DPP

DAILY PRACTICE PROBLEM

Measurement and Motion DPP-01

Multiple choice questions

1. 'Measurement' consists of a number and _____ .

   (1) time   (2) A unit   (3) Speed   (4) Power

2. We need standard units of measurement because

   (1) we require a standard unit to make sense to the measurement.

   (2) It is important that the unit must be accurate and it must not change with respect to a person or time.

   (3) It is important to have units that are understood by all.

   (4) All of the above reasons are correct.

3. A carpenter wants to cut the wood to make the house for the dog in the garden outside. The carpenter will measure the

   (1) length   (2) mass   (3) temperature   (4) area

4. The carpenter will need to make

   (1) measurement with proper unit

   (2) measurement that should be accurate

   (3) measurement that is a physical quantity

   (4) all of the above

5. Which of the following is a correct measurement ?

   (1) 20   (2) meter   (3) 15 centimeter   (4) all the above

6. Match the column

Column-I		Column-II	
(A)	2 second	(p)	Unit of mass
(B)	Metre	(q)	Number
(C)	Kilogram	(r)	Unit
(D)	0.20	(s)	Measurement

7. **Crossword**
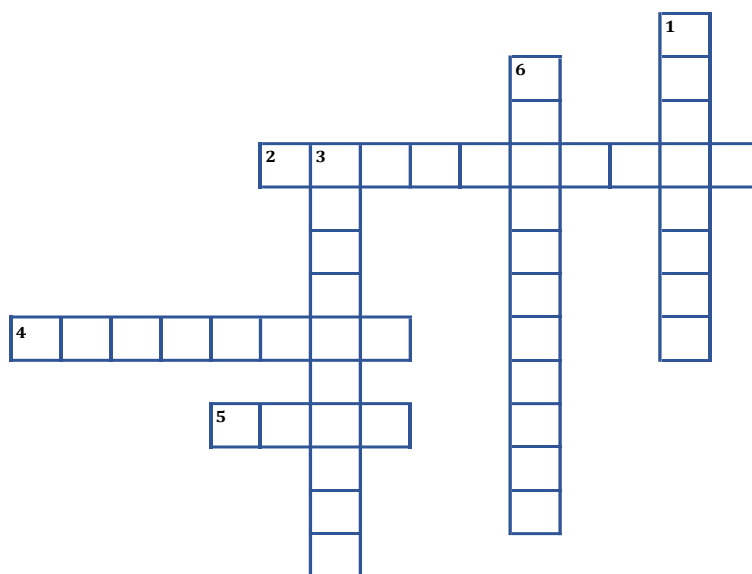
Across

2. A standard unit is defined _____.

4. _____ quantities are measured in physics.

5. Every measurement need _____.

Down

1. A unit is the _____ quantity.

3. Measurement is a _____ between unknown and standard quantities.

6. We cannot understand a _____ without a unit.

True or False

8. Measurement allow us to work systematically but not accurately.

9. We cannot understand a measurement without a unit.

Subjective questions

10. Define measurement.

SOLUTIONS DPP-01

1. **Option (2)**

Measurement consists of two parts-

(a) A number

(b) A unit

2. **Option (4)**

Standard unit of measurement are important because we require a standard unit to make sense to the measurement, it is important that the unit must be accurate and it must not change with respect to a person or time and it is important to have units that are understood by all.

3. **Option (1)**

To make the house, carpenter will measure the length of the wood.

4. **Option (4)**

Measurement is a physical quantity. It should be proper with unit and it should be accurate.

5. **Option (3)**

Measurement is only correct when we write with a number and a unit.

6. (A) → s, (B) → r, (c) → p, (d) → q

7. **Crossword**

Across	**Down**
2. A standard unit is defined accurately.	**1.** A unit is the smallest quantity.
4. Physical quantities are measured in physics.	**3.** Measurement is a comparison between unknown and standard quantities.
5. Every measurement need unit.	**6.** We cannot understand a Measurement without a unit.

8. **False**

Measurement allow us to work systematically and accurately.

9. **True**

We cannot understand a measurement without a unit because unit is a very important part of measurement.

10. A measurement is the comparison of the unknown quantity with some standard quantity of the same kind.
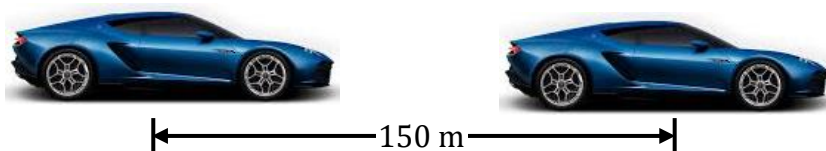
It consists of two parts-

(A) A number

(B) A unit

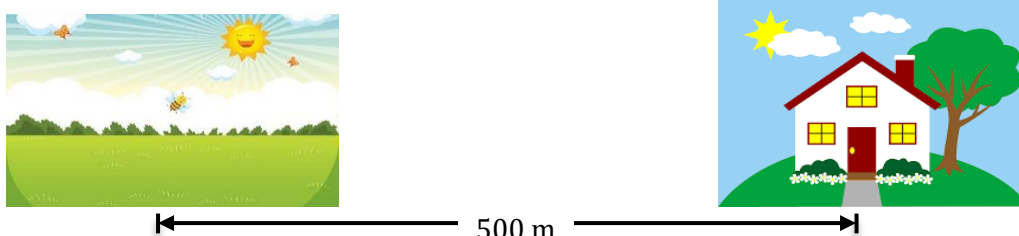Important concept in measurement is that it communicates the amount in a way that can be understood by others.

Measurement and Motion DPP-02

Multiple choice questions

1. What is the distance between the two cars shown below?


├─────────────150 m──────────────┤

(1) 0.15 km

(2) 0.15 cm

(3) 1500 km

(4) 1.5 km

2. What is the total distance covered in going to garden from home and coming back to home?

├─────────────500 m──────────────┤

(1) 500 m

(2) 1 km

(3) 3 km

(4) 5 km

3. 5 kilometres are equal to

(1) 5,00,000 metre

(2) 50,000 metre

(3) 5,000 metre

(4) 500 metre

4. What is the SI unit of length?

(1) Metre

(2) Centimetre

(3) Kilometre

(4) All of these

5. 10 millimetres is equal to

(1) 1 metre

(2) 1 centimetre

(3) 1 kilometre

(4) 1 cubits

6. Match the column

Column-I		Column-II	
(A)	Metric system	(p)	Yards, miles
(B)	Milli	(q)	10^{-6}
(C)	British system	(r)	Kilometer, meter
(D)	Micro	(s)	10^{-3}

7. Crossword
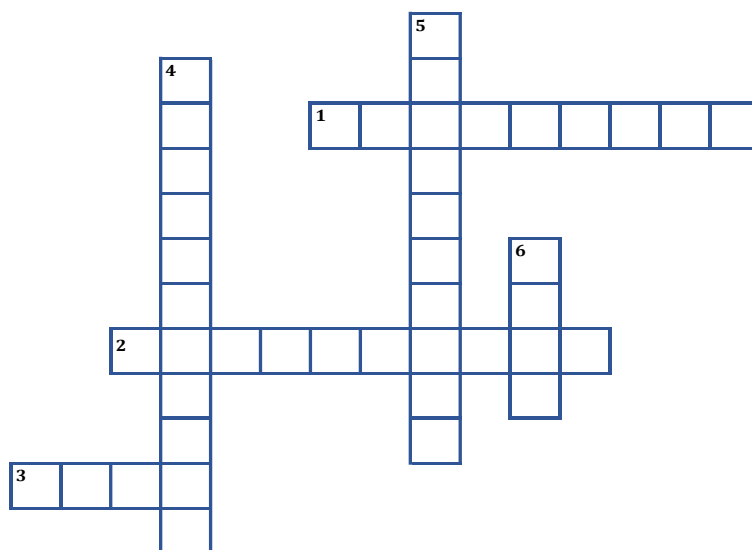
Across

1. Distance between two states is measured in _____.

2. A _____ is a good tool used for measuring ordinary lengths in the laboratory.

3. 10^{+1} = _____.

Down

4. Length is a _____ quantity.

5. 1 meter = 1000 _____.

6. 10^{-1} = _____.

8. Complete the table of conversion

50 m	_____ km
2810 cm	_____ m
_____ dm	412 cm
_____ mm	90.2 cm
480 km	_____ m

True or False

9. Metre stick is divided into millimeter and centimeter.

10. Driving distances are sometimes expressed in miles.

SOLUTIONS DPP-02

1. **Option (1)**

Given 150 m

1000 m = 1 km

So, 1 m = $\dfrac{1}{1000}$ km

and 150 m = $\dfrac{1}{1000}$ × 150 = 0.15 km

2. **Option (2)**

Total distance = from home to garden + from garden to home

= 500 m + 500 m

= 1000 m = 1 km

3. **Option (3)**

1 km = 1000 m

5 km = 5 × 1000 m

= 5000 m

4. **Option (1)**

SI unit of length is metre.

5. **Option (2)**

1 cm = 10 mm

6. (A) → r, (B) → s, (C) → p, (D) → q

7. **Across**

1. Distance between two states is measured in kilometre.

2. A metre stick is a good tool used for measuring ordinary lengths in the laboratory.

3. 10^{+1} = deca.

Down

4. Length is a fundamental quantity.

5. 1 meter = 1000 millimetre.

6. 10^{-1} = Deci.

8. The table of conversion

50 m	0.05 km
2810 cm	28.10 m
41.2 dm	412 cm
902 mm	90.2 cm
480 km	480000 m

9. **True**

Metre stick is divided into millimeter and centimeter.

10. **True**

Driving distances are sometimes expressed in miles.

**Measurement and Motion DPP-03**

Multiple choice questions

1. A thread/string can be used

(1) to measure curved surface

(2) to measure long distance

(3) to measure very small distance

(4) to measure length of a blanket

2. To measure distance between two points we can use

(1) meter rod

(2) divider

(3) measuring tape

(4) all of these

3. While measuring a length

(1) scale should be placed in contact with the object along its length

(2) scale should be placed perpendicular to the object

(3) scale should be placed at the middle of the object

(4) None of these

4. Measuring tape is used by a ___.

(1) tailor

(2) doctor

(3) farmer

(4) barbar

5. Study the given figure and answer the following

4.1 cm

1 cm

(a)   (b)
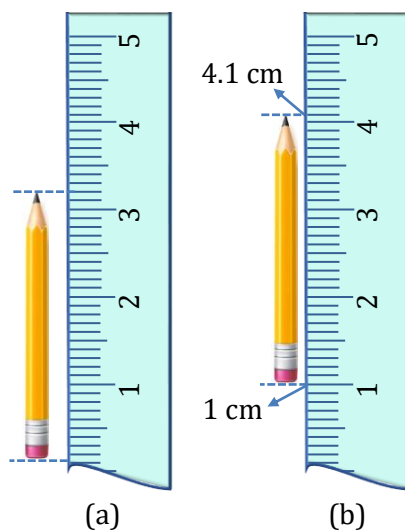
What is the correct method of measurement?

(1) a

(2) b

(3) both (a) and (b)

(4) Can't predict

6. **Crossword**
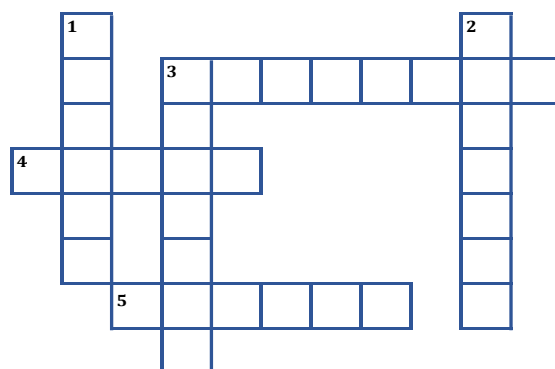
Across

3. Correct ____ of the eye is important for measurement.

4. If zero mark of scale is not clearly visible then, we should ____ such scale.

5. A meter scale is used to measure ____.

Down

1. Measuring tape is used to measure ____ surface.

2. The object should be placed in ____ with scale along its length.

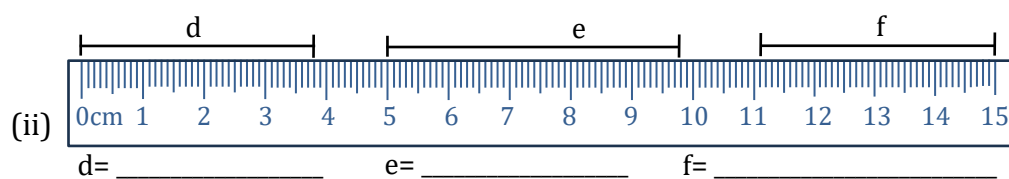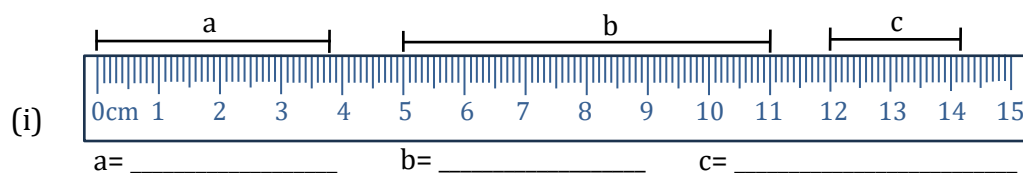3. A divider has two legs with ____ ends.

7. Exercise - measuring millimetres
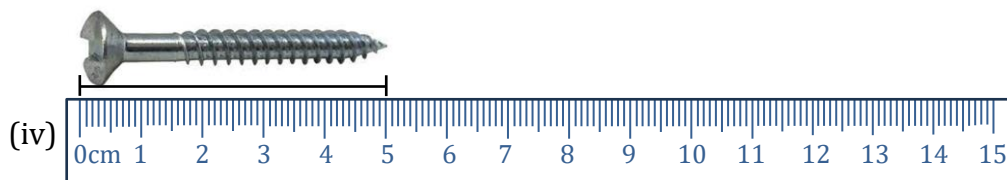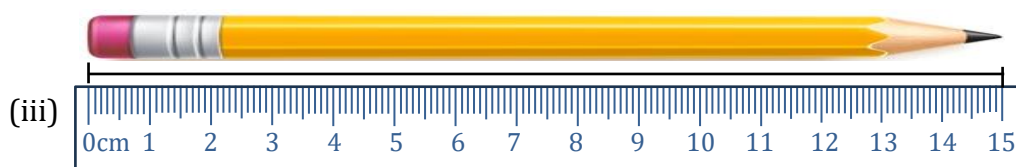
Measure each object in millimetres with the ruler shown.
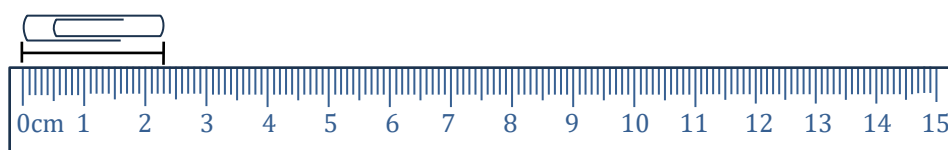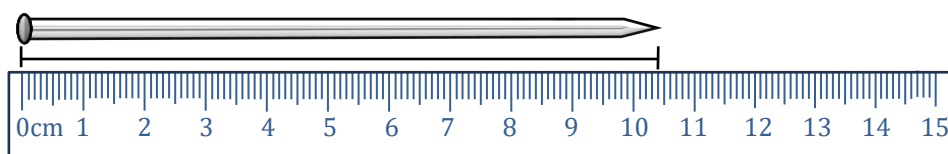
8. Exercise - measuring centimetres
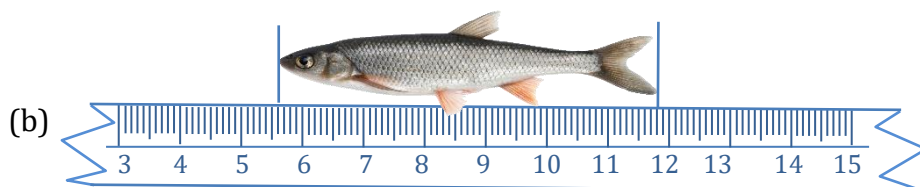
Measure each line segment using the ruler shown

(i)

a= _____   b= _____   c= _____

(ii)

d= _____   e= _____   f= _____

(iii)

(iv)

9. Measure the objects and fill the readings in box.

(a)

Start point reading _____   End point reading _____

Length of the object _____

(b)

Start point reading _____   End point reading _____

Length of the object _____

True or False

10. The diameter of a ball can be measured by using a ruler.

11. A metre rod can be used to measure the girth of a tree.

Fill in the blanks

12. Correct position of eye is very important in taking _____.

13. The line segment was measured using a scale. The reading at one end coincided with 1.0 cm and at the other end it coincided with 5.0 cm then the length of the object is _____.

14. In the figure shown below, the correct position of eye in taking measurement is _____ .
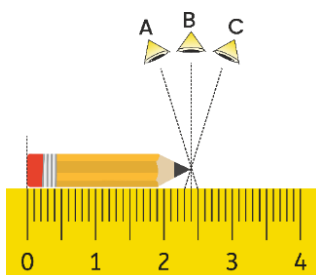
Subjective questions

15. If the end is broken in a scale, explain how should you take the correct reading from that scale.

SOLUTIONS DPP-03

1. **Option (1)**

A thread/string can be used to measure curved surface.

2. **Option (4)**

We can use meter rod, divider and measuring tape to measure distance between two points.

3. **Option (1)**

While measuring a length, scale should be placed in contact with the object along its length.

4. **Option (1)**

Measuring tape is used by a tailor.

5. **Option (2)**

If scale is broken then start measuring from next number and subtract how much we have shifted.

6. **Crossword**

Across

3. Correct position of the eye is important for measurement.

4. If zero mark of scale is not clearly visible then, we should avoid such scale.

5. A meter scale is used to measure length.

Down

1. Measuring tape is used to measure curved surface.

2. The object should be placed in contact with scale along its length.

3. A divider has two legs with pointed ends.

7. 1 cm = 10 mm

So, 10.4 × 10 = 104 mm

and 2.3 × 10 = 23 mm

8. (i) a = 3.8 cm

b = 6 cm

c = 2.2 cm

(ii) d = 3.8 cm

e = 4.7 cm

f = 3.9 cm

(iii) 15 cm

(iv) 5 cm

9. **(a)**

   Start point reading = 5.5 cm   End point reading = 14.2 cm

   Length of the object = 14.2– 5.5= 8.7 cm

   (b)

   Start point reading = 5.6 cm   End point reading= 11.8 cm

   Length of the object = 11.8 – 5.6= 6.6 cm

10. **False**

    The diameter of a ball can be measured by using measuring tape.

11. **False**

    A measuring tape can be used to measure the girth of a tree.

12. Correct position of eye is very important in taking **measurement.**

13. The line segment was measured using a scale. The reading at one end coincided with 1.0 cm and at the other end it coincided with 5.0 cm then the length of the object is **4.0 cm.**

14. In the figure shown below, the correct position of eye in taking measurement is at **(B).**

15. In some scales, the ends may be broken we may not be able to see the zero mark clearly. In such cases, avoid taking measurement from the zero mark of the scale. Use any other full mark of the scale say 1.0 cm. Then you must subtract the reading of this mark from the reading at the other end. For examples the reading at one end is 1.0 cm and at the other end it is 4.1 cm.

    Therefore, length will be 4.1 cm – 1 cm = 3.1 cm.

DPP

DAILY PRACTICE PROBLEM

Measurement and Motion DPP-04

Multiple choice questions

1. The length of the out stretched arm is called

(1) finger   (2) cubit   (3) fathom   (4) pace

2. Which of the following is an ancient method for measurement?

(1) Cubit   (2) Ruler   (3) Measuring tape   (4) Measuring rod

3. The length covered in one step by a person is called

(1) Cubit   (2) Pace   (3) Handspan   (4) Finger

4. The distance of an object from one end to another is called its

(1) length   (2) cubits   (3) pace   (4) metre

5. Foot, stride, fathom are the units of

(1) Time   (2) Length   (3) Mass   (4) Weight

6. Write the name of the units which were used in ancient days to measure length according to the picture shown below.
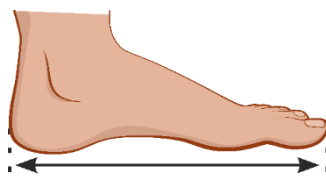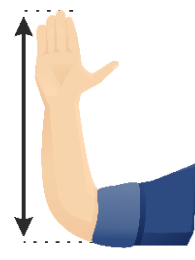
(i)_____   (ii) _____   (iii) _____   (iv) _____

True or False

7. Pace, hand span or cubit are not reliable units of measurement.

8. Hand span is a standard unit of length.

Fill in the blanks

9. A _____ is the distance between the tip of the thumb and the tip of the little finger of a fully stretched hand.

10. _____ is a tool that measures length.

Subjective questions

11. What is cubit ?

12. Define foot.

13. Define thumb.

14. What is span?

15. Name the body parts which were used for measurements in older days.

SOLUTIONS DPP- 04

1. **Option (3)**

The length of the outstretched arm is called Fathom.

2. **Option (1)**

Cubit is an ancient method for measurement.

3. **Option (2)**

The length covered in one step by a person is called its Pace.

4. **Option (1)**

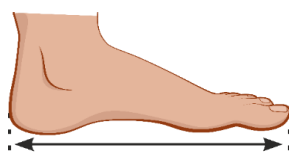The distance of an object from one end to another is called length.

5. **Option (2)**

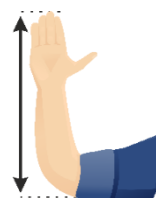Foot, stride, fathom are the units of Length.

6.

(i) Span	(ii) Foot	(iii) Thumb	(iv) Cubit

7. **True**

Pace, hand span or cubit are not reliable units of measurement.

8. **False**

Metre is a standard unit of length not Hand span.

9. A **Span** is the distance between the tip of the thumb and the tip of the little finger of a fully stretched hand.

10. **Scale** is a tool that measures length.

11. Cubit : The cubit is the distance from a person's elbow to the tip of the extended middle finger.

12. Foot : It is the length of a man's foot.

13. Thumb : The width of a thumb, which was later used as the basis for the inch.

14. Span (or hand span) : Stretch out your hand so that the tip of your thumb is as far away as possible from the tip of your little finger. That distance is called a "span", which for most people is almost exactly half a cubit.

15. The body parts which were used for measurements in older days are length of a foot, length of a stride, the span of a hand, breadth of a thumb and distance between both middle finger's of stretched out both arms.

DPP

DAILY PRACTICE PROBLEM

Measurement and Motion DPP-05

Multiple choice questions

1. Motion in which a body moves about a fixed axis without changing its position is called

   (1) Rectilinear motion

   (2) Rotatory motion

   (3) Circular motion

   (4) All of above

2. The motion in which body moves in a straight line is called

   (1) Rectilinear motion

   (2) Curvilinear motion

   (3) Rotational motion

   (4) None of these

3. What is common to the motion exhibited in the following pictures ?
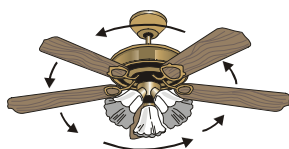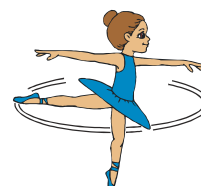
   (a)   (b)   (c)   (d)

   (1) All the motions are translatory

   (2) All the motions are rotatory

   (3) All the motions are linear

   (4) All the motions are circular

4. A book lying on a table is an example of

   (1) a body at rest

   (2) a body in motion

   (3) a body neither at rest nor in motion

   (4) none of these

5. What is the means of transport in air?

   (1) Train   (2) Aeroplane

   (3) Ships   (4) Boats

6. **Complete the map**

Types of motion

Motion

Motion

Motion

7. **Complete the map**

Understanding Motion

| Rest (no change in position with time) | _____ (change in position with time) |

Linear

_____

_____

Eg. a spinning top

Eg. Revolution of Earth on circular path
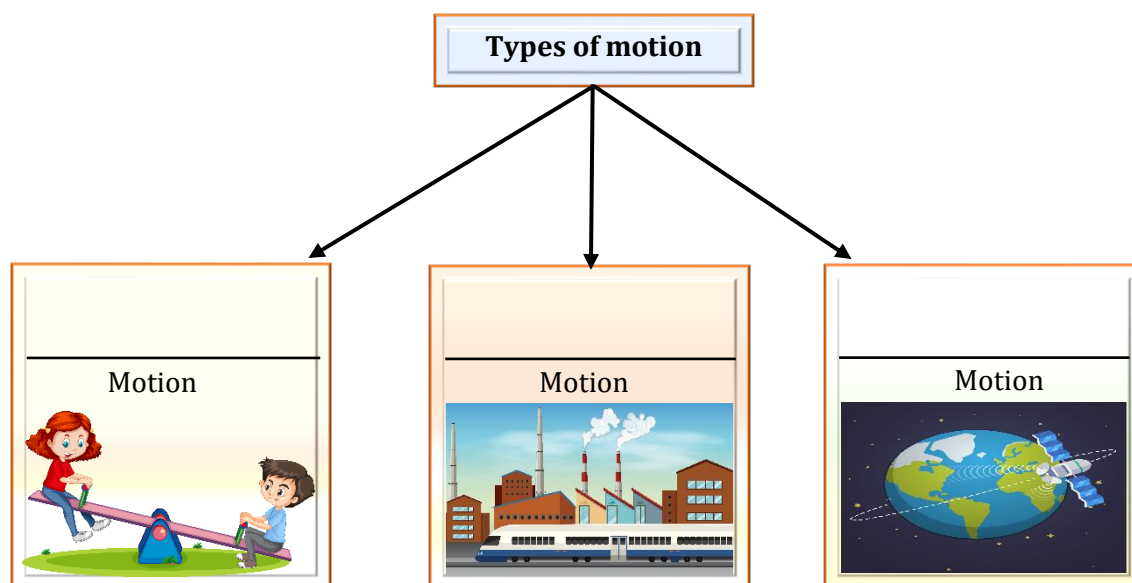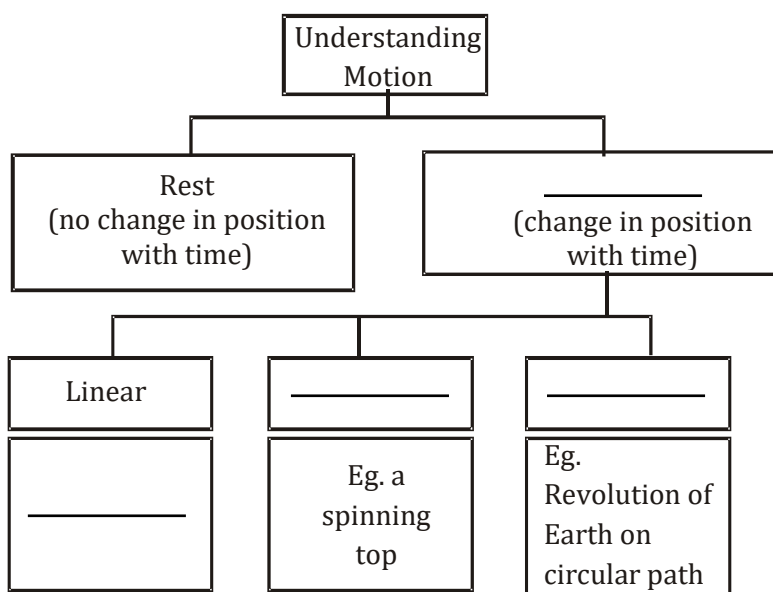
8. Write the types of motion exhibited in following situations:

	Example	Type of motion
(i)	Motion of piston of syringe.	
(ii)	Motion of pendulum of a wall clock.	
(iii)	Motion of a boy cycling on a circular track.	
(iv)	The string of guitar when plucked.	
(v)	Motion of second hand in a clock.	

9. **Match the column**

	Column-I		Column-II
(A)	Motion of a satellite	(p)	Circular and periodic motion
(B)	Motion of stretched wire of violin	(q)	Circular motion only
(C)	Motion of a pulley	(r)	Vibratory motion
(D)	Motion of the tip of a wing of a rotating fan	(s)	Rotational motion

True or False

10. A body is said to be in motion only if its position changes with time.

11. The Earth revolving around its own axis describes linear motion.

12. Rotation of Earth about its axis is oscillatory motion.

13. All oscillatory motion is periodic but all periodic motion is not oscillatory.

Fill in the blanks

14. Translational motion can be classified as _____ and _____.

15. Motion of spinning top is _____ motion.

16. Motion of children sitting on a merry -go-round is _____.

17. Beating of our heart is _____ motion.

Subjective questions

18. Give one example of each mode of transport used on land, water, and air.

19. What do you mean by periodic and oscillatory motion?

20. Give any two examples of each type of motion

(i) Periodic motion

(ii) Oscillatory motion

SOLUTIONS DPP-05

1. **Option (2)**
   Motion in which body moves about a fixed axis without changing its position is called rotatory motion.

2. **Option (1)**
   The motion in which body moves in a straight line is called rectilinear motion.

3. **Option (2)**
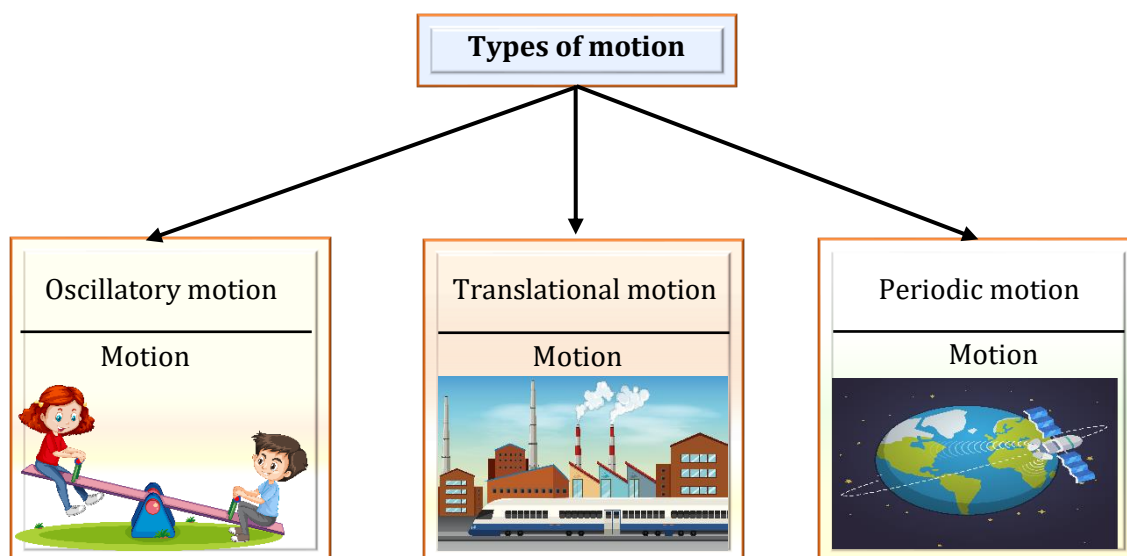   Following pictures are the example of rotatory motion

4. **Option (1)**
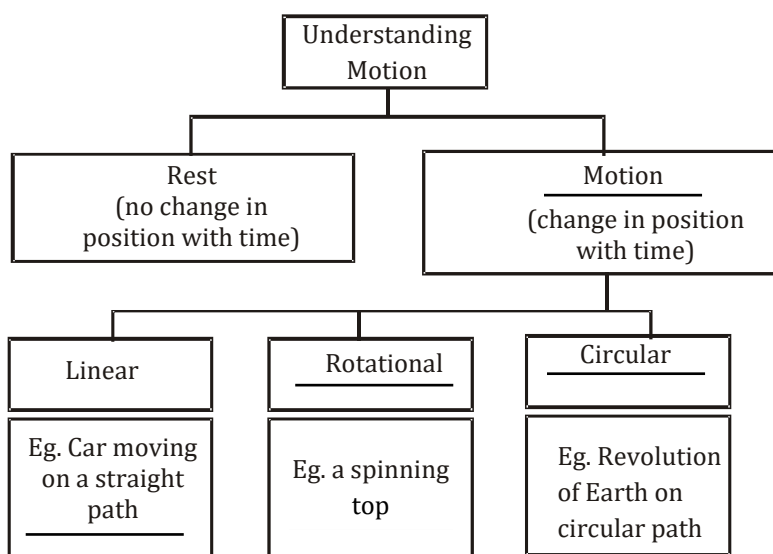   A book lying on a table is an example of a body at rest.

5. **Option (2)**
   Aero plane is the medium of transport in air.

6.

7.

8. Types of motion

	Example	Type of motion
(i)	Motion of piston of syringe.	Rectilinear motion
(ii)	Motion of pendulum of a wall clock.	Oscillatory motion
(iii)	Motion of a boy cycling on a circular track.	Circular motion
(iv)	The string of guitar when plucked.	Vibratory motion
(v)	Motion of second hand in a clock.	Circular motion

9. (A) → p, (B) → r, (C) → s, (D) → q

10. True

A body is said to be in motion only if its position changes with time.

11. False

The Earth revolving around its own axis describes rotational motion.

12. False

Rotation of Earth about its axis is rotatory motion.

13. True

All oscillatory motion is periodic but all periodic motion is not oscillatory. eg. Motion of Earth is periodic but not oscillatory.

14. Translational motion can be classified as **rectilinear** and **curvilinear**.

15. Motion of spinning top is **rotational** motion.

16. Motion of children sitting on a merry-go-round is **circular motion**.

17. Beating of our heart is **periodic** motion.

18. Land → a car

Water → a sail boat

Air → An Aeroplane

19. Periodic motion

A motion that occurs when an object moves in a repeated pattern (a cycle) over equal periods of time is called a periodic motion.

Examples : Motion of a pendulum

Oscillatory motion

A motion that occurs when an object moves to and fro about its mean position over equal periods of time is called an oscillatory motion or vibratory motion.

Examples : Motion of a simple pendulum

20. (i) Periodic motion → revolution of Earth around the Sun, Motion of a pendulum.

(ii) Oscillatory motion → motion of a vibrating stretched string, Motion of a simple pendulum.

DPP

DAILY PRACTICE PROBLEM

Measurement and Motion DPP-06

Multiple choice questions

1. Donkeys and horses were domesticated between

    (1) 4000-3000 BC   (2) 1000-0 BC   (3) 1000-2000 AD   (4) None of this

2. The wheel was invented in a place what is now

    (1) Rome   (2) Africa   (3) Iraq   (4) India

3. Sailing boat was invented by

    (1) Indians   (2) Romans   (3) Egyptians   (4) Americans

4. Wheel was invented in about

    (1) 3500 BC   (2) 1000 BC   (3) 1000 AD   (4) In 10th century

Fill in the blanks

5. _____ come in use as means of transport on water.

6. The earliest boats were dugout _____.

7. After 2000 BC wheels were made with _____.

True or False

8. Four cycle otto engine was developed in 19th century.

9. Steamboat services was successfully established on the Mississippi river.

Subjective questions

10. Write down two-two example of transports used on land, water and air.

SOLUTIONS DPP-06

1. **Option (1)**

   Donkeys and horses were domesticated between 4000-3000 BC.

2. **Option (3)**

   The wheel was invented in a place what is now Iraq.

3. **Option (3)**

   Sailing boat was invented by Egyptians.

4. **Option (1)**

   Wheel was invented in about 3500 BC.

5. **Motorized boats** come in use as means of transport on water.

6. The earliest boats were dugout **canoes**.

7. After 2000 BC wheels were made with **spokes**.

8. **True**

   Four cycle otto engine was developed in 19th century.

9. **True**

   Steamboat services was successfully established on the Mississippi river.

10. Land : car, camel, bikes etc.

    Air : Aeroplane, helicopter

    Water : Ship, boat