

GRADE 6 MATHEMATICS

MEASUREMENT & UNIT CONVERSIONS

Complete printable worksheet pack

Length • mass • capacity • metric conversions • mixed units • scale • estimation • real-life reasoning

Worksheet 1: Metric Units & Conversions

Show your working clearly. Convert to the same unit before calculating.

1. Convert: (a) 4.7 km to m (b) 3,650 m to km (c) 2.45 kg to g (d) 5,800 mL to L.
2. Convert: (a) 7,250 g to kg and g (b) 6.35 L to mL (c) 4.08 m to cm (d) 925 cm to m.
3. Complete: 3.6 m = ____ cm = ____ mm.
4. Complete: 4.75 kg = ____ g and 8,250 mL = ____ L.
5. Which is greater: 2.8 km or 2,650 m? By how much?
6. A bottle holds 1.5 L. How many 250 mL cups can be filled completely?
7. A delivery weighs 12 kg 450 g. Write its mass in grams.
8. Challenge: A ribbon is 8.4 m long. It is cut into pieces of 75 cm. How many complete pieces can be made, and how much ribbon remains?

Answer Key — 1: Metric Units & Conversions

1. 4,700 m; 3.65 km; 2,450 g; 5.8 L.
2. 7 kg 250 g; 6,350 mL; 408 cm; 9.25 m.
3. 360 cm; 3,600 mm.
4. 4,750 g; 8.25 L.
5. 2.8 km by 150 m.
6. 6 cups.
7. 12,450 g.
8. 11 pieces; 15 cm remains.

Teacher note: Accept equivalent correct methods and clearly shown working.

Worksheet 2: Mixed Units & Calculations

Show your working clearly. Convert to the same unit before calculating.

1. Calculate: 3 km 450 m + 2 km 875 m.
2. Calculate: 8 kg 250 g – 3 kg 675 g.
3. Calculate: 6 L 250 mL + 3 L 875 mL.
4. A runner completes 4 laps of 750 m. What distance does she run in km and m?
5. A shop has 15 kg of rice and packs it into 750 g bags. How many full bags can be made?
6. A tank contains 12 L 500 mL. Another 4 L 750 mL is added. How much is there now?
7. A 5 m rope is cut into 65 cm pieces. How many complete pieces are possible and how much remains?
8. Challenge: A truck carries 2 t 350 kg of material and makes 4 equal deliveries. How much does each delivery weigh?

Answer Key — 2: Mixed Units & Calculations

1. 6 km 325 m.
2. 4 kg 575 g.
3. 10 L 125 mL.
4. 3 km.
5. 20 bags.
6. 17 L 250 mL.
7. 7 pieces; 45 cm remains.
8. 587.5 kg.

Teacher note: Accept equivalent correct methods and clearly shown working.

Worksheet 3: Measurement in Real Life

Show your working clearly. Convert to the same unit before calculating.

1. A rectangular garden is 18 m long and 12.5 m wide. What is its perimeter?
2. A water tank holds 2,400 L. It currently contains 1,675 L. How many litres are needed to fill it?
3. A recipe needs 750 g flour. How much flour is needed for 6 identical batches?
4. A cyclist rides 7.5 km in the morning and 12.8 km in the afternoon. What total distance is covered?
5. A parcel weighs 2.75 kg. Packaging adds 180 g. What is the total mass?
6. A 3.6 m table is made from pieces of wood measuring 1.25 m and 1.45 m. How much more wood is needed?
7. A school buys 24 bottles of 750 mL each. What total volume is this in litres?
8. Challenge: A farmer has 2.4 tonnes of grain. He sells 875 kg and then 0.65 tonnes. How much grain remains?

Answer Key — 3: Measurement in Real Life

1. 61 m.
2. 725 L.
3. 4.5 kg.
4. 20.3 km.
5. 2.93 kg.
6. 0.9 m.
7. 18 L.
8. 875 kg.

Teacher note: Accept equivalent correct methods and clearly shown working.

Worksheet 4: Scale, Maps & Measurement

Show your working clearly. Convert to the same unit before calculating.

1. A map uses the scale $1 \text{ cm} = 5 \text{ km}$. Two towns are 7.5 cm apart on the map. What is the actual distance?
2. On a floor plan, 1 cm represents 2 m . A room measures 4.8 cm by 3.5 cm on the plan. Find its actual length and width.
3. A model car is built at a scale of $1:20$. Its model length is 22 cm . What is the real length?
4. A hiking map shows a trail as 12.4 cm . The scale is $1 \text{ cm} = 800 \text{ m}$. What is the trail length in km ?
5. A playground is 36 m long. On a drawing it is 9 cm long. What scale is being used?
6. A map scale is $1 \text{ cm} = 2.5 \text{ km}$. A journey is 17.5 km . How long should it be on the map?
7. A model building is 45 cm high at a scale of $1:100$. What is the actual height in metres?
8. Challenge: Two routes measure 8.4 cm and 10.2 cm on a map with scale $1 \text{ cm} = 1.5 \text{ km}$. How much longer is the second route?

Answer Key — 4: Scale, Maps & Measurement

1. 37.5 km.
2. 9.6 m by 7 m.
3. 4.4 m.
4. 9.92 km.
5. 1 cm = 4 m.
6. 7 cm.
7. 45 m.
8. 2.7 km.

Teacher note: Accept equivalent correct methods and clearly shown working.

Worksheet 5: Estimation & Measurement Reasoning

Show your working clearly. Convert to the same unit before calculating.

1. Estimate the total mass of 4.9 kg, 2.1 kg and 3.8 kg by rounding each to the nearest kg.
2. Which is a more reasonable estimate for the capacity of a bathtub: 8 L, 80 L or 800 L? Explain briefly.
3. Round 7.46 m to the nearest metre and nearest tenth of a metre.
4. A shopkeeper says 4 boxes weighing 2.48 kg each weigh about 12 kg. Is this a reasonable estimate? Find the exact total.
5. A student says 3.2 L is greater than 3,500 mL. Is the statement correct? Explain.
6. Without calculating exactly, decide whether $9.8 \text{ kg} + 4.3 \text{ kg}$ is closer to 13 kg, 14 kg or 15 kg.
7. A road is measured as 4.96 km. Give its length to the nearest 100 m.
8. Challenge: A container is labelled 2.5 L. A student pours in 2,650 mL and says it will fit. Is the student correct? Explain using units.

Answer Key — 5: Estimation & Measurement Reasoning

1. About 11 kg.
2. 80 L.
3. 7 m; 7.5 m.
4. Yes; exact total 9.92 kg, so about 10 kg, not 12 kg.
5. No; $3.2 \text{ L} = 3,200 \text{ mL}$.
6. Closer to 14 kg.
7. 5.0 km.
8. No; 2,650 mL is 150 mL more than 2.5 L.

Teacher note: Accept equivalent correct methods and clearly shown working.

Worksheet 6: Measurement Challenge

Show your working clearly. Convert to the same unit before calculating.

1. A warehouse has 3.75 tonnes of stock. It sends out 850 kg, 1.2 tonnes and 475 kg. How much stock remains?
2. A water tank is filled at 18 L per minute. How much water enters in 12.5 minutes?
3. A 24 m roll of fabric is used to make identical pieces of 1.35 m. How many complete pieces can be cut and how much remains?
4. A recipe uses 425 mL of milk per batch. A kitchen has 5 L available. How many complete batches can be made?
5. A rectangular field is 125 m long and 84 m wide. Fencing is sold in 25 m rolls. How many rolls are needed to fence the whole perimeter?
6. A delivery route is 18.6 km. A driver has already travelled 7 km 850 m. How far remains?
7. A container holds 7.5 L. It is filled using cups of 350 mL. How many full cups can be poured in, and how much capacity remains?
8. Challenge: A manufacturer has 2.5 tonnes of material. Each product needs 375 g. How many complete products can be made, and how much material remains?

Answer Key — 6: Measurement Challenge

1. 1.225 tonnes (1,225 kg).
2. 225 L.
3. 17 pieces; 1.05 m remains.
4. 11 complete batches.
5. 17 rolls.
6. 10.75 km.
7. 21 full cups; 150 mL remains.
8. 6,666 complete products; 250 g remains.

Teacher note: Accept equivalent correct methods and clearly shown working.