

10. Measurements

MEASUREMENT

Teaching Task

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. Answer: B) 20 kilograms

Explanation: To convert grams to kilograms, divide the value by 1,000.

$2,000\text{grams} = 2000/1000 = 2\text{kilograms}$.

2. Answer: B) 3,000 millimeters

Explanation: 1 meter = 1,000 millimeters, so: $3\text{meters} = 3 \times 1,000 = 3,000\text{millimeters}$.

3. Answer: A) 1.2 liters

Explanation: To convert milliliters to liters, divide the value by 1,000. $1,200\text{milliliters} = 1200/1000 = 1.2\text{liters}$.

4. Answer: A) 20.32 centimeters

Explanation: To convert inches to centimeters, multiply by 2.54. $8\text{inches} \times 2.54 = 20.32\text{centimeters}$.

5. Answer: C) 200 kilograms

Explanation: 1 metric ton = 1,000 kilograms, so:

$0.2\text{metric tons} = 0.2 \times 1,000 = 200\text{kilograms}$.

6. Answer: A) 1.5 liters

Explanation: To convert milliliters to liters, divide the value by 1,000.

$1,500\text{milliliters} = 1500/1000 = 1.5\text{liters}$.

ADVANCED LEVEL

More than One Answer Type

7. A) 1 kilogram = 1,000 grams, B) 1 meter = 100 centimeters, D) 1 liter = 1,000 milliliters

Explanation: 1 kilogram equals 1,000 grams.

1 meter equals 100 centimeters.

1 liter equals 1,000 milliliters.

8. A) Align the ruler with one endpoint at zero, C) Read the length at the other endpoint

Explanation: When measuring with a ruler, align the ruler with one endpoint at zero and read the length at the other endpoint to get the correct measurement.

Fill In the Blanks

9. Answer: 100

Explanation: To convert meters to centimeters, multiply by 100.

$$4\text{meters} = 4 \times 100 = 400\text{centimeters}.$$

10. Answer: 2.54

Explanation: To convert inches to centimeters, multiply by 2.54 (1 inch = 2.54 cm).

$$5\text{inches} \times 2.54 = 12.7\text{centimeters}.$$

Matching Type

11. Match each conversion factor with the corresponding conversion:

1. 1 inch = 2.54 centimeters ----- D. Convert 12 inches to centimeters

2. 1 kilometer = 1,000 meters ----- B. Convert 5 kilometers to meters

3. 1 metric ton = 1,000 kilograms ----- C. Convert 3 metric tons to kilograms

4. 1 milliliter = 1,000 cubic millimeters ----- A. Convert 10,000 milliliters to cubic millimeters

5. 1 hour = 60 minutes ----- E. Convert 4 hours to minutes

Answer the Following Questions

12. Shivjit rode 2 kilometers (2000 meters).

Nidhi rode 3 kilometers.

Nidhi rode the farthest by 1 kilometer.

13. The length of the rectangle table is 300 cm, which is $300/100 = 3\text{meters}$.

Learners Task

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. Answer: C) Centimeters

Explanation: Centimeters are the most appropriate unit for measuring the length of a pencil, as they are commonly used for smaller objects.

2. Answer: A) 250 millimeters

Explanation: To convert centimeters to millimeters, multiply by 10.

$$25\text{centimeters} \times 10 = 250\text{millimeters}.$$

3. Answer: A) 150 centimeters

Explanation: To convert meters to centimeters, multiply by 100.

$$1.5\text{meters} \times 100 = 150\text{centimeters}.$$

4. Answer: B) 3,000 grams

Explanation: To convert kilograms to grams, multiply by 1,000.

$$3\text{kilograms} \times 1,000 = 3,000\text{grams}.$$

5. Answer: B) 750 milliliters

Explanation: To convert liters to milliliters, multiply by 1,000.

$0.75\text{liters} \times 1,000 = 750\text{milliliters}$.

6. Answer: A) 0.5 grams

Explanation: To convert milligrams to grams, divide by 1,000.

$500\text{milligrams} = 500/1000 = 0.5\text{grams}$.

ADVANCED LEVEL

More than One Answer Type

7. B) Centimeters, D) Meters, E) Inches

Explanation: Common units for measuring length are centimeters, meters, and inches. Milliliters and kilograms are used for volume and weight, respectively.

8. A) Place the ruler so that the zero mark aligns with the end of the line segment.

C) Record the length at the point where the line segment ends.

E) Ensure the ruler is straight and aligned with the line segment.

Explanation: For accurate measurement, the ruler should start at zero, and the length should be read at the end of the line segment. The ruler should also be straight and properly aligned.

Fill In the Blanks

9. Answer: 60

Explanation: To convert hours to minutes, multiply by 60. $3\text{hours} \times 60 = 180\text{minutes}$.

10. Answer: 10

Explanation: To convert millimeters to centimeters, divide by 10.

$750\text{millimeters} \div 10 = 75\text{centimeters}$.

Matching Type

11. Match each measurement unit with its correct conversion:

1. 1 meter ----- C. 100 centimeters

2. 1 liter ----- A. 1,000 milliliters

3. 1 kilogram ----- B. 1,000 grams

4. 1 centimeter ----- E. 10 millimeters

5. 1 milligram ----- D. 1,000,000 micrograms

Answer the Following Questions

12. Answer: Parvati has a 1500 ml bottle of shampoo, which is equivalent to 1 liter and 500 milliliters.

13. Answer: To convert milliliters to liters, divide by 1,000.

$5000\text{ milliliters} = 5000/1000 = 5\text{liters}$.

