Measuring Using Fractional Units

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Sometimes, we don't have exact whole numbers to measure something.

In such cases, we use fractions to measure parts of a unit.

- A fractional unit is a part of a standard measuring unit.

Real-Life Examples:

1. Length

A ribbon is 2 and $\frac{1}{2}$ meters long

- This means 2 full meters + half a meter

2. Time

- $\frac{1}{4}$ hour = 15 minutes
- $\frac{3}{4}$ hour = 45 minutes

3. Weight

- A watermelon weighs $3\frac{1}{2}$ kg
- 3 full kg + half kg

4. Money

- ₹1 = 4 coins of ₹$\frac{1}{4}$ each
- So, ₹$\frac{1}{2}$ = 2 coins of ₹$\frac{1}{4}$

5. Liquid Volume

- A glass holds $\frac{1}{3}$ of a litre of juice
- 3 such glasses make 1 litre

Properties of Measuring with Fractions

i. Fractions help in measuring quantities that are not whole

   Example: $\frac{1}{2}$ kg, $\frac{3}{4}$ litre

ii. Different fractional units can be combined

   Example: $\frac{1}{4} + \frac{1}{4} = \frac{2}{4} = \frac{1}{2}$

iii. Fractional parts can be added or subtracted in measurements

   Example: $\frac{3}{4}$ litre $- \frac{1}{4}$ litre $= \frac{2}{4} = \frac{1}{2}$ litre

iv. Fractions show precision in measurement

   Example: Especially useful in cooking, tailoring, carpentry, etc.

v. Whole measurements can be written as mixed numbers

   Example: $2\frac{1}{2}$ metres = 2 full metres and half metre

Summary

Using fractions in measurement helps when:

- The quantity is not whole
- We divide standard units into smaller equal parts

Fractions make measurement accurate and easy to understand!