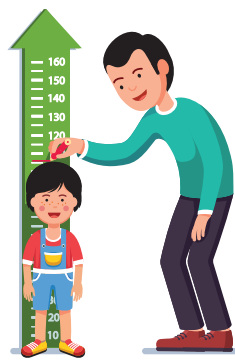


Science

TERM - I



01

MEASUREMENTS

LEARNING OBJECTIVES

- ❑ To understand the need for measurement in our life.
- ❑ To define length, mass, time and volume.
- ❑ To evaluate the values of some physical quantities in terms of their units and sub units.
- ❑ To identify zero error and parallax error.
- ❑ To measure the volume of solids and liquids.
- ❑ To construct their own measuring tools (models)



Evaluation

I. Choose the correct answer.

1. The girth of a tree can be measured by
(a) metre scale (b) metre rod
(c) plastic ruler (d) measuring tape [Ans : (d) measuring tape]
2. The conversion of 7 m into cm gives ⊗
(a) 70 cm (b) 7 cm
(c) 700 cm (d) 7000 cm [Ans : (c) 700 cm]
3. Quantity that can be measured is called
(a) Physical quantity (b) Measurement
(c) unit (d) motion [Ans : (a) Physical quantity]
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) $\text{km} > \text{cm} > \text{m} > \text{mm}$
[Ans : (c) $\text{km} > \text{m} > \text{cm} > \text{mm}$]
5. While measuring 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.]

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II. True or False.

1. We can say that mass of an object is 126 kg. [Ans : **True**]
2. Length of one's chest can be measured by using metre scale. [Ans : **False**]
3. Ten millimetres makes one centimetre. [Ans : **True**]
4. A hand span is a reliable measure of length. [Ans : **False**]
5. The SI system of units is accepted everywhere in the world. [Ans : **True**]

III. Fill up the blanks.

1. SI Unit of length is symbolically represented as _____. [Ans : **m**]
2. 500 gm = _____ kilogram [Ans : **0.5**]
3. Distance between Delhi and Chennai can be measured in _____. [Ans : **Kilometre**]
4. 1 m = _____ cm. [Ans : **100**]
5. 5 km = _____ m. [Ans : **5000**]

IV. Analogy:

1. **Sugar : Beam balance; Lime juice?**

Ans : Measuring Jar.

2. **Height of a person : cm; length of your sharpened pencil lead?**

Ans : mm (milli metre)

3. **Milk : volume; vegetables?**

Ans : mass

V. Match the following :

Column A	Column B
1. Length of the fore arm	Metre
2. SI unit of length	Second
3. Nano	10^3
4. SI Unit of time	10^{-9}
5. Kilo	Cubit

Ans :

Column A	Column B
1. Length of the fore arm	Cubit
2. SI unit of length	Metre
3. Nano	10^{-9}
4. SI Unit of time	Second
5. Kilo	10^3

VI. Complete the given table.

Volume	_____
_____	Kg
Length of your little finger	_____
_____	Km

Ans :

Volume	m³
Mass	Kg
Length of your little finger	cm
Distance between two cities	Km

VII. Arrange in increasing order of unit.

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

Ans : 1 millimetre < 1 centimetre < 1 Metre < 1 kilometre.

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

A		P		L ⁷								R		K
C		O		E								O		S
M		K		N								R		I
P		R ¹		G								R		T ⁹
R	H	E	S	T	E	D	L	L ¹⁰	I	T	R	E ³	D	A
L		T		H						D		H		P
O		E		O					N			K		E
A ⁶		M ⁵	A	S	S				O			R		V
V		I		E					C			T		O
E		L		K					E			S		S
R		L		I								K		H
A		I		T					I			V		P
G		M		X					M			N		U
E		Z		D					E	S	K	P	G	I
Z	T	D	K	H					O ⁸	D	O	M	E	T

- 10^{-3} is one _____. [Ans : **Millimetre**]
- SI Unit of time _____. [Ans : **second**]
- Cross view of reading for a measurement leads to _____. [Ans : **error**]
- _____ is the one what a clock reads. [Ans : **Time**]
- _____ is the amount of substance present in an object [Ans : **Mass**]
- _____ can be taken to get the final reading of the recordings of different of students for a single measurement. [Ans : **Average**]
- _____ is a fundamental quantity. [Ans : **Length**]
- _____ shows the distance covered by an automobile. [Ans : **Odometer**]
- A tailor use _____ to take measurements to stitch a cloth. [Ans : **Tape**]
- Liquids are measured with this physical quantity. [Ans : **Litre**]

IX. Answer in a word or two.

1. What is the full form of SI system? ⊗

Ans : International System of Units.

2. Name any one instrument used for measuring mass.

Ans : Beam balance.

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 : A number and the units.

X. Answer in a sentence or two.

1. Define measurement.

Ans : The comparison of an unknown quantity with some known quantity 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 :

(a) Convert km into metre

$$1 \text{ km} = 1000 \text{ m}$$

$$\therefore 43.65 \text{ km} = 43.65 \times 1000 = 43650.00 = 43650 \\ = 43650 \text{ m.}$$

(b) Convert km into cm.

$$1 \text{ km} = 1000 \text{ m}$$

$$1 \text{ m} = 100 \text{ cm}$$

$$1 \text{ km} = 1000 \times 100 \text{ cm}$$

$$1 \text{ km} = 100000 \text{ cm}$$

$$\therefore 43.65 \text{ km} = 43.65 \times 100000 = 4365000.00 \\ = 4365000 \text{ cm.}$$

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

Ans : (i) Take care to write the correct submultiple.

(ii) Always keep the object in parallel to the scale.

(iii) Start the measurement from '0' of the scale.

XI. Solve the following.

1. The distance between your school and your house is 2250 m. Express this distance in kilometre.

Ans : Distance between school and house is 2250 m.

$$1000 \text{ m} = 1 \text{ km}$$

$$\therefore 2250 \text{ m} = 2250 \div 1000 = 2.25 \text{ km.}$$

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?

Ans : Sharpened pencil Reading at one end = 2.0 cm.
 Sharpened pencil Reading at the other end = 12.1 cm.
 Length of the pencil = Difference between two ends.
 = 12.1 cm. – 2.0 cm.
 = 10.1 cm.

XII. Write in detail.

1. Explain two methods those you can use to measure the length of a curved line.

Ans : Measuring the length of a curved line, by two methods.

First method - using a string.

- (i) Draw a curved line AB on the paper.
- (ii) Place a string along the curved line.
- (iii) Make sure that the string covers every bit of the curved line.
- (iv) Mark the points where the curved line begins and ends on the string.
- (v) Now stretch the string along the length of a meter scale.
- (vi) Measure the distance between two markings of the string.
- (vii) This will give the length of a curved line.

Second method - using a divider.

- (i) Draw a curved line AB on a paper.
- (ii) Separate the legs of the divider by 0.5 cm or 1 cm using a ruler.
- (iii) Place it on the curved line starting from one end. Mark the position of the other end.
- (iv) Move it along the line again and again cutting the line into number of segments of equal lengths.
- (v) The remaining parts of the line can be measured using a scale.
- (vi) Count the number of segments.
- (vii) Length of the line = (No. of segments × length of each segment) + length of the left over part.

2. Fill in the following chart.

Property	Definition	Basic Unit	Instrument used for measuring
Length			
Mass			
Volume			
Time			

Ans :

Property	Definition	Basic Unit	Instrument used for measuring
Length	The distance between one end and the other desired end.	Metre	Meter scale, Measuring tape.
Mass	Mass is the measure of the amount of matter in an object.	Kilogram	Beam balance
Volume	Volume is the Space occupied by an object.	Solid - Metre Liquid - Litre	Measuring Scale Graduated cylinder
Time	It is period between two events.	Second	Clock

Intext Activities

→ ACTIVITY :

In the given activity, measure the quantities using suitable measuring units and express them with suitable multiple and submultiples.

Picture	Activity	Measuring Unit m/kg/s	Multiple / Submultiple
	Length of tip of pencil.	metre	millimetre (Sub multiple)
	Length of the pen	metre	centimetre
	Distance between two cities	kilo metre	metre
	Mass of dry fruits in table	kilo gram	milligram (Sub multiple)
	Mass of ornaments	kilo gram	milligram (Sub multiple)
	Time taken to finish 100 m race	Seconds	Seconds (Sub multiple)

→ ACTIVITY - 2

Aim: To find the length of a curved line using a string.

Materials needed: A meter scale, a measuring tape, a string and a sketch pen.

Method:

- ❖ Draw a curved line AB on a piece of paper.
- ❖ Place a string along the curved line. Make sure that the string covers every bit of the curved line.



- ❖ Mark the points where the curved line begins and ends on the string.
- ❖ Now, stretch the string along the length of a meter scale and measure the distance between the two markings of the string. Note it.
- ❖ This will give you the length of a curved line.

Find the length of a banana.

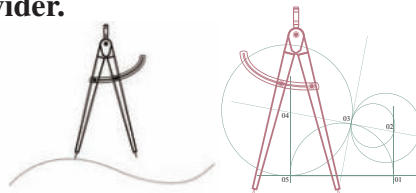


- Ans :** (i) Place a string along the curved surface of the banana.
 (ii) Mark the initial point and the final point on the string.
 (iii) The difference between the two points is the length of the banana.

→ ACTIVITY - 3

Measuring the length of a curved line using a divider.

- (i) Draw a curved line AB on a piece of paper.
- (ii) Separate the legs of the divider by 0.5 cm or 1 cm using a ruler.
- (iii) Place it on the curved line starting from one end. Mark the position of the other end. Move it along the line again and again cutting the line into number of segments of equal lengths. The remaining parts of the line can be measured using a scale. Count the number of segments.
- (iv) Therefore, the length of the line = (number of segments × length of each segment) + length of the left over part.



→ Numerical Problems

Look at a meter scale carefully and answer the following:

- How many mm are there in a cm?

Ans : There are 10 mm in a 'cm'.

- How many cm are there in a m?

Ans : There are 100 cm in a 'm'.

Complete the following :

- | | |
|--------------------------------------|-----------------|
| ➤ 7875 cm = <u>78</u> m <u>75</u> cm | (100 cm = 1 m) |
| ➤ 1195 m = <u>1</u> km <u>195</u> m | (1000 m = 1 km) |
| ➤ 15 cm 10 mm = <u>160</u> mm. | (10 mm = 1 cm) |
| ➤ 45 km 33 m = <u>45033</u> m. | (1000 m = 1 km) |

Additional Questions

I. Choose the correct answer:

1. In which SI unit, you can measure your height?

(a) Kilogram	(b) Litre	
(c) Metre	(d) Second	[Ans : (c) Metre]
2. The distance between one end and the other end is called _____.

(a) mass	(b) length	
(c) time	(d) None	[Ans : (b) length]

3. _____ is used to measure the accurate time of the activity.

- (a) Clock
(c) Stop clock

- (b) Watch
(d) Sundial

[Ans : (c) Stop clock]

4. Five kilometre is equal to _____.

- (a) 500 cm
(c) 5000 m

- (b) 500 m
(d) 5000 cm

[Ans : (c) 5000 m]

5. S.I unit for Volume is _____.

- (a) m^2
(c) m^3

- (b) m
(d) none

[Ans : (c) m^3]

II. Find whether the following sentences are true or false. If false Correct the statement.

1. Kerosene is measured with the help of graduated cylinder.

Ans : True.

2. Length is a fundamental quantity.

Ans : True.

3. On moon, the gravitational force is greater than earth.

Ans : False. On moon the gravitational force is **lesser** than earth.

4. An electronic balance is a device used to find accurate mass.

Ans : True.

5. Speedometer is a device used for indicating distance travelled by an automobile.

Ans : False. **Odometer** is a device used for indicating distance travelled by an automobile.

III. Analogy.

1. Potatoes : Kilogram; Water?

Ans : Litre.

2. Stop clock : accurate time; _____ : accurate weight

Ans : Electronic balance.

3. Mass : Balance; Length?

Ans : measuring tape.

4. Amount of matter : mass; Gravitational Pull?

Ans : Weight.

IV. Answer the following questions in one or two words.

1. What are the materials needed to find the length of a banana?

Ans : A meter scale, a string or thread, sketch pen.

2. What formula is used to measure area of your class room?

Ans : My class room area = Length $\times$ Breadth

3. Give an example of a device used to find the accurate measurement of weight.

Ans : Electronic balance.

4. In earlier days, which instruments are used to measure time?

Ans : Sand clock and Sun dial.

5. What are the clocks used to measure a smaller duration of time?

Ans : Electronic clock, Stop watch.

V. Match the following.

Prefix	Symbol
a. Centi	i. k
b. Nano	ii. c
c. milli	iii. n
d. kilo	iv. m

[Ans : a-ii, b-iii, c-iv, d-i]

VI. Answer the following in one or two sentences :

1. What is length?

Ans : The distance between one end and the other desired end is called as length.

2. Give some examples of larger length measures.

Ans : (i) Height of the building,
(ii) Length of a banner,
(iii) Height of lamp post.

3. What is meant by parallax?

Ans: Parallax is a displacement or difference in the apparent position of an object viewed along two different lines of sight.

4. Differentiate of Mass and Weight.

Ans :

Mass	Weight
Amount of matter in an object	Gravitational pull experienced by the mass
Measuring instrument is Beam balance	Measuring instrument is electronic balance

5. List the SI units of length, mass and time.

Ans : (i) Length is measured by metre (m)
(ii) Mass is measured by kilogram (kg)
(iii) Time is measured by second (s).



UNIT TEST

Time : 60 min.

Marks : 25

I. Choose the correct answer.

(4 × 1 = 4)

1. The girth of a tree can be measured by _____.

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

2. The distance between one end and the other end is called _____.

- (a) mass (b) length
(c) time (d) 200 mm

3. Twenty decimetre is equal to _____.
 (a) 2 km (b) 20 cm
 (c) 2 metre (d) None
4. _____ is used to measure mass.
 (a) Stop clock (b) Beam balance
 (c) Sundial (d) Graduated cylinder

II. Fill in the blanks.

(3 × 1 = 3)

5. SI Unit of length is symbolically represented as _____.
 6. 1 m = _____ cm.
 7. _____ shows the distance covered by an automobile.

III. Find whether the following sentences are true or false. If false Correct the statement.

(3 × 1 = 3)

8. We can say that mass of an object is 126 kg.
 9. The SI system of units is accepted everywhere in the world.
 10. On moon, the gravitational force is greater than earth.

IV. Answer any five only.

(5 × 2 = 10)

11. Match the following.

1.	Length of the fore arm	(i)	metre
2.	SI unit of length	(ii)	second
3.	Nano	(iii)	cubit
4.	SI unit of time	(iv)	10^{-9}

12. What is meant by parallax?
 13. What are the clocks used to measure a smaller duration of time?
 14. Define mass.
 15. Where are the electronic balances used?
 16. The distance between your school and your house is 2250 m. Express this distance in kilometre.
 17. What is the full form of SI system?

V. Write in detail.

(1 × 5 = 5)

18. Explain anyone method to measure the length of a curved line.

(OR)

Fill in the following chart.

Property	Definition	Basic Unit	Instrument used for measuring
Length			
Mass			
Volume			
Time			





02

FORCES AND MOTION

LEARNING OUTCOMES

- ❑ To Identify push or pull or both is involved when there is a motion.
- ❑ To understand that some forces act on contact and some are non-contact forces.
- ❑ When a force is applied, it can make things move, change direction or change its shape and size.
- ❑ To distinguish rest and motion and understand that they are relative.
- ❑ To infer motion is caused by application of force.
- ❑ To classify the different types of motion.
- ❑ To deduce the definition of average speed.
- ❑ To use and understand the unit of speed.
- ❑ To distinguish uniform and non-uniform motion.
- ❑ To compute time, distance and speed.



Evaluation

I. Choose the correct answer.

1. **Unit of speed is**
(a) m (b) s (c) kg (d) m/s [Ans : (d) m/s]
2. **Oscillatory motion among the following is**
(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 [Ans : (c) To and fro movement of a vibrating string]
3. **The correct relation among the following is**
(a) Speed = distance $\times$ time. (b) speed = distance / time
(c) Speed = time / distance (d) speed = 1 / (distance $\times$ time)
[Ans : (b) speed = distance / time]
4. **Gita rides with her father's 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 with a speed of 1 km / minute.
Statement 2 : She travels with a speed of 1 km/hour
(a) Statement 1 alone is correct.
(b) Statement 2 alone is correct.
(c) Both Statement 1 and 2 are correct.
(d) Neither statement 1 nor statement 2 is correct.

[Ans : (a) Statement 1 alone is correct]

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II. Find whether the following statements are true or false. - if false give the correct answer.

1. To and fro motion is called oscillatory motion.

Ans : True.

2. Vibratory motion and rotatory motion are periodic motions.

Ans : False. Vibratory motion and **oscillatory** motion are periodic motions.

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

Ans : False. Vehicles moving with varying speeds are said to be in **non-uniform** motion.

(OR)

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

4. Robots will replace human in future.

Ans : False. Robots **will not** replace human in future.

III. Fill in the blanks.

1. A bike moving on a straight road is an example of _____ motion. [**Ans : Linear**]

2. Gravitational force is a _____ force. [**Ans : Non Contact Force**]

3. Motion of a potter's wheel is an example of _____ motion. [**Ans : rotatory**]

4. When an object covers equal distances in equal interval of time, it is said to be in _____ motion. [**Ans: uniform**]

IV. Match the following

S. No.	Column A		Column B
1.		a.	Circular motion
2.		b.	Oscillatory motion
3.		c.	linear motion
4.		d.	rotatory motion
5.		e.	linear and rotatory motion

[Ans : 1-c, 2-d, 3-b, 4-a, 5-e]

V. Analogy.

1. kicking a ball : contact force :: falling of leaf : _____?

Ans : Non contact force.



2. Distance : metre :: speed : _____?

Ans : metre/second.

3. circulatory motion :: a spinning top :: oscillatory motion : _____?

Ans : Swinging of a pendulum.

VI. 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

Ans :

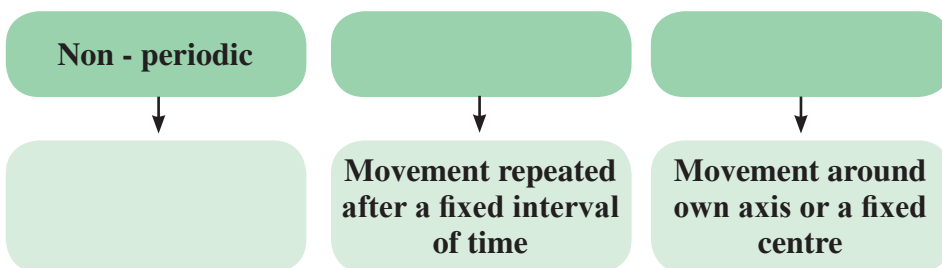
Distance (m)	0	4	8	12	16	20
Time (s)	0	2	4	6	8	10

(i) Distance / Time = $\frac{4}{2} \times 4 = \frac{16}{2} = 8$

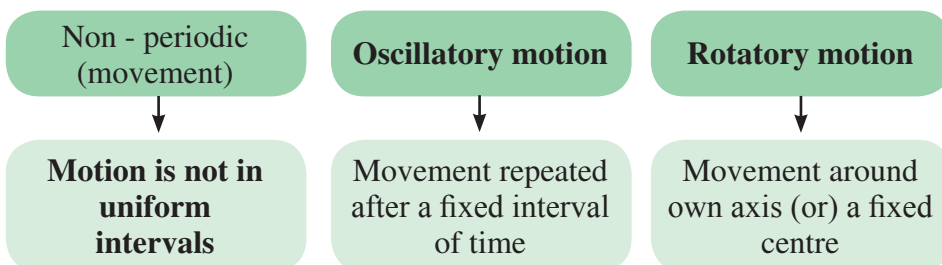
(ii) Distance / Time = $\frac{4}{2} \times 8 = \frac{32}{2} = 16$

(iii) Time / Distance = $\frac{10}{20} \times 12 = \frac{12}{2} = 6$

VII. Complete the web chart.



Ans :



VIII. Give one word for the following statements.

1. The force which acts on an object without Physical contact with it .

Ans : Non contact force.

2. A change in the position of an object with time.

Ans : Motion.

3. The motion which repeats itself after a fixed interval of time.

Ans : Oscillatory motion.

4. The motion of an object travels equal distances in equal intervals of time.

Ans : Uniform motion.

5. A machine capable of carrying out a complex series of actions automatically.

Ans : Robots.

IX. Answer the following in a sentence or two.

1. Define force.

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

2. Name different types of motion based on the path.

Ans : (i) Linear motion.
(ii) Curvilinear motion.
(iii) Circular motion.
(iv) Rotatory motion.
(v) Oscillatory motion.
(vi) Zigzag (irregular) motion.

3. If you are sitting in a moving car, will you be at rest or motion with respect your friend sitting next to you?

Ans : I am in **rest** with respect to my friend, sitting inside the car.

4. Rotation of the earth is a periodic motion. Justify.

Ans : Motion repeated in equal intervals of time is called as periodic motion. The earth rotates on its axis once in 24 hours. The duration of time is fixed as 24 hours. Therefore the rotation of earth is a periodic motion.

5. Differentiate between rotational and curvilinear motion. ⊗

Ans :	S. No	Rotational motion	Curvilinear motion
	1.	A body moves along a circular path.	A body moves along a curved path.
	2.	Without changing its position, about its own (fixed) axis.	Changes its position with motion.
	3.	Eg. Rotation of a spinning top.	Eg. Throwing paper airplanes or paper darts.

X. Calculate.

1. A vehicle covers a distance of 400 km in 5 hour. Calculate its average speed.

Ans : Distance covered by the vehicle = 400 km
Time taken = 5 hour
Average speed = $\frac{\text{distance covered}}{\text{time taken}} = \frac{400 \text{ km}}{5 \text{ hour}}$
= 80 km/hr.

XI. Answer in detail.

1. What is motion? Classify different types of motion with examples.



Ans : Motion :

Change of position of an object with respect to time is known as motion.

1. Based on Path :

- | | |
|---------------------------------|---------------------------------------|
| (i) Linear motion. | Ex.: Parade of the soldiers. |
| (ii) Curvilinear motion. | Ex.: Paper flight moving. |
| (iii) Circular motion. | Ex.: Swirling stone tied to the rope. |
| (iv) Rotatory motion. | Ex.: Rotating top. |
| (v) Oscillatory motion. | Ex.: Clock pendulum. |
| (vi) Zigzag (irregular) motion. | Ex.: Motion of a bee. |

2. Based on Duration :

- | | |
|---------------------------|--|
| (i) Periodic motion. | Ex.: Motion of a bob of simple Pendulum. |
| (ii) Non periodic motion. | Ex.: Swaying of the branches of a tree. |

3. Based on Speed :

- | | |
|----------------------------|---|
| (i) Uniform motion. | Ex.: Hour hand of a clock. |
| (ii) Non - uniform motion. | Ex.: Motion of a train, as it leaves a station. |

XII. Fill with examples.

Linear motion	
Curvilinear motion	
Self rotatory motion	Motion of wheel in a cart
Circular motion	
Oscillatory motion	
Irregular motion	
Linear motion	Free fall objects
Curvilinear motion	Throwing ball
Self rotatory motion	Motion of wheel in a cart
Circular motion	Athlete running around a track
Oscillatory motion	Flapping of elephants ear
Irregular motion	Playing Foot ball

Ans :

Intext Activities

→ ACTIVITY - 1

Can you identify whether it is push or pull that results in motion in the following cases?

Picture	Result in motion	Picture	Result in motion
	Pull		Push
	Push		Pull
	Push		Push

→ Event 2:

The girl on the swing is moving with respect to the seat of the swing.
She is at rest with respect to the garden.

→ Event 3:

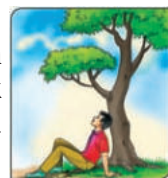
Nisha is going to her grandmother's house by bicycle. The girl on the bicycle is moving with respect to the road.

She is at rest with respect to the bicycle.

→ ACTIVITY - 2

Moon or Cloud?

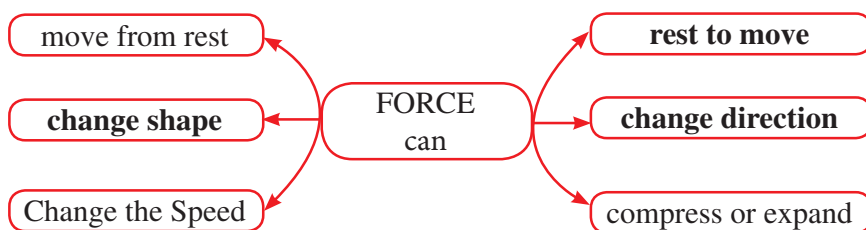
Observe the moon on a windy night with a fair bit of cloud cover in the sky. As a cloud passes in front of the moon you sometimes think it is the moon which is moving behind the cloud. What would you think if you were to observe a tree at the same time?



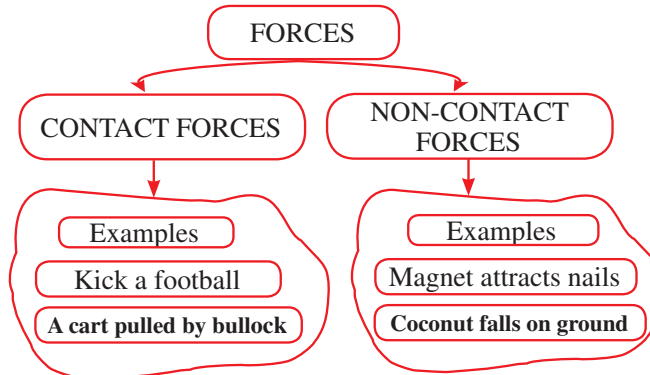
Ans : Activity to be done by the students themselves

→ ACTIVITY - 3

Fill in the empty spaces.



Can you give example for contact and non-contact forces?

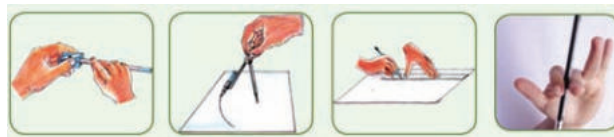


→ ACTIVITY - 4

Play with pencil

Please do what Shanthi did...

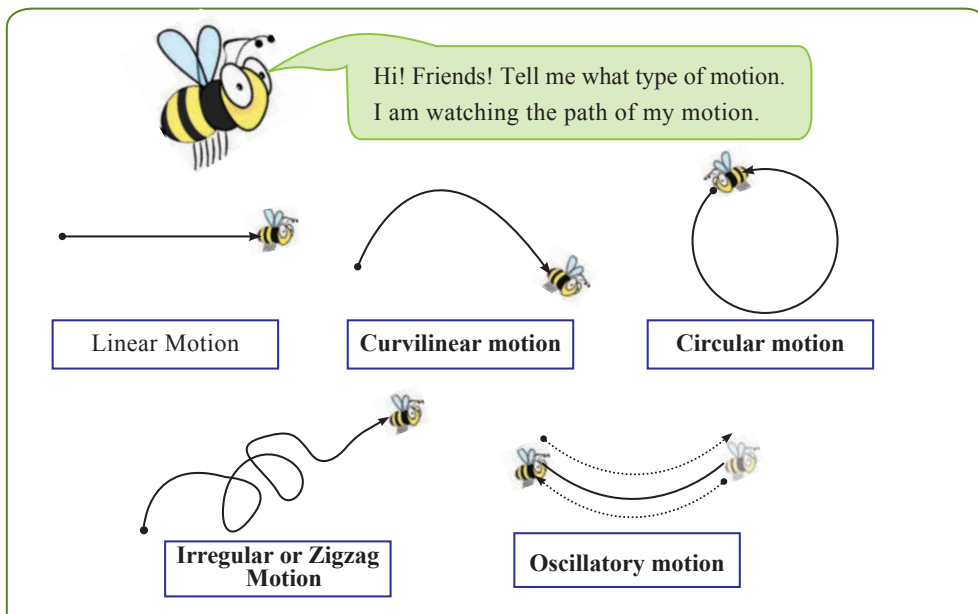
- Shanthi took a pencil and sharpened it with a sharpener.
- Then she drew a circle using the pencil and a compass.
- Later she took her ruler (scale) and drew a straight line in another paper.
- Then she kept the pencil between her finger and moved it back and forth.



Now, look at the motion of the pencil in all these four cases. How was it?

- In the first case, the pencil rotated in its axis.
- In the second case, it went in a circle.
- In the third case, the pencil travelled in a straight line.
- Fourth case, the pencil tip moved back and forth, that is it oscillated like a swing.

→ ACTIVITY - 5



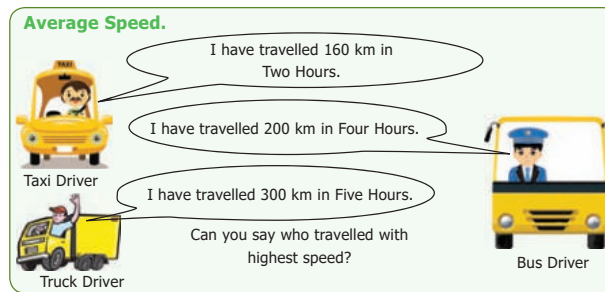
→ ACTIVITY - 6

Classify the following according to the path it takes.

Linear, Curvilinear, Circular, Rotatory, Oscillatory, Zigzag (irregular)

• A sprinter running a 100 m race	Linear Motion
• A coconut falling from a tree	Linear Motion
• striking a coin in a carom board game	Zigzag Motion
• Motion of flies and mosquitoes	Zigzag Motion
• Beating of heart	Oscillatory Motion
• Children playing in a swing	Oscillatory Motion
• The tip of hands of a clock	Rotatory Motion
• Flapping of elephant's ears	Oscillatory Motion
• A stone thrown into the air at an angle	Curvilinear Motion
• Movement of people in a bazaar	Zigzag Motion
• Athlete running around a track	Circular Motion
• Revolution of the moon around the earth	Circular Motion
• The movement of a ball kicked in a football match	Curvilinear Motion
• Motion of a spinning top	Rotatory Motion
• Revolution of the earth around the sun	Circular Motion
• Swinging of a pendulum	Oscillatory Motion
• Children skidding on a sliding board	Linear Motion
• Skidding down a playground slide	Zigzag Motion
• Wagging tail of a dog	Oscillatory Motion
• Flapping of a flag in wind	Oscillatory Motion
• A car driving around a curve	Circular Motion
• Woodcutter cutting with a saw	Linear Motion
• Motion of water wave	Oscillatory Motion
• Motion of piston inside a syringe	Linear Motion
• Bouncing ball	Oscillatory Motion
[add five motions you observe to this list]	
Falling fruits from the tree	Linear Motion
Ceiling fan running	Rotatory Motion
Car running on the straight road	Linear Motion
Swirling stone tied to the rope	Circular Motion
Motion of sewing machine needle	Oscillatory Motion

→ ACTIVITY



Ans : The Taxi driver travelled with highest speed.

How do we say? Let us calculate how long they travelled in One Hour?

Distance travelled by the Car in One Hour = 80 km ($160 \div 2$)

Distance travelled by the Bus in One Hour = 50 km ($200 \div 4$)

Distance travelled by the Truck in One Hour = 60 km ($300 \div 5$)

Have you found out? say now.

Fastest Taxi, Slowest Bus.

→ Let us Calculate.

1. A cat travelled 150 metres in 10 seconds, what is its average speed?

Ans : Cat travelled in 10 seconds = 150 m
Average speed = $\frac{\text{distance covered}}{\text{time taken}} = \frac{150 \text{ m}}{10 \text{ s}} = 15 \text{ m / s.}$

2. Priya ride her bicycle 40 km in two hours. What is her average speed?

Ans : Priya ride her bicycle in two hours = 40 km
Average speed = $\frac{\text{distance covered}}{\text{time taken}} = \frac{40 \text{ km}}{2 \text{ hr}} = 20 \text{ km / hour.}$

→ Our speed...

Let us play a small game. Go to the playground with your friends. Mark 100 metre distance for a race. Conduct a friendly running race and calculate the time they taken to complete the distance by stopwatch. Now fill up the following table.

S. No	Name of the student	distance	Time taken (in seconds)	average speed = distance travelled / time taken	average speed (m/s)
1	Murugesan	100 m	12 sec	100 meter / 12 sec	8.3 m/s
2	T. Vikkas	100 m	14 sec	100 meter / 14 sec	7.1 m/s
3	T. Jeevan rajan	100 m	15 sec	100 meter / 15 sec	6.7 m/s
4	V. Sabari	100 m	13 sec	100 meter / 13 sec	7.7 m/s
5	P. Suresh	100 m	12 sec	100 meter / 12 sec	8.3 m/s

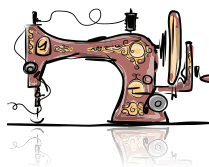
Compute the following Numerical Problems.

1. If you travel 10 kilometres in 2 hours, your speed is 5 km per hour. ($10 \text{ km} / 2 \text{ hours}$)

2. If you travel 15 kilometres in $\frac{1}{2}$ hour, you would travel 30 km in one hour, and your speed is 30 km per hour. $(15 \text{ km} \times \frac{2}{1} \text{ hours})$
3. If you run fast at 20 kilometres per hour for 2 hours, you will cover 40 km. $(20 \text{ km} \times 2 \text{ hours})$

→ ACTIVITY

Multiple Motion in a Sewing Machine



- Motion of the needle
- Periodic (or) Oscillatory motion
- Motion of the wheel
- Rotatory motion
- Motion of footrest
- Oscillatory motion

→ Activity - 7

Simple Spinner

Let us enjoy by making a simple spinner. Make it by the following instruction.

Cut a 2cm long piece from an old ball-pen refill and make a hole in its center with a divider point (Fig 1).

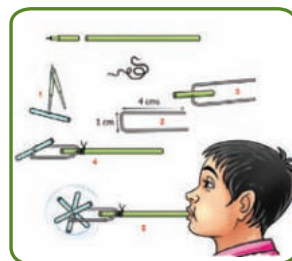
Take a thin wire of length 9cm and fold it into a U-shape (Fig 2).

Weave the refill spinner in the U-shaped wire (Fig 3).

Wrap the two ends of the wire on the plastic refill, leaving enough clearance for the spinner to rotate (Fig 4).

On blowing through the refill, the spinner rotates (Fig 5).

For obtaining maximum speed - adjust the wires so that air is directed towards the ends of the spinner.



Have you enjoyed with simple spinner. Do you observe the motions in the toy. Can you answer the following question?

1. Motion of the air in tube is _____ motion. [Ans : **Linear**]
2. Motion of the refill stick _____ motion. [Ans : **Rotatory**]
3. The toy converts _____ motion into _____ motion. [Ans : **Linear, Rotatory**]

Additional Questions

I. Choose the correct answer:

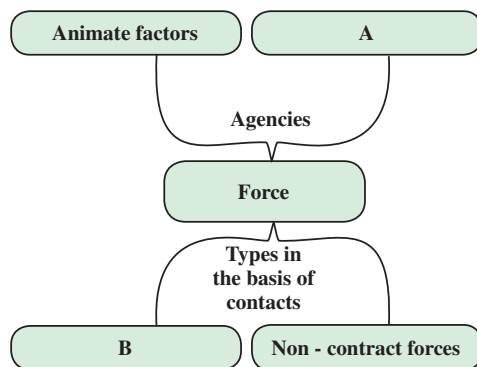
- _____ is an ancient Indian astronomer.
(a) C.V. Raman (b) Aryabhatta (c) Usain Bolt (d) Edison
[Ans : (b) Aryabhatta]
- People walking in a crowded street is example of _____ motion.
(a) linear (b) circular (c) rotatory (d) zigzag
[Ans : (d) zigzag]
- Identify the Periodic motion among the following :
(a) a horse running in a race (b) revolution of the moon around the earth
(c) a coconut falling from a tree (d) paper flight moving
[Ans : (b) revolution of the moon around the earth]
- Usain Bolt crossed 100 metre in _____ seconds and made a world record.
(a) 9.58 (b) 9.83 (c) 9.85 (d) 9.38 [Ans : (a) 9.58]
- _____ are robots scaled down to microscopic size in order to put them into very small spaces to perform a function.
(a) Car robots (b) Home robots (c) Game robots (d) Nanobots
[Ans : (d) Nanobots]
- A _____ is the fastest land animal.
(a) Horse (b) Lion (c) Cheetah (d) Tiger
[Ans : (c) Cheetah]
- A cheetah can run with an average speed of _____.
(a) 112 km/h (b) 121 km/h (c) 211 km/h (d) 122 km/h
[Ans : (a) 112 km/h]

II. Find whether the following sentences are true or false. If false Correct the statement.

- Motion occurs when the object is pulled or pushed by an agency.
Ans : True.
- Force executed by touching the body is called non - contact force.
Ans : False. Force executed by touching the body is called **contact** force.
- Gravity pushes the ripen coconut from the tree to the ground.
Ans : False. Gravity **pulls** the ripen coconut from the tree to the ground.
- Throwing paper aeroplane is the best example of linear motion.
Ans : False. Throwing paper aeroplane is the best example of **curvilinear** motion.
- The movement of a body about its own axis like a rotating top is liner motion.
Ans : False. The movement of a body about its own axis like a rotating top is **Rotatory** motion.
- Motion repeated in equal intervals of time is called as periodic motion.
Ans : True.

III. Fill in the blanks.

- _____ are push or pull by an animate or inanimate agency. [Ans: **Forces**]
- Application of force in an object results in motion from a state of _____. [Ans: **rest**]
- Fast oscillations are referred to as _____. [Ans: **vibrations**]
- Motion repeated in equal intervals of time is called _____. [Ans: **periodic motion**]
- _____ are automatic machines. [Ans: **Robots**]
- The term Robots comes from a czech word _____. [Ans: **robota**]
- _____ is the study of robots in science. [Ans: **Robotics**]

IV. Complete the web chart.**Ans :**

- A - In animate factors,
- B - Contact forces.

V. Answer the following in one or two sentences.

- Define motion.**

Ans : When there is a change of position of an object with respect to time, then it is called motion.

- What is non-contact force?**

Ans : The force applied without touching the object is known as non-contact force.

- List out the types of forces on the basis of contact.**

Ans : There are two types.

- Contact force,
- Non-contact force.

- Give the properties of force.**

Ans : i. Forces can change the state of a body from rest to motion or motion to rest.
ii. Forces can change the shape of the body.

- Define non-periodic motion.**

Ans : When a motion is not in uniform interval, then such motion is called non-periodic motion.

- Define Average speed.**

Ans : The distance travelled by an object in unit time is called average speed.

$$\text{Average speed} = \frac{\text{distance covered}}{\text{time taken}}.$$

7. List out the types of motion on the basis of speed.

Ans : There are two types.

- i. Uniform motion,
- ii. Non-uniform motion.

8. Define uniform motion.

Ans : If an object covers uniform distances in uniform intervals, then the motion of the object is called uniform motion.

9. Why robots are used in many places?

Ans : Robots can perform mechanical and repetitive jobs faster, more accurately than human beings. It can also handle dangerous materials and explore distant planets.

10. What are the important parts of a robot?

Ans : Electronic sensors are a robot's eyes and ears. These are the important parts.

11. What is nanobots?

Ans : Nanobots are robots scaled down to microscopic size in order to put them into very small places to perform a function.

12. What are the uses of future robots?

- Ans :**
- i. It could be placed in the blood stream to perform surgical procedures.
 - ii. It could target cancer cells and destroy them without touching healthy cells nearby.

VI. Answer in Detail.

1. Classify the following motions according to the path it takes.

- a) A coconut falling from a tree
- b) Heart beat
- c) A stone thrown into the air at an angle
- d) Movement of people in a bazaar
- e) Motion of a spinning top

- Ans :**
- | | |
|--|----------------------|
| a) A coconut falling from a tree | - Linear Motion |
| b) Heart beat | - Oscillatory Motion |
| c) A stone thrown into the air at an angle | - Curvilinear Motion |
| d) Movement of people in a bazaar | - Zigzag Motion |
| e) Motion of a spinning top | - Rotatory Motion |

2. Classify the following motions based on duration and speed.

- | | |
|--|-------------------------------|
| a) Coconut falls to the ground | b) A cart pulled by a bullock |
| c) Train journey | d) A bouncing ball |
| e) Revolution of Moon around the earth | |

- Ans :**
- | | |
|------------------------|------------------------|
| a) Non-periodic Motion | b) Non-periodic Motion |
| c) Non-uniform Motion | d) Periodic Motion |
| e) Uniform Motion | |



UNIT TEST

Time : 40 min.

Marks : 25

I. Choose the correct answer.**(3 × 1 = 3)**

1. Unit of speed is _____.
(a) m (b) s (c) kg (d) m/s
2. _____ is an ancient Indian astronomer
(a) C.V. Raman (b) Aryabhatta (c) Ussain Bolt (d) Edison
3. _____ are the robots scaled down to microscopic size in order to put them into very small spaces to perform a function.
(a) Car robots (b) Home robots (c) Game robots (d) Nano robots

II. Fill in the blanks.**(3 × 1 = 3)**

4. Gravitational force is a _____ force.
5. Fast oscillations are referred to as _____.
6. _____ is a study of robots in science.

III. Find whether the following sentences are true or false. If false Correct the statement.**(3 × 1 = 3)**

7. Throwing paper aeroplane is the best example of linear motion.
8. Vibratory motion and rotatory motion are periodic motions.
9. Motion repeated in equal intervals of time is called as periodic motion.

IV. Analogy.**(2 × 1 = 2)**

10. Kicking a ball : Contact force :: Falling of leaf : _____.
11. Distance : metre :: Speed : _____.

V. Match the following.**(3 × 1 = 3)**

12.	A coconut falling from a tree	(i)	Oscillatory motion
13.	Motion of a spinning top	(ii)	Linear motion
14.	Heart beat	(iii)	Rotatory motion

VI. Answer any 3 in a sentences or two.**(3 × 2 = 6)**

15. Rotation of the earth is a periodic motion - Justify.
16. Give the properties of force.
17. Name different types of motion based on the path.
18. What are the uses of future robots?

VII. Answer any one in detail.**(1 × 5 = 5)**

19. What is motion? Classify different types of motion with examples.
20. Classify the following motions based on duration and speed.
 a) Coconut falls to the ground b) A cart pulled by a bullock
 c) Train journey d) A bouncing ball
 e) Revolution of Moon around the earth



S O C I A L S C I E N C E

TERM - I

[391]

HISTORY

TERM I

UNIT 1

WHAT IS HISTORY?

LEARNING OBJECTIVES

- ❑ To know what history is all about.
- ❑ To understand the importance of history.
- ❑ To learn about the lifestyle of the pre-historic man.
- ❑ To know how paintings portray the daily activities of the pre-historic man.
- ❑ To understand the importance of history and historical researches.



EXERCISE

I. Choose the correct answer:

1. What was the step taken by the early man to collect his food?

- (a) Trade (b) Hunting
(c) Painting (d) Rearing of animals

[Ans : (b) Hunting]

II. Match the statement with the Reason. Tick the appropriate answer:

1. Statement: Pre historic men went along with the dog for hunting.

Reason: Dogs with its sniffing power would find out other animals.

- (a) Statement is true, but reason is wrong.
(b) Statement and reason are correct.
(c) Statement is wrong and reason is correct.
(d) Both statements and reasons are wrong.

[Ans : (b) Statement and reason are correct.]

2. Statement: The objects used by the early man are excavated. They are preserved to know the lifestyle of the people.

Find out which of the following is related to the statement.

- (a) Museum (b) Burial materials
(c) Stone tools (d) Bones

[Ans : (a) Museum]

3. Find out the wrong pair:

- (a) Old stone age - (i) Stone tools
(b) Rock paintings - (ii) Walls of the caves
(c) Copper plates - (iii) A source of history
(d) Cats - (iv) First domesticated

[Ans : (d) Cats - (iv) First domesticated]

4. Find the odd one:

- (a) Paintings were drawn on rocks and caves.
- (b) There were paintings depicting hunting scenes.
- (c) It was drawn to show his family members about hunting.
- (d) The paintings were painted by using many colours.

[Ans : (c) It was drawn to show his family members about hunting.]

III. Fill in the blanks :

- 1. The Old Stone Age man lived mostly in _____. [Ans : caves]
- 2. _____ is the father of history. (X) [Ans : Herodotus]
- 3. _____ was the first animal tamed by Old Stone Age man. [Ans : Dog]
- 4. Inscriptions are _____ sources. [Ans : archaeological]
- 5. Dharma Chakra has _____ spokes. [Ans : 24]

IV. State True or False:

- 1. Stone tools belonging to Old Stone Age have been excavated at Athirampakkam near Chennai. [Ans : True]
- 2. The materials used by the ancient people are preserved in the museums by the Archaeological Department. [Ans : True]
- 3. During the period of Ashoka, Buddhism spread across the country. [Ans : True]

V. Match the following :

- | | |
|--------------------------|-------------------------------------|
| (a) Rock paintings | - (i) copper plates |
| (b) Written records | - (ii) the most famous king |
| (c) Ashoka | - (iii) Devaram |
| (d) Religious Literature | - (iv) to understand the life style |

[Ans : (a) - iv, (b) - i, (c) - ii, (d) - iii]

VI. Answer in one word :**1. Can you say any two advantages of writing diary?**

- Ans. (i) Diary writing helps to record the events.
(ii) It reveals the life style of people of that period.

2. How do we know the people's lifestyle of the Old Stone Age?

Ans. We understand the life style of people of Old Stone Age from used stone tools, their paintings on the rocks and walls of the caves.

3. Is inscription a written record?

Ans. Yes. Inscription is a written record.

4. What is proto history?

Ans. Proto history is the period between pre-history and history.

5. Name an epic.

Ans. Ramayana/ Mahabharatha/ Manimegalai

VII. Answer the following :**1. What is history?**

- Ans. (i) History is a record of past events in chronological order.
(ii) The term History has been derived from the Greek word Istoria which means learning by enquiry.

2. What do you know about the pre-historic period?

- Ans. (i) The period between the use of first stone tools and the invention of writing systems is pre-history.
(ii) Stone tools, excavated materials and rock paintings are the major sources of pre-history.

3. What are the sources available to know about the pre-historic period?

Ans. Paintings on the rocks and the walls of the caves, stone tools, excavated materials are the sources available to know about the pre-historic period.

4. Mention the places from where we got pre-historic tools.

Ans. We find the pre-historic tools at Kondapur, Nevasa, Mehrgash, Rock shelters of Bhimbetka and Edakkal caves in India. In Tamilnadu Attirampakkam, Ariyalur, Perambalur, Adichanalur are the places where we came across the pre-historic tools.

5. What are the benefits of a museum?

- Ans.**
- (i) Museums are community centres designed to inform and teach the public.
 - (ii) The educational benefit of a museum is academic learning.
 - (iii) Museums are the caretakers of history as much as they offer connections to history.
 - (iv) Museums are full of stories, and it is interesting for students to hear these stories.
 - (v) Museums offer opportunities for children to compare and contrast leading to critical thinking skills.
 - (vi) Children's curiosity comes out in the form of questions.
 - (vii) Students are exposed to new ideas and concepts.
 - (viii) Museums inspire students to wonder, imagine and dream of possibilities that are beyond what they know.
 - (ix) Students are exposed to opportunities that spark creative moments.

6. Name some tools used by early man to hunt animals.

- Ans.**
- (i) Blade cores were used. These were chunks of sharp rocks.
 - (ii) An end scraper is a tear-drop shaped piece of stone used to scrap fur and fatty tissue from the hides of animals.
 - (iii) Burins were stone tools with a rounded grasping end and a sharp, razor like working end.
 - (iv) Awls were small circular stone flakes.

7. Why were paintings drawn on rocks?

- Ans.**
- (i) Paintings could have been drawn on rocks to convey their lifestyles to the future generations.
 - (ii) They might have wished to record their activities through their paintings.

8. Name any two artefacts.

- Ans.** Potteries, Toys, Tools and Ornaments.
- (i) An artefact is something made or given shape by man, such as a tool or a work of art, especially an object of archaeological interest.
 - (ii) Some of the artefacts are potteries, toys, tools and ornaments.

VIII. HOTS :

1. How dogs were useful to pre-historic men?

- Ans.**
- (i) There might have been chances of wild animals entering their caves.
 - (ii) But, they realised that dogs could help them prevent the entry of such dangerous animals.
 - (iii) They thought that dog by its sniffing skill would help them in such situations.

2. Compare the lifestyle of Old Stone Age man with present day lifestyle.

- Ans.**
- (iv) Old Stone Age people did not live in a safe environment, whereas the people in the modern period live in a safe environment.
 - (v) People in the modern period enjoy with all modern equipments making the lifestyle very high, advanced and enjoyable whereas the Old Stone Age people struggled for everything including food and shelter.

IX. Student Activity :

1. Identify the category of the following sources of history.

- Urns excavated from Adhichanallur
- Copper plates of Velvikudi.
- Mahabharatha.
- Sanchi Stupa.
- Pattinappaalai.
- The earthenwares from Keezhadi.
- Toys of Indus Civilisation.
- Big Temple of Thanjavur.

- Ans.**
- Artefact (Archaeological)
 - Inscriptions (Archaeological)
 - Religions Literature - Literary sources
 - Monuments (Archaeological)
 - Literary sources
 - Artefact (Archaeological)
 - Artefact (Archaeological)
 - Monuments (Archaeological sources)

X. Life Skill

1. Make some weapon models used by the Old Stone Age man using clay.

Hints :



2. Discuss with your grandpa, grandma, neighbours and teachers and collect information about your street, village, town or school. With that collected data, try to write its history titling your writing as "I am a Historian".

- Ans.** I am living at Mylapore. I have collected information about it from my grandparents, neighbours and teacher and internet. It is given below:

I am a Historian

- Mylapore is located a few kilometres to the south of the British-built Chennai city.
- It lies between Tiruvallikkeni and Teynampet in the west then across to the coast in the east.

- (iii) The word Mylapore is derived from Mayil Arparikum Oor, which means “Land of the peacock scream”.
- (iv) Historically, peacocks have been known to thrive in the area, which is evident from the several statues in the Kapaleeshwarar Temple towers and in the emblem of the San Thome Basilica.
- (v) Thirugnanasambandar has also mentioned about mayil (peacock) in his songs in Tevaram.
- (vi) Mylapore was historically known as Vedapuri.
- (vii) As the available historical and archaeological evidence show, it could well be the oldest part of Chennai, with written records of early settlements going back to the first century BC.
- (viii) It was known for its ancient port with a flourishing trade with the Roman Empire, receiving gold in exchange for its products like pepper and fine cloth.
- (ix) St. Thomas the Apostle allegedly died at Mylapore in 72 AD.
- (x) Ptolemy had recorded in the 2nd century AD that the port of Mylapore was known to the Greeks and the Romans. The Saivite Saints of the 7th Century, Saint Sambandar and Saint Appar, have sung about the Shrine in their hymns.
- (xi) Mention has been made of the early settlement of Santhome (currently known) by Arab travelers and merchants of the 9th and 10th centuries AD.
- (xii) Marco Polo visited the place in the late 13th century and left a detailed description of the land, the people along with their customs and religion.
- (xiii) It was considerable maritime time and the ancient German and Greek maps refer to the town as ‘Maliarpha’.
- (xiv) Mylapore was occupied by the Portuguese in 1523. Their rule lasted until 1749, except for a brief interregnum between 1662 and 1687, when the town was occupied by the Dutch.
- (xv) After 1749, the British East India Company took possession of the settlement in the name of Muhammad Ali Khan Wallajah, the Nawab of Arcot. In that same year, Mylapore was incorporated into the administration of the Presidency of Madras.
- (xvi) In the late 19th and early 20th centuries the town became the commercial and intellectual hub of Madras city and home to British-educated lawyers and statesmen.

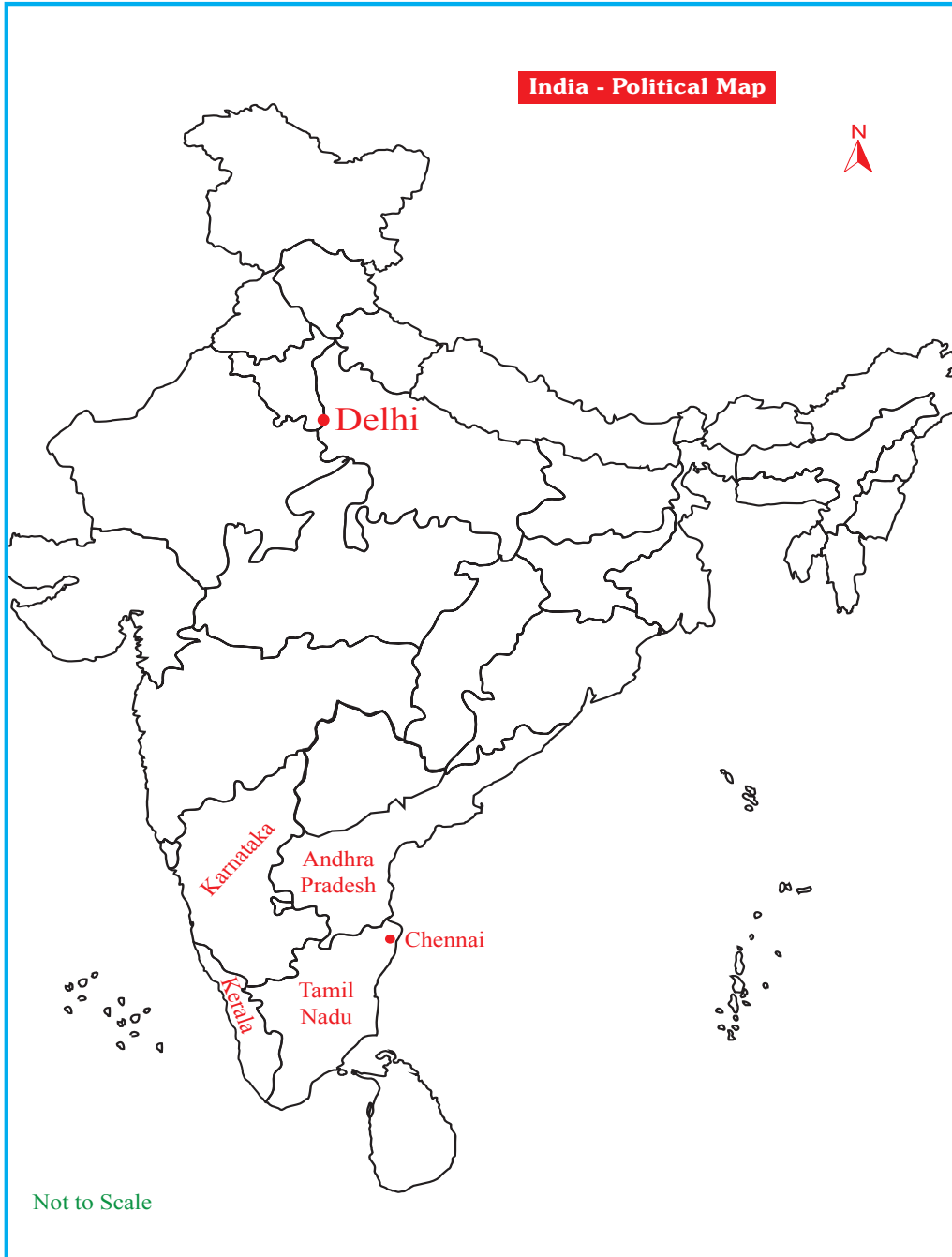
XI. Answer Grid

Early men scribbled and painted on me... Today they used me to build houses and lay roads. who am I? Ans: Rocks	Name any two archaeological sources? Ans: 1.Artefacts, 2. Monuments, 3. Inscriptions	Name the types of literary sources? Ans: 1.Secular, 2. Religious
Expand BC (BCE) Ans: Before Common Era	What is the meaning of the Greek word “Istoria” ? Ans: Learning by enquiry	Expand AD (CE) Ans: Common Era
_____ is the study of inscriptions. Ans: Epigraphy	_____ is the study of coins. Ans: Numismatics	I can help you to talk, see, hear, write and read. There is no world without me. Who am I? Ans: Sources of History

XII. Map work

Mark the following places in the political map of India.

- | | |
|---------------|-------------------|
| a. Delhi | b. Chennai |
| c. Tamil Nadu | d. Andhra Pradesh |
| e. Kerala | f. Karnataka |



Additional Questions



I. Choose the correct answer:

1. Where did early man live?

- (a) mud house
- (b) under tree
- (c) caves
- (d) river banks

[Ans : (c) caves]

2. Who was the first ruler to give up war after victory?

- (a) Bimbisara
- (b) Raja Raja Chola
- (c) Akbar
- (d) Ashoka

[Ans : (d) Ashoka]

II. Match the statement with the Reason. Tick the appropriate answer:

1(a) Statement: Charles Allen wrote a book titled. The search for the India's Lost Emperor.

Reason: It provided a comprehensive account of Ashoka.

- (a) Statement is true, but reason is wrong.
- (b) Statement and reason are correct.
- (c) Statement is wrong, and reason is correct.
- (d) Both statement and reason are wrong.

[Ans : (b) Statement and reason are correct.]

(b) Statement: Early man used stone tools.

Reason: He knew only stones as tools.

- (a) Statement is true, but reason is wrong.
- (b) Statement and reason are correct.
- (c) Statement is wrong, and reason is correct.
- (d) Both statement and reason are wrong.

[Ans : (b) Statement and reason are correct.]

2(a) Statement: Archaeological sources help to know about the early man.

Find out which of the following is related to the statement.

- (a) Monuments
- (b) Pictures
- (c) Metals
- (d) Books

[Ans : (a) Monuments]

(b) Statement: Raja Raja Chola built the Big Temple. Find out which of the following is related of the statement

- (a) Kumbakonam
- (b) Tiruchi
- (c) Madurai
- (d) Thanjavur

[Ans : (d) Thanjavur]

3. Find out the wrong pair.

- (a) Stone tools – Prehistory
- (b) Writing system – History
- (c) Epigraphy – Study of inscription
- (d) Numismatics – Study of tools

[Ans : (d) Numismatics – Study of tools]

- (b) (a) Dharma – Righteousness
 (b) Chakra – 24 spokes
 (c) Lion pillar – Sanchi
 (d) Ashoka – Buddhism

[Ans : (c) Lion pillar – Sanchi]

4(a) Find the odd one.

- (a) History is a record of past events.
 (b) In History the past events are given in chronological order.
 (c) History is derived from Istoria meaning learning by enquiry.
 (d) History is a mere collection of stories.

[Ans : (d) History is a mere collection of stories.]

(b) Find the odd one.

- (a) We have lion pillar in Saranath.
 (b) This pillar was built by Ashoka.
 (c) There is a Dharmachakra in this pillar.
 (d) This Chakra has uncountable spokes.

[Ans : (d) This Chakra has uncountable spokes.]

III. Fill in the blanks:

1. In history, BCE stands for _____. [Ans : Before Common Era]
 2. The first historian of India was _____. [Ans : Kalhana]
 3. Fossil remains belongs to _____ sources. [Ans : Archaeological]
 4. The most famous ruler of ancient India was _____. [Ans : Ashoka]
 5. Sanchi is situated in the Raisen district of _____. [Ans : Madhya Pradesh]

IV. Sate True or False:

1. Pre-historic period people led an advanced style of life. [Ans : False]
 2. The greatness of Ashoka had been unknown till 20th century. [Ans : True]
 3. Artifacts form one of the important archaeological sources. [Ans : True]
 4. Bimbetka is in Andhra Pradesh. ⊗ [Ans : False]

V. Match the following:

1. (a) History - (i) Learning by enquiry
 (b) Istoria - (ii) Father of History
 (c) Edicts - (iii) Record of the past
 (d) Herodoturs - (iv) Archaeological source
 [Ans : (a) - iii, (b) - i, (c) - iv, (d) - ii]
2. (a) BCE - (i) Hunting activities
 (b) Dogs - (ii) Search for India's Lost Emperor
 (c) Allen - (iii) Study of inscription
 (d) Epigraphy - (iv) Before common Era.

[Ans : (a) - iv, (b) - i, (c) - ii, (d) - iii]

VI. Answer in one word :**1. What is meant by Numismatics?**

Ans. The study of Coins.

2. Mention the names of Archaeological sources.

Ans. (i) Inscription (ii) Monuments (iii) Artefacts (iv) Coins.

3. What do literary sources include?

- Ans.** (i) Religious literature and
(ii) Secular literature.

VII. Answer the following :

1. What is the importance of Sarnath pillar?

- Ans.** (i) Lion capital of Sarnath has been adopted as the National Emblem of the Republic of India.
(ii) The Ashoka Chakra is a depiction of the Buddhist Dharmachakra represented with 24 spokes.

2. By whom was the material evidence provided revealing the greatness of Emperor Ashoka?

- Ans.** The material evidence provided by William Jones, James Prinsep and Alexander Cunningham revealed the greatness of Emperor Ashoka.

3. What is meant by artefact?

- Ans.** (i) Artefact means an object that is made by a person, such as tool or a decoration, especially one that is of historical interest.
(ii) The museum's collections include artefacts dating back to historic times.

4. Name any three devotional literature.

- Ans.** (i) Devaram,
(ii) Thiruvalluvar,
(iii) Nalayira Divya prabandam.

VIII. HOTS:

1. Why should we study History?

- Ans.** (i) History helps us understand changes, and how the society, we live in came to be.
(ii) The study of history helps us to understand our present.
(iii) Historical research involves studying, understanding and interpreting past events.
(iv) Historical data are categorised into primary and secondary sources.
(v) Study of history will increase the cultural awareness and moral understanding of the world we live in.

IX. Who am I?

1. I reveal the lifestyle of the stone age people. **[Ans : Paintings]**
2. I am in between the use of forest stone tools and the invention of writing system. **[Ans : Prehistoric period]**
3. I am titled as numismatics and serve as one of the archaeological sources. **[Ans : coins]**
4. I gave protection and helped in hunting activities. **[Ans : Dog]**
5. People say my service for the cause of public good was exemplary. **[Ans : Ashoka]**



UNIT TEST

Time : 1 hr.

Marks : 25

I. Choose the correct answer : (2 × 1 = 2)

1. What was the step taken by the early man to collect his food?
(a) Trade (b) Hunting
(c) Painting (d) Rearing of animals
2. Who was the first ruler to give up war after victory?
(a) Bimbisara (b) Raja Raja Chola
(c) Akbar (d) Ashoka

II. Read the Statement and tick the appropriate answer : (1 × 1 = 1)

1. **Statement** : Pre historic men went along with the dog for hunting.
Reason : Dogs with its sniffing power would find out other animals.
(a) Statement is true, but reason is wrong.
(b) Statement and reason are correct.
(c) Statement is wrong and reason is correct.
(d) Both statements and reasons are wrong.

III. Fill in the blanks : (3 × 1 = 3)

1. Inscriptions are _____ sources.
2. _____ is the father of history.
3. Fossil remains belongs to _____ sources.

IV. True or False : (2 × 1 = 2)

1. During the period of Ashoka, Buddhism spread across the country.
2. Pre-historic period people led an advanced style of life.

V. Match : (4 × 1 = 4)

- | | | |
|----------------|---|----------------------------|
| (a) History | - | (i) Learning by enquiry |
| (b) Istoria | - | (ii) Father of History |
| (c) Edicts | - | (iii) Record of the past |
| (d) Herodoturs | - | (iv) Archaeological source |

VI. Answer in one or two sentences (4 × 2 = 8)

1. How do we know the people's lifestyle of the Old Stone Age?
2. What do literary sources include?
3. Name an epic.
4. Can you say any two advantages of writing diary?

VII Answer the following: (1 × 5 = 5)

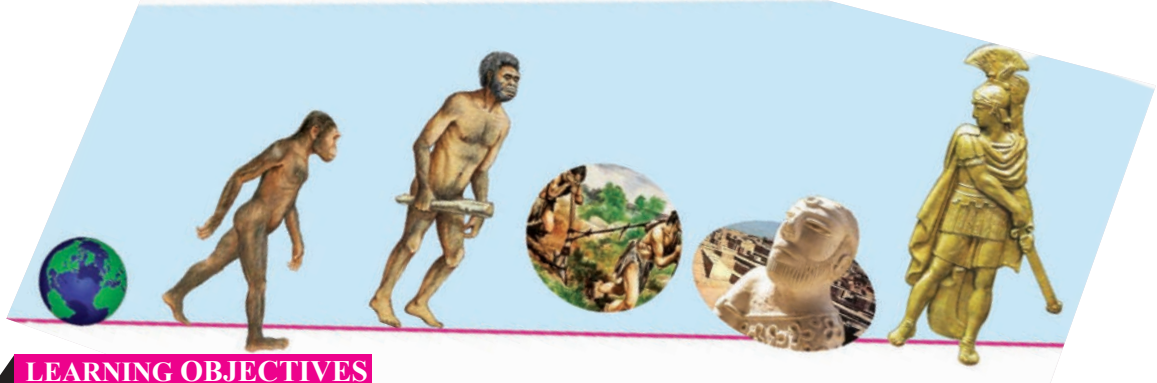
1. What is the importance of Sarnath pillar?



HISTORY

UNIT 2

HUMAN EVOLUTION



LEARNING OBJECTIVES

- ❑ To know the origins of humans.
- ❑ To learn about the different stages of human evolution from nomadic hunting-gathering to a settled life.
- ❑ To know about the stone implements of the pre historic humans.
- ❑ To understand the use of fire and wheel.
- ❑ To know the significance of rock paintings of the ancient humans.

EXERCISE

I. Choose the correct answer

1. The process of evolution is _____.
(a) direct (b) indirect
(c) gradual (d) fast [Ans : (c) gradual]
2. Tanzania is situated in the continent of _____.
(a) Asia (b) Africa
(c) America (d) Europe [Ans : (b) Africa]

II. Match the statement with the Reason. Tick the appropriate answer:

1. Statement : Migration of man of different Parts of the world resulted in changes of physic and colour.

Reason : Climatic changes.

- | | |
|--------------------------------------|------------------------------------|
| (a) Statement is correct. | (b) Reason is wrong. |
| (c) Statement and Reason is correct. | (d) Statement and Reason is wrong. |

[Ans : (c) Statement and Reason is correct.]

III. Find out the Right pair:

- | | | |
|----------------------|---|----------------------|
| (a) Australopithecus | - | Walked on both legs |
| (b) Homo habilis | - | Upright man |
| (c) Homo erectus | - | Wise man |
| (d) Homo sapiens | - | Less protruding face |

Ans. (a) Australopithecus - Walked on both legs

[403]

IV. Fill in the blanks :

- _____ unearthed the footprints of humans in Tanzania. [Ans : Anthropologists]
- Millions of years ago, our ancestors led a _____ life. [Ans : Nomadic]
- The main occupations of the ancient humans were _____ and _____. [Ans : hunting and gathering]
- The invention of _____ made farming easier. [Ans : Plough]
- Rock paintings are found at _____ in Nilgiris. [Ans : Karikaiyur]

V. State True or False.

- Anthropology is the study of coins. [Ans : False]
- Homo erectus (Java man) had the knowledge of fire. [Ans : True]
- The first scientific invention of humans was wheel. [Ans : True]
- Goat was the first animal to be domesticated by humans. ⊗ [Ans : False]

VI. Answer in one word :

- What method is used to find out the age of the excavated materials?

Ans. Radio Carbon dating method.

- What did early humans wear?

Ans. Hides of animals and barks of trees and leaves.

- Where did early humans live?

Ans. In caves.

- Which animal was used for ploughing?

Ans. Oxen were used for ploughing.

- When did humans settle in one place?

Ans. River side Farming stage.

VII. Answer the following :

- What is evolution?

Ans. Evolution is the process through which the human kind changes and develops towards an advanced stage of life.

- Write any two characteristics of Homo sapiens.

Ans. (i) Homo sapiens were wise men.
(ii) They migrated out of Eastern Africa settled in different parts of the world.
(iii) Their lifestyle also evolved and they made it suitable to the environs in which they lived.

- Why did humans move from place to place?

Ans. Humans kept on moving in search of food.

- Describe the ancient methods of hunting.

Ans. (i) Collective hunting: Went as a group and hunted the prey.
(ii) They dug a pit and trapped the animals and hunted.

- Why were axes made?

Ans. The axes were made to cut trees, remove barks, dig pits, hunt animals and remove the skin of animals.

- How would you define archaeology?

Ans. (i) Archaeology is the study of pre-historic humans.
(ii) Excavated material remains are the main source for archaeological studies.

- What do you know about anthropology?

Ans. Anthropology is the study of humans and evolutionary history.

VIII. HOTS :

1. Importance of invention of wheel from the ancient period to the modern period.

- Ans.** (i) Early homosapiens realised that round objects could be easily moved by rolling them.
(ii) Their descendants advanced this rolling technique into the transportation of large objects on cylindrical logs.
(iii) The invention of the wheel and axle allowed a rolling log to be placed through a hole in a wheel to create a cart.
(iv) Chariot racing was influential in the evolution of the spoked wheel as they allowed chariots to move much faster.
(v) The invention of air filled rubber tyres allowed wheels to be much faster, sturdier and stronger.

IX. Student Activity :

1. Prepare an album collecting the pictures of ancient humans of different ages.

Ans.



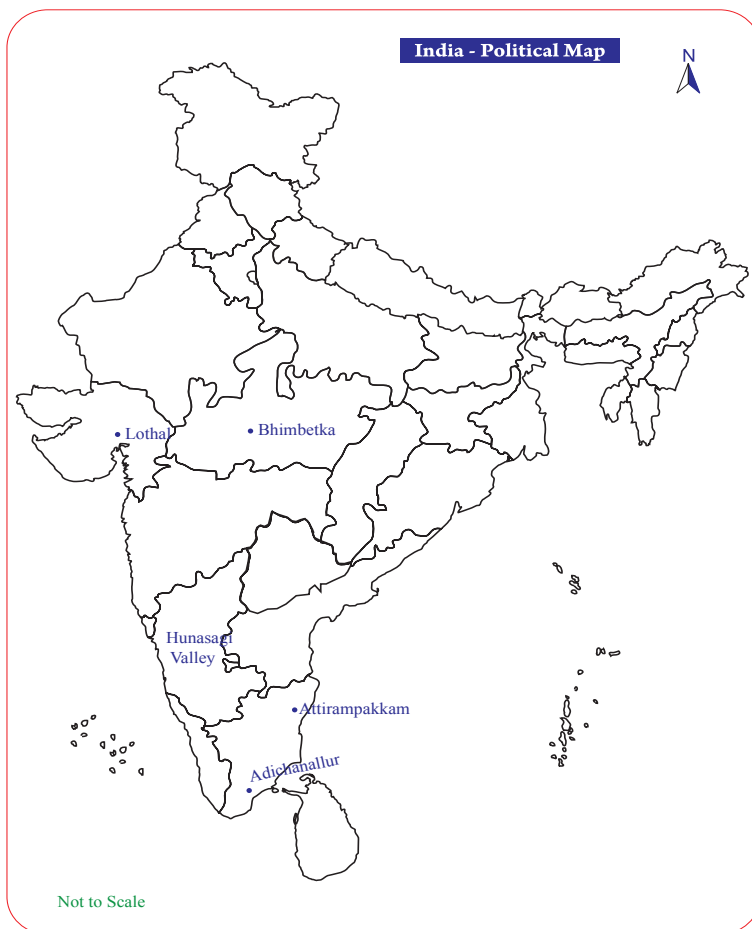
X. Answer Grid

The invention of _____ made pot making easier. Ans: Wheel	Barter system means _____. Ans: Exchange of goods	Name any two weapons used by early human for hunting. Ans: Sharp stones and axes
Which is the best stone for making weapons? Ans: Flint	Towns and cities emerged because of _____ and _____. Ans: Trade, Commerce	Which was the first scientific invention of humans? Ans: Wheel
Identify the pictures in rock paintings.  Hunting Animals	Which was the main occupation of early humans? Ans: Hunting	What do cave paintings tell us? Ans: Depicted their daily events
 Drawing		
Where did the early humans live? Ans: caves	_____ is related to the field of archaeology. Ans: Excavation	Name any two animals domesticated by early human. Ans: Goat, Cow

XII. Map work

1. On the outline map of India, mark the following places:

1. Adichanallur
2. Attirampakkam
3. Bhimbetka
4. Hunasagi Valley
5. Lothal



Additional Questions

I. Choose the correct answer:

1. These people had a big toe to hold tightly and less protruding face

- | | |
|------------------|------------------|
| (a) Homo erectus | (b) Homo habilis |
| (c) Neanderthal | (d) Homo sapiens |

[Ans : (b) Homo habilis]

2. Harpoons and spear throwers were used by _____.

- | | |
|------------------|------------------|
| (a) Homo erectus | (b) Homo sapiens |
| (c) Cromagnons | (d) Homo habilis |

[Ans : (c) Cromagnons]

3. Evidences of this man in seen in Germany.

- | | |
|------------------|------------------|
| (a) Neanderthal | (b) Homo erectus |
| (c) Homo habilis | (d) Cromagnons |

[Ans : (a) Neanderthal]

4. Humans with the help of flint made _____

- | | |
|-------------------|-------------|
| (a) sharp weapons | (b) vessels |
| (c) carts | (d) boats |

[Ans : (a) sharp weapons]

II. Match the Statement with the Reason. Tick the appropriate answer:

1. **Statement** : The story of human evolution can be scientifically studied with the help of archaeology and anthropology.
Reason : Excavated material remains are the main source for archaeological studies.
(a) Statement is correct, Reason is wrong.
(b) Reason is correct, Statement is wrong.
(c) Statement and Reason are correct
(d) Statement and Reason are wrong. **[Ans : (c) Statement and Reason are correct]**
2. **Statement** : Early Man's main occupation was hunting.
Reason : Due to large scale hunting, many animals became extinct.
(a) Statement is true, Reason is wrong.
(b) Reason is true, Statement is wrong.
(c) Statement and Reason both are wrong.
(d) Both Statement and Reason are true. **[Ans : (d) Both Statement and Reason are true.]**
3. **Statement** : Man denuded to stay close to the river side.
Reason : The land close to the river side was suitable for farming.
(a) Statement is wrong, Reason is true.
(b) Statement is true, Reason is wrong.
(c) Both statement and Reason are true.
(d) Both statement and Reason are wrong. **[Ans : (c) Both statement and Reason are true.]**
4. **Find out the wrong pair.**
 1. (a) Nomadic - no fixed home
(b) Bartor - exchange of goods
(c) Hides - barks of a tree
(d) Million - 10 lakhs **[Ans : (c) Hides - barks of a tree]**
 2. (a) Homo erectus - China
(b) Cromagnons - France
(c) Homo sapiens - Africa
(d) Heidelbergs - London **[Ans : (a) Homo erectus - China]**
 3. (a) Ancestors - Nomadic life
(b) Beehives - Honey
(c) Axes - Big stones
(d) Wheel - No use **[Ans : (d) Wheel - No use]**

III. Fill in the blanks:

1. _____ is a machine capable of taking a person backward or forward in time. **[Ans : Time Machine]**
2. The animal that hunts and kills other living things for food is called _____. **[Ans : Predator]**
3. When early people found ways to increase production they started _____. **[Ans : storing the produce]**
4. In _____ system, the surplus grains were exchanged with other groups for the other things. **[Ans : Barter]**

5. The practice of agriculture was made easier by _____. [Ans : oxen]
6. There were many dangers involved in _____. [Ans : hunting]
7. Plants grow faster in _____ areas. [Ans : water fed]
8. The pots were _____ to make it stronger. [Ans : burnt]
9. Chikki - mukki kal is known for its _____. [Ans : strength - duality]
10. Human procreation resulted in an increase in the _____. [Ans : population]

IV. State True or False:

1. Fire was used by early man to destroy forests. [Ans : False]
2. Rock paintings are not informative. [Ans : False]
3. Humans domesticated hen, goat and cow after domesticating dogs. [Ans : True]
4. Initially agriculture was done for immediate food requirement. [Ans : True]
5. Initially humans expressed their feeling through actions. [Ans : True]

V. Answer in one word :

1. **These people have unearthed the footprints of humans in a country called Tanzania.**
Ans. Anthropologists.
2. **He is a Java man who lived approximately 1.8 million years ago.**
Ans. Homo erectus.
3. **He had a mix of human and ape traits with bipedal walk.**
Ans. Australopithecus.
4. **Keeping a stone with bottom and sharpening it with another stone.**
Ans. Art of Flaking.
5. **This helped humans to protect them from predators.**
Ans. Fire.

VI. Answer the following :

1. **How can we study the human evolution scientifically?**
Ans. The story of human evolution can be scientifically studied with the help of archaeology and anthropology.
2. **What is attempted by Anthropologists?**
Ans. Anthropologists attempt by investigating the whole range of human development and behaviour to achieve a total description of cultural and social phenomena.
3. **Explain the hunting and food gathering stage of our ancestors.**
Ans. (i) Our ancestors lived in groups, leading nomadic life. They kept on moving in search of food.
(ii) They hunted pig, deer, bison, rhino, elephant and bear for food. They also scavenged the animals killed by other wild animals like tiger.
(iii) They learnt the art of fishing. They collected honey and grains. Once the food resource got exhausted in one area, they moved to another place in search of food.
4. **How did man make use of fire?**
Ans. Humans used flint stone to make fire and used it to protect them from predators, for cooking food and for creating light during night. Thus fire became important for man in olden times.
5. **What was the role played by humans in pot making?**
Ans. (i) Humans learned to make pot with clay. The invention of wheel made pot making easier, and the pots made were burnt to make it stronger.
(ii) They decorated pots with lot of colours.
(iii) These natural dyes were used in rock paintings.

IN-TEXT QUESTIONS

HOTS



1. Why did humans become hunter gatherers? Did the landscape play any role?

- Ans.** (i) Pre historic hunter gathers often lived in groups of a few dozens of people, consisting of several family units.
- (ii) They developed tools to help them survive. They were dependent on the abundance of food in the area which if an area was not plentiful enough required them to move to greener forests (pastures were not around yet).
- (iii) Naturally the landscape played a major role at this stage.

2. In hunting banned in India?

- Ans.** (i) India's Wildlife Protection Act of 1972 bans the killing of all wild animals.
- (ii) However, the chief wildlife warden may, if satisfied that any wild animal from a specified list has become dangerous to human life, or is so disabled or diseased as to be beyond recovery, permit any person to hunt such an animal.



UNIT TEST

Time : 1 hr.

Marks : 25

I. Choose the correct answer :

(4 × 1 = 4)

1. The process of evolution is _____.

- (a) direct (b) indirect
(c) gradual (d) fast

2. Evidences of this man in seen in Germany.

- (a) Neanderthal (b) Homo erectus
(c) Homo habilis (d) Cromagnons

3. These people had a big toe to hold tightly and less protruding face

- (a) Homo erectus (b) Homo habilis
(c) Neanderthal (d) Homo sapiens

4. Humans with the help of flint made _____.

- (a) sharp weapons (b) vessels
(c) carts (d) boats

II. Match the statement with the reason and tick the appropriate answer:

(1 × 1 = 1)

1. Statement : Migration of man of different Parts of the world resulted in changes of physis and colour.

Reason : Climatic changes.

- (a) Statement is correct. (b) Reason is wrong.
(c) Statement and Reason is correct. (d) Statement and Reason is wrong.

III. Fill in the blanks :

(5 × 1 = 5)

1. The practice of agriculture was made easier by _____

(ii) But, they realised that dogs could help them prevent the entry of such dangerous animals.

(iii) They thought that dog by its sniffing skill would help them in such situations.

(Or)

- b) (i) Kanchi is known as the temple town.
 (ii) The famous temple of great architectural beauty, Kailasanathar temple, was built by later Pallava king Rajasimha at Kanchi.
 (iii) During the Pallava period, a large number of cave temples were built.
 (iv) It is nick named as "The City of Thousand Temples"

37. a) The Earth is the most suitable planet to support life. It has three major components that we call as the realms of the Earth lithosphere, hydrosphere and atmosphere.

Lithosphere : The word lithosphere is derived from the Greek word Lithos, which means rocky. The Lithosphere is the land on which we live.

Hydrosphere : The word Hydro means water in Greek. The hydrosphere consists of water bodies such as oceans, seas, rivers, lakes, ice caps on mountains and water vapour in the atmosphere.

Atmosphere : The word Atmo means air in Greek. Atmosphere is the envelope of air that surrounds the Earth. Different types of gases make up the atmosphere. The major gases are Nitrogen (78%) and Oxygen (21%).

Biosphere : The narrow belt of interaction among the lithosphere, the hydrosphere and the atmosphere, where life exists is known as Biosphere. Bio means life in Greek. It consists of distinct zones.

(Or)

- b) (i) Plateaus are the elevated portions of the Earth that have flat surfaces bounded by steep slopes.
 (ii) The elevation of plateaus may be a few hundred metre or several thousand metre.
 (iii) Tibetan plateau is the highest plateau in the world so it is called as the "Roof of the world".
 (iv) The Chotanagpur plateau is one of the mineral rich plateaus in India.
 (v) The Deccan plateau in peninsular India is of volcanic origin.

38.a) (i) Diversity is visible in every aspect of life in India.

(ii) Even then, we are united by the spirit of patriotism.

(iii) Symbols such as the National Flag and National Anthem remind us of our great nation and need to stay united.

(iv) We come together when we celebrate Independence day, Republic day and Gandhi Jayanthi every year.

(v) India has a multi-cultural society.

(vi) India evolved as a single nation through common beliefs, customs and cultural practices.

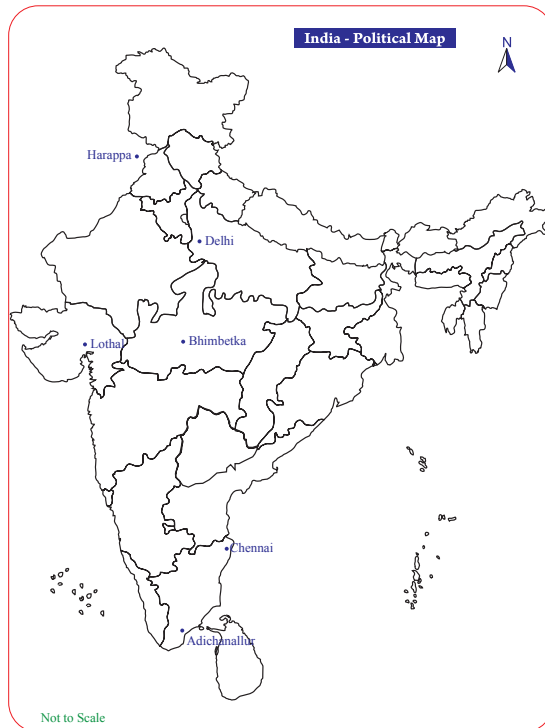
(vii) The freedom struggle and the drafting of our constitution stand as ample evidence to the spirit of unity of India.

(Or)

b) Some common social factors that contributes to the rise of prejudice are-

- (i) Socialisation
 (ii) Conforming behaviours
 (iii) Economic benefits
 (iv) Authoritarian personality
 (v) Ethno-centrism
 (vi) Group closure
 (vii) Conflicts

39.



40.

