NCERT Solutions for Class 6 Science (Curiosity) Chapter 5 - Measurement of Length and Motion

Class 6 Science Curiosity Chapter 5 - Measurement of Length and Motion

Question 1. Some lengths are given in Column I of the following Table. Some units are given in Column II. Match the lengths with the units suitable for measuring those lengths.

Column I	Column II
Distance between Delhi and Lucknow	centimetre
Thickness of a coin	kilometre
Length of an eraser	metre
Length of school ground	millimetre

Answer:

Column I	Column II
Distance between Delhi and Lucknow	kilometre
Thickness of a coin	millimetre

Length of an eraser	**centi**
Length of school ground	**metre**

Question 2. Read the following statements and mark True (T) or False (F) against each.
(i) The motion of a car moving on a straight road is an example of linear motion.
Answer: True
(ii) Any object that is changing its position concerning a reference point with time is said to be in motion.
Answer: True
(iii) 1 km = 100 cm
Answer: False

Question 3. Which of the following is not a standard unit of measuring length?
(i) millimetre
(ii) centimetre
(iii) kilometre
(iv) handspan
Answer: (iv) handspan

Question 4. Search for the different scales or measuring tapes at your home and school. Find out the smallest value that can be measured using each of these scales. Record your observations in a tabular form.
Answer:

Type of Scale, Tape, Device	Smallest Value of Measurement
15 cm Scale	1 mm
Flexible Tape	1 mm, 1 inch
Long Tape Roll	1 cm, 1 inch
Vernier Calliper (from School Lab)	0.1 mm
Screw Gauge (from School Lab)	0.01 mm

Question 5. Suppose the distance between your school and home is 1.5 km. Express it in metres.
Answer:

∵ 1 km = 1000 metres
∴ 1.5 km = 1.5 × 1000
= 1500 metres

Question 6. Take a tumbler or a bottle. Measure the length of the curved part of the base of the glass or bottle and record it.
Answer: Hint: Use a flexible measuring tape or a piece of string to measure the length of the curved part of the base of the tumbler, then measure the string against a ruler.

Question 7. Measure the height of your friend and express it.
(i) metres
(ii) centimetres and
(iii) millimetres.
Answer:
Hint: Measure the height using a metre scale and express it in:

- **Metres (e.g., 1.8 m)**
- **Centimetres (e.g., 180 cm)**
- **Millimetres (e.g., 1800 mm)**

Question 8. You are given a coin. Estimate how many coins are required to be placed one after the other lengthwise, without leaving any gap between them, to cover the whole length of the chosen side of a notebook. Verify your estimate by measuring the same side of the notebook and the size of the coin using a 15-cm scale.
Answer:

First, measure the diameter of the coin using a 15-cm scale. Suppose the coin is 2 cm wide.
Then, measure the length of the notebook. Suppose it is 18 cm.

Now, divide the length of the notebook by the diameter of the coin:
18 cm ÷ 2 cm = 9 coins

So, about 9 coins are needed to cover the length of the notebook.
You can verify this by placing 9 coins end-to-end along the notebook and checking if they match the length.

Question 9. Give two examples each for linear, circular, and oscillatory motion.
Answer:

Linear motion:

- **A car moving on a straight road**
- **An eraser falling straight down**

Circular motion:

- **A merry-go-round**
- **A stone tied to a thread moving in a circle**

Oscillatory motion:

- **A swinging pendulum of the clock.**
- **A metal strip vibrating after being pressed and released**

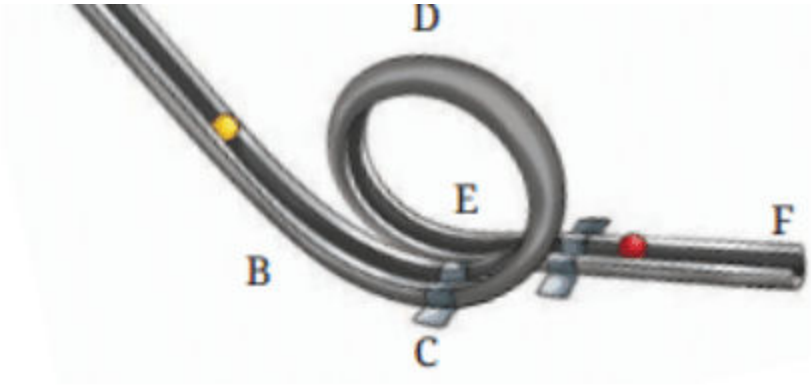
Question 10. Observe different objects around you. It is easier to express the lengths of some objects in mm, some in cm, and some in m. Make a list of three objects in each category and enter them in the following Table. Sizes of objects around us:

Size	Objects
mm	
cm	
m	

Answer:

Size	Objects
mm	The thickness of a coin, width of a pencil and the thickness of a cardboard
cm	The length of a pencil, the width of a book, and the height of a water bottle
m	The height of a room, the Width of a playground, and the height of a pole

Question 11. A roller coaster track is made in the shape shown in Fig. A ball starts from point A and escapes through point F. Identify the types of motion of the ball on the rollercoaster and corresponding portions of the track.



Answer: Portions of the track and corresponding types of motion:

- **A to B: Linear motion**
- **B to C: Circular motion (loop)**
- **C to D to E: Circular motion (curved path)**
- **E to F: Linear motion**

Question 12. Tasneem wants to make a metre scale by herself. She considers the following materials for it – plywood, paper, cloth, stretchable rubber, and steel. Which of these should she not use and why?
Answer: Tasneem should not use stretchable rubber because it can stretch and change its length. This will give wrong measurements. A metre scale should be made from materials that do not change shape, like steel, plywood, paper, or cloth.

Question 13. Think, design, and develop a card game on conversion of units of length to play with your friends.
Answer: To play the unit conversion card game:

- **Make cards with lengths written in different units – mm, cm, m, and km.**
- **Each card should have one value, like "100 cm" or "0.5 km".**
- **Create matching cards with equivalent values in other units, like "1 m" for "100 cm" or "500 m" for "0.5 km".**
- **Shuffle and distribute the cards.**
- **Players take turns matching cards with their correct conversions.**
- **The player with the most correct matches wins.**

This game helps you learn unit conversions while having fun with friends!