

CLASS 6 SCIENCE WORKSHEET – SET B**Chapter 5: Measurement of Length and Motion (NCERT Curiosity)**

Name: _____ Class: 6 ____ Date: _____ Marks: _____ / 95

1. Multiple Choice Questions [$10 \times 1 = 10$]

Choose the correct option.

- The symbol for metre is
(a) M (b) m (c) mt (d) me
- 1 metre is equal to
(a) 10 cm (b) 100 cm (c) 1000 cm (d) 10000 cm
- A scale with a broken end shows an object from 2.0 cm to 8.5 cm. Its length is
(a) 10.5 cm (b) 6.5 cm (c) 8.5 cm (d) 2.0 cm
- The best unit to express the distance between two cities is
(a) millimetre (b) centimetre (c) metre (d) kilometre
- The thickness of a coin is best expressed in
(a) kilometre (b) metre (c) millimetre (d) inch
- 1 inch is equal to
(a) 1 cm (b) 2.54 cm (c) 25.4 cm (d) 10 cm
- The best way to measure a curved line is to use
(a) a straight metre scale (b) a thread or flexible tape (c) a steel rod (d) guessing
- An object is said to be at rest if
(a) its position changes with time (b) its position does not change with respect to a reference point
(c) it is very heavy (d) it is very small
- A child running along a straight track shows
(a) linear motion (b) circular motion (c) oscillatory motion (d) no motion
- A metal strip pressed at one end and released shows
(a) linear motion (b) circular motion (c) oscillatory motion (d) no motion

2. Fill in the Blanks [$10 \times 1 = 10$]

- 1 cm = _____ mm.
- The symbol of kilometre is _____.
- 1 mm = _____ cm.
- Units such as handspan and foot _____ from person to person.
- 1 inch = _____ cm.
- Visually challenged students use scales with _____ markings.
- An object that does not change its position with time is said to be at _____.
- Motion along a circular path is called _____ motion.
- Circular and oscillatory motions are _____ in nature.
- The ancient Indian unit of length based on finger width is _____.

3. True or False [$10 \times 1 = 10$]

- The symbol of kilometre should be written as 'kms'. (_____)
- 1 mm = 0.1 cm. (_____)
- The inch is the SI unit of length. (_____)

4. The eye should be directly above the mark while reading the scale. (_____)
5. A thread can be used to measure the length of a curved line. (_____)
6. 1.5 km = 1500 m. (_____)
7. A seated passenger in a moving bus is at rest with respect to the bus. (_____)
8. Circular motion and oscillatory motion are both periodic. (_____)
9. A full stop must always be written after the symbol of a unit. (_____)
10. The angula is still used by carpenters and tailors. (_____)

4. Match the Following [10 × 1 = 10]

Column A	Column B
1. Handspan (_____)	a. International System of Units
2. Char angula (_____)	b. flexible measuring tape
3. Tailor's tape (_____)	c. scales with raised markings
4. Scale with broken end (_____)	d. balisht
5. Curved line (_____)	e. fixed point for stating position
6. Reference point (_____)	f. subtract the two readings
7. 1 inch (_____)	g. repeats path after a fixed time
8. SI (_____)	h. four fingers width
9. Periodic motion (_____)	i. 2.54 cm
10. Visually challenged students (_____)	j. measured using a thread

5. Answer in 2 Lines [10 × 2 = 20]

1. Why do we need standard units of measurement?

2. Name two ancient Indian units of length.

3. What is meant by 'char angula'?

4. How do you measure length with a scale whose end is broken?

5. Why must the eye be placed directly above the mark?

6. Convert 2500 m into km.

7. Why do tailors use a flexible measuring tape?

8. Define circular motion with an example.

9. Define oscillatory motion with an example.

10. What is periodic motion?

6. Write Short Notes (4 or 5 points with examples / diagram) [5 × 5 = 25]

1. Write short notes on the need for standard units.

2. Write short notes on units of length and their conversion.

3. Write short notes on measuring with a scale whose end is broken.

4. Write short notes on motion and rest.

5. Write short notes on periodic motion.

7. Give the Answer in a Word [10 × 1 = 10]

Read each definition and write the term.

1. The ancient Indian unit of length based on the width of a finger. _____

2. A body-part unit that is the spread of the hand, called 'balisht'. _____

3. The flexible device a tailor uses to measure the body. _____

4. A non-SI unit of length equal to 2.54 cm. _____

5. The state of an object whose position does not change with time. _____

6. The distance between two points, measured along a line. _____

7. A roadside stone showing distance from a place. _____

8. The motion of a pendulum or a swing. _____
9. The part of a measurement written after the number, e.g. 'cm'. _____
10. The ancient civilisation from whose sites objects with ruled markings, possibly scales, were excavated. _____

ANSWER KEY – SET B**1. Multiple Choice Questions []**

1-b 2-b 3-b 4-d 5-c 6-b 7-b 8-b 9-a 10-c

2. Fill in the Blanks []

1. 10
2. km
3. 0.1
4. differ
5. 2.54
6. raised
7. rest
8. circular
9. periodic
10. angula

3. True or False []

1-False 2-True 3-False 4-True 5-True 6-True 7-True 8-True 9-False 10-True

4. Match the Following []

1-d 2-h 3-b 4-f 5-j 6-e 7-i 8-a 9-g 10-c

5. Answer in 2 Lines []

1. Units like handspan differ from person to person. Standard units give the same measurement for everyone.
2. Angula (finger width) and dhanusa. Yojana is also an ancient Indian unit.
3. Char angula means the width of four fingers. Tailors and carpenters still use the angula.
4. Start from any other full mark, say 1.0 cm. Subtract this reading from the reading at the other end.
5. Looking from the side gives a wrong reading. The correct position gives an accurate reading.
6. $1000\text{ m} = 1\text{ km}$, so $2500\text{ m} = 2500 \div 1000 = 2.5\text{ km}$.
7. A tailor must measure curved body parts like the chest. A flexible tape bends along the body, but a rigid scale cannot.
8. Motion along a circular path is circular motion. Example: a merry-go-round.
9. Motion to and fro about a fixed position is oscillatory motion. Example: a swing.
10. If an object repeats its path after a fixed interval of time, its motion is periodic. Circular and oscillatory motions are examples.

6. Short Notes (model answers) []**1. the need for standard units.**

- Body-part units like handspan, foot and fist differ from person to person.
- In Table 5.1, five students got different numbers of handspans for the same table.
- Different systems in different places caused confusion.
- Countries adopted the International System of Units (SI).
- Example: the metre is the SI unit of length.

2. units of length and their conversion.

- Metre (m) is the SI unit of length.
- Kilometre (km) is used for large lengths like distance between cities.
- Centimetre (cm) and millimetre (mm) are used for small lengths.
- $1 \text{ km} = 1000 \text{ m}$, $1 \text{ m} = 100 \text{ cm}$, $1 \text{ cm} = 10 \text{ mm}$.
- Example: $1.5 \text{ km} = 1500 \text{ m}$; a 15-cm scale (Fig. 5.3) can read up to 1 mm.

3. measuring with a scale whose end is broken.

- Sometimes the zero end of a scale is broken or unclear.
- Such a scale can still be used.
- Start from any full mark, e.g. 1.0 cm.
- Subtract this reading from the reading at the other end.
- Example (Fig. 5.6): $10.4 \text{ cm} - 1.0 \text{ cm} = 9.4 \text{ cm}$.

4. motion and rest.

- An object is in motion if its position changes with respect to a reference point with time.
- An object is at rest if its position does not change with time.
- Whether an object is at rest or in motion depends on the reference point.
- Example: passengers seated in a bus are at rest with respect to the bus but in motion with respect to a building outside.
- A cow grazing in a field is in motion; a tree is at rest.

5. periodic motion.

- If an object repeats its path after a fixed interval of time, its motion is periodic.
- Circular motion is periodic, as the object goes around the same path again and again.
- Oscillatory motion is periodic, as the object moves to and fro repeatedly.
- Example of circular: an eraser whirled on a thread (Fig. 5.15).
- Example of oscillatory: a swing or a vibrating metal strip (Fig. 5.16, 5.17).

7. Give the Answer in a Word []

1. angula
2. handspan
3. measuring tape
4. inch
5. rest
6. length
7. kilometre stone
8. oscillatory motion
9. unit
10. Harappan Civilisation