

8.MEASUREMENT TEACHING TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

(PAGE NO : 12)

1. How would you measure the width of a book?
A) With a stopwatch B) With a ruler or measuring tape
C) With a scale D) With a thermometer

Solution: B

Explanation: A ruler or measuring tape is used to measure length or width of objects.

2. What unit would you use to measure the height of a door?
A) Liters (L) B) Meters (m) C) Grams (g) D) Seconds (s)

Solution: B

Explanation: Height is a length measurement, so meters are the appropriate unit.

3. If a movie lasts from 2:00 PM to 4:00 PM, how long is its duration?
A) 1 hour B) 2 hours C) 3 hours D) 4 hours

Solution: B

Explanation: From 2:00 PM to 4:00 PM is a total of 2 hours.

4. To measure the amount of sugar in a recipe, which unit would be appropriate?
A) Meters (m) B) Liters (L) C) Grams (g) D) Hours (h)

Solution: C

Explanation: The quantity of sugar is measured in grams because it is a solid.

5. What is the width of an object?
A) The longest side B) The shortest side
C) The height of the object D) The volume of the object

Solution: B

Explanation: Width is typically the shorter side of an object when compared to length.

ADVANCED LEVEL

More than One Answer Type

6. When measuring volume, which units can be used?
A) Grams (g) B) Milliliters (mL) C) Liters (L) D) Meters (m)

Solution: B, C

Explanation: Volume is measured in milliliters (mL) and liters (L).

7. Which of the following measurements are relevant for describing the size of an

object?

A) Length

B) Temperature

C) Width

D) Height

Solution: A, C, D

Explanation: Length, width, and height describe the size of an object, not temperature.

(ii) Fill In the Blanks

8. Measurement is the process of finding out how much of something there is, which helps us understand the size, amount, or _____ of an object or time.

Solution: duration

Explanation: Duration tells how long something lasts.

9. To measure the weight of an object, we often use grams (g) and _____.

Solution: kilograms (kg)

Explanation: Kilograms are a larger unit used for heavier objects.

(iii) Matching Type

10. Match the tool with what it measures:

Column A

1. Ruler

2. Clock

3. Measuring tape

4. Timer

Column B

a. Length of objects

b. Duration of an event

c. Time of day

d. Length, width, and height of objects

Solution: 1-a, 2-c, 3-d, 4-b

Explanation: Each tool measures a specific type of quantity.

(iv) Answer the Following Questions

11. How can you measure time using a clock?

Solution: A clock shows the time of day using hours and minutes.

Explanation: You can read the clock to know the current time and use it to calculate how long an activity takes.

12. What is the difference between length and height?

Solution : Length is how long an object is from end to end, while height is how tall an object is from bottom to top.

Explanation: Length is measured horizontally, and height is measured vertically.

LEARNERS TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

(PAGE NO : 13)

1. What is measurement?

- A) The process of making a guess
- B) The process of finding out how much of something there is
- C) The process of creating something new
- D) The process of taking pictures

Solution: B

Explanation: Measurement means finding out the size, amount, or quantity of something.

2. Which unit is commonly used to measure length?

- A) Kilograms (kg)
- B) Liters (L)
- C) Meters (m)
- D) Seconds (s)

Solution: C

Explanation: Length is measured using units such as meters.

3. What does a clock measure?

- A) Weight
- B) Volume
- C) Length
- D) Time

Solution: D

Explanation: A clock tells time using hours, minutes, and sometimes seconds.

4. If a pencil is 15 cm long, what is its length?

- A) 15 mm
- B) 15 m
- C) 15 cm
- D) 15 km

Solution: C

Explanation: The pencil's length is already given as 15 cm.

5. Which of the following is a unit of weight?

- A) Centimeters (cm)
- B) Grams (g)
- C) Milliliters (mL)
- D) Hours (h)

Solution: B

Explanation: Weight is commonly measured in grams.

ADVANCED LEVEL

More than One Answer Type

6. What are some ways to measure time?

- A) Stopwatch
- B) Ruler
- C) Timer
- D) Calendar

Solution: A, C, D

Explanation: Stopwatch, timer, and calendar are used to measure time; a ruler measures length.

7. Which of the following can be used to measure weight?

- A) Ruler
- B) Scale
- C) Measuring cup
- D) Balance

Solution: B, D

Explanation: A scale and a balance measure weight; a ruler measures length and a measuring cup measures volume.

Fill In the Blanks

8. Common units for measuring length include centimeters (cm), meters (m), and _____.

Solution: kilometers (km)

Explanation: Kilometers are used to measure long distances.

9. The _____ of an object is the shortest side, such as measuring the width of a book.

Solution: width

Explanation: Width is usually the shorter side of an object.

Matching Type

10. Match the measurement type with its appropriate unit:

Column A

1. Length

2. Weight

3. Volume

4. Time

Column B

a. grams (g)

b. liters (L)

c. meters (m)

d. seconds (s)

Solution: 1-c, 2-a, 3-b, 4-d

Explanation: Each type of measurement has a matching correct unit.

Answer the Following Questions

11. What is measurement?

Solution: Measurement is the process of finding out how much, how long, or how heavy something is.

Explanation: It helps us understand the size, amount, or quantity of objects or time.

12. What are some common units of measurement for weight?

Solution: Common units of weight are grams (g) and kilograms (kg).

Explanation: Grams are used for lighter objects, and kilograms are used for heavier ones.

TEACHING TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

(PAGE NO : 16)

1. How do you measure the volume of a liquid accurately?

A) Using a balance scale

B) Using a graduated cylinder

C) Using a digital scale

D) Using a tape measure

Solution: B

Explanation: A graduated cylinder is designed to measure liquid volume accurately using marked readings.

2. If a measuring cup shows 250 mL of water, how much water is there?

- A) 250 grams
- B) 250 liters
- C) 250 mL
- D) 250 kilograms

Solution: C

Explanation: The measuring cup directly shows the amount of liquid in milliliters, so the volume is 250 mL.

3. What does a digital scale display?

- A) The temperature of an object
- B) A digital readout of mass
- C) The length of an object
- D) The volume of an object

Solution: B

Explanation: A digital scale measures and displays the mass of an object.

4. If a box of cereal weighs 500 grams, how would you express its mass?

- A) The mass of the cereal box is 500 mL.
- B) The mass of the cereal box is 500 kg.
- C) The mass of the cereal box is 500 g.
- D) The mass of the cereal box is 500 m.

Solution: C

Explanation: Mass is measured in grams (g), so 500 grams is written as 500 g.

5. What is the relationship between mass and weight?

- A) Mass measures the volume of an object
- B) Weight is a measure of mass affected by gravity
- C) Mass is always greater than weight
- D) Weight and mass are completely unrelated

Solution: B

Explanation: Mass is the amount of matter in an object, while weight is the force of gravity acting on that mass.

ADVANCED LEVEL

(i) More than One Answer Type

6. How can you measure 250 mL of liquid?

- A) Using a balance scale
- B) Using a measuring cup
- C) Using a graduated cylinder
- D) Using a ruler

Solution: B, C

Explanation: Measuring cups and graduated cylinders are used to measure liquid volume.

7. Which of the following statements about mass is true?

- A) Mass is measured in grams and kilograms.
- B) Mass measures how much space an object occupies.

C) A digital scale provides a readout of mass.

D) Mass is the same as weight.

Solution: A, C

Explanation: Mass is measured in grams and kilograms, and a digital scale displays mass.

(ii) Fill In the Blanks

8. To measure volume, we can use tools like measuring cups and a _____ cylinder.

Solution: A, C

Explanation: Mass is measured in grams and kilograms, and a digital scale displays mass.

9. If a box of cereal weighs 500 grams, we can say, "The mass of the cereal box is _____ g.

Solution: 500

Explanation: The given weight is 500 grams, so the mass is 500 g.

(iii) Matching Type

10. Match the unit of mass with its description:

Column A

a) Grams

b) Kilograms

c) Balance Scale

d) Digital Scale

Column B

1. A tool that compares mass to known weights.

2. Provides a digital readout of mass.

3. Commonly used for lighter objects.

4. Used for measuring larger masses, equivalent to 1,000 grams.

Solution: a-3, b-4, c-1, d-2

Explanation: Each unit and tool matches its correct use.

(iv) Answer the Following Questions

11. A box weighs 500 grams and you add another box that weighs 300 grams. What is the total mass of both boxes in kilograms?

Solution: 0.8 kg

Explanation: $500\text{ g} + 300\text{ g} = 800\text{ g}$, and $800\text{ g} = 0.8\text{ kg}$.

12. If a graduated cylinder shows 750 mL of liquid and you pour out 250 mL, what fraction of the original volume remains?

Solution: $\frac{2}{3}$

Explanation: $750\text{ mL} - 250\text{ mL} = 500\text{ mL}$; $500 \div 750 = \frac{2}{3}$.

LEARNERS TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

(PAGE NO : 17)

1. What does mass measure?
- A) The length of an object
 - B) How much matter is in an object
 - C) The temperature of an object
 - D) The volume of an object

Solution: B

Explanation: Mass tells us how much matter an object contains.

2. Which unit is commonly used to measure mass?
- A) Liters (L)
 - B) Grams (g)
 - C) Meters (m)
 - D) Seconds (s)

Solution: B

Explanation: Grams (g) are a common unit used to measure mass

3. What tool can be used to measure mass?
- A) Ruler
 - B) Measuring Cup
 - C) Balance Scale
 - D) Thermometer

Solution: C

Explanation: A balance scale is used to measure the mass of objects.

4. If you weigh yourself and the scale shows 30 kg, what does that number represent?
- A) Your height
 - B) Your mass
 - C) The volume of water you drank
 - D) The distance you walked

Solution: B

Explanation: Kilograms (kg) measure mass, so 30 kg is your mass.

5. Which of the following is a unit of volume?
- A) Kilograms (kg)
 - B) Milliliters (mL)
 - C) Grams (g)
 - D) Meters (m)

Solution: B

Explanation: Milliliters (mL) are used to measure the volume of liquids.

ADVANCED LEVEL

More than One Answer Type

6. Which of the following are common units for measuring mass?
- A) Grams (g)
 - B) Kilograms (kg)
 - C) Liters (L)
 - D) Milliliters (mL)

Solution: A, B

Explanation: Grams and kilograms are the standard units for measuring mass.

7. What tools can be used to measure mass?

- A) Balance Scale
- C) Digital Scale

- B) Measuring Cup
- D) Graduated Cylinder

Solution: A, C

Explanation: A balance scale and a digital scale are tools used to measure mass.

Fill In the Blanks

8. Mass measures how much _____ is in an object, telling us how heavy something is.

Solution: matter

Explanation: Mass tells us how much matter an object contains.

9. A _____ scale compares the mass of an object to known weights to determine its mass.

Solution: balance

Explanation: A balance scale uses known weights to measure mass accurately.

Matching Type

10. Match the unit of volume with its description:

Column A

- a) Liters
- b) Milliliters
- c) Measuring Cup
- d) Graduated Cylinder

Column B

- 1. A tool used for precise liquid measurements.
- 2. Commonly used for measuring larger quantities of liquid.
- 3. Used for smaller volumes, often found in cooking.
- 4. Equivalent to 1/1000 of a liter.

Solution: a-2, b-4, c-3, d-1

Explanation: Each unit or tool matches its correct use.

Answer the Following Questions

11. If a bag of flour has a mass of 1 kg, what would its mass be in grams?

Solution: 1000 g

Explanation: 1 kilogram = 1000 grams.

12. You have a measuring cup filled to the 200 mL mark. If you pour out 50 mL, what will the new volume read?

Solution: 150 mL

Explanation: 200 mL - 50 mL = 150 mL.