- ★ Without the operating system, computer cannot function on its own.
- ★ Some of the popular operating system are Linux, Windows, Mac, Android etc.

**3) What is Free and Open Source Software? Give any two examples?****Ans :****Free and Open source :**

- ★ Free and open software is available at free of cost and can be shared to many end users.
- ★ Free software is editable and customizable by the user and this leads to updation or development of new software.

# SELECTION

OUR BOOKS

3<sup>rd</sup> TO 10<sup>th</sup> STD

TAMIL

ENGLISH

MATHS

SCIENCE

SOCIAL SCIENCE

3<sup>rd</sup> TO 6<sup>th</sup> STD 5 in 1

TAMIL MEDIUM & ENGLISH MEDIUM

ANBU NILAYAM

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