# Using decimals to express mass (weight)

# **Understanding the Topic**

Decimals help us write mass more clearly when part of the unit is less than a whole. We mostly use kilogram (kg) as the main unit and grams (g) as the smaller part.

1000 g = 1 kg so

 $1 \text{ g} = \frac{1}{1000} \text{ kg} = 0.001 \text{ kg}$ 

## Why Use Decimals

- To show weights that are not whole kilograms.
- To write both kg and g in one number.
- Helps in easy comparison and calculation.

## **Examples of Decimal Values**

- 500 g = 0.5 kg
- 250 g = 0.25 kg
- 125 g = 0.125 kg
- 100 g = 0.1 kg

## **Examples with Solutions**

1. Conversion (Easy)

Question: Express 400 g in kilograms using decimals.

**Solution:** 400 ÷ 1000 = 0.4 kg

2. Addition (Moderate)

Question: Add 2.5 kg and 1.75 kg

**Solution:** 2.5 + 1.75 = 4.25 kg

3. Word Problem (Moderate)

**Question:** A watermelon weighs 2.3 kg and a pumpkin weighs 3.1 kg What is the total weight.

**Solution:** 2.3 + 3.1 = 5.4 kg

#### 4. Subtraction (Easy)

**Question:** A bag of rice weighs 5 kg A shopkeeper sold 1.25 kg How much rice is left.

**Solution:** 5 – 1.25 = 3.75 kg

#### 5. Real-life Situation (Moderate)

**Question:** A fruit seller packs mangoes into 4 boxes Each box weighs 1.2 kg What is the total weight.

**Solution:** 1.2 × 4 = 4.8 kg

#### **Summary Points**

- Decimals help show weights in parts of a kilogram.
- 1000 g = 1 kg so 1 g = 0.001 kg.
- To convert g to kg, divide by 1000.
- Decimals make it easy to add or subtract weights.
- Common decimal weights are 0.25 kg 0.5 kg 0.75 kg etc.
- Write answers with correct decimal and unit.
- Use decimals when weight is not a whole number.
- Real-life use in shopping and packing.
- Always align decimal points in calculations.
- Practice helps improve decimal conversions.