Unit 11 · Weight

STUDY NOTES

Key terms

Gram (g): for small amounts: onions, tomatoes, a packet.

Kilogram (kg): "kilo" = a thousand: 1 kg = 1000 g; sugar, vegetables.

Quintal: 1 quintal = 100 kg; rice, wheat, potatoes in big amounts.

Tonne (metric ton): 1000 kg = 10 quintals.

- **1 kg = 1000 g**; **1 quintal = 100 kg**
- quintal → kg: × 100; kg → g: × 1000; going back, divide
- a quintal is **100 kg, not 1000 kg** (that is a tonne)
- in science, grams and kilograms measure **mass**

Changing units

- 3 kg 40 g = 3000 + 40 = **3040 g**, not 3400
- 35457 g = **35 kg 457 g**
- 15 quintals 32 kg = 1500 + 32 = **1532 kg**
- 2 quintals = 200 kg, more than 150 kg
- grams have three places: 2 kg 45 g = 2045 g; 2 kg 450 g = 2450 g
- decimals: 5.6 kg = 5.6 × 1000 = **5600 g**; 3.15 kg = 3150 g
- fractions: ¼ kg = 1000 ÷ 4 = 250 g, so 5¼ kg = **5250 g**

Multiplying

1. multiply each unit by the number
2. move every **1000 g** over as 1 kg, or every **100 kg** as 1 quintal

- 2 kg 425 g × 8: 16 kg 3400 g → **19 kg 400 g**
- 1 kg 250 g × 4: 4 kg 1000 g → **5 kg**, not 4 kg 250 g
- 8 quintals 40 kg × 8: 64 quintals 320 kg → **67 quintals 20 kg**
- 25 kg × 200 sacks = 5000 kg = **50 quintals**

Dividing by a number

1. share the **bigger unit first**
2. change what is left into the smaller unit, add
3. share that

- 17 kg 640 g ÷ 8: 2 kg, 1 kg left = 1000 g; 1640 ÷ 8 = 205 → **2 kg 205 g**
- 6 kg 300 g ÷ 9: 0 kg; 6300 g ÷ 9 = **700 g**
- 73 quintals 89 kg ÷ 9: 8 quintals, 1 left = 100 kg; 189 ÷ 9 = 21 → **8 quintals 21 kg**
- 50 quintals ÷ 8: 6 quintals, 2 left = 200 kg; 200 ÷ 8 = 25 → **6 quintals 25 kg** = 6.25 quintals
- a decimal weight: into grams first: 5.6 kg ÷ 28 = 5600 g ÷ 28 = **200 g**

How many?

- weight ÷ weight: **both in the same unit**, the answer a number
- 6 quintals 25 kg of rice in 25 kg sacks: 625 ÷ 25 = **25 sacks**
- 4 sacks of 25 kg = 1 quintal
- 460 kg in 50 kg sacks: 9 full, 10 kg left → **10 sacks**
- with a carton: weight of the things + the empty carton

Where it is used

- paddy sold **by the quintal**; lowest price for coarse paddy, May 2026: Rs. 3,660 a quintal = Rs. 36.60 a kg
- Nepal Bureau of Standards and Metrology: a kilogram the same in every shop
- the kilogram
  - a liter of water (1795)
  - a metal cylinder near Paris (1889–2019)
  - a fixed number from nature since 2019

COMMON MISTAKES

✗ 1 quintal = 1000 kg
✓ 100 kg; 1000 kg is a tonne.

✗ 3 kg 40 g = 3400 g
✓ 3000 + 40 = 3040 g.

✗ 2 kg 205 g written 2 kg 25 g
✓ grams have three places: 205 g.

✗ 1 kg 250 g × 4 = 4 kg 250 g
✓ multiply the grams too: 5 kg.

✗ 460 kg ÷ 50 kg = 9 sacks
✓ the last 10 kg needs a 10th sack.

✗ 100 kg ÷ 25 kg = 40 sacks
✓ 4 sacks (40 comes from a 1000 kg quintal).