MEASUREMENT

A Complete Mathematics Worksheet Pack

Learn • Practise • Apply • Reason

CONCEPTS	SKILLS	APPLICATION
Understand length, mass, capacity, time, area and perimeter.	Estimate, measure, compare, convert and calculate using standard units.	Solve practical problems involving measurement in everyday settings.

Flexible, non-grade-specific mathematics resource

Includes metric units and practical measurement challenges.

Name: _____

Date: _____

WORKSHEET 01 | Understanding Measurement and Units

Name: _____ Date: _____

A. Learn

Measurement tells us the size, amount or duration of something. We use standard units so that measurements can be compared accurately.

B. Identify the unit

1) Which unit is suitable for the length of a pencil: mm, cm or km?
2) Which unit is suitable for the distance between two cities: cm, m or km?
3) Which unit would you use for the mass of a watermelon: g or kg?
4) Which unit is suitable for water in a swimming pool: mL or L?
5) Which unit would you use to measure the time taken to brush your teeth: seconds, minutes or hours?
6) Name a tool used to measure length, mass and temperature.

_____

C. Think

7) Why is it important to write the unit with every measurement?

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_____

Show your working and include the correct units in your answers.

WORKSHEET 02 | Measuring and Comparing Length

Name: _____ Date: _____

A. Learn

Length measures how long, tall or far something is. Common metric units include millimetres (mm), centimetres (cm), metres (m) and kilometres (km).

B. Practise

1) Convert 5 cm to mm.
2) Convert 240 cm to m and cm.
3) Which is longer: 1.2 m or 115 cm?
4) Arrange 45 cm, 1 m, 80 cm and 120 cm from shortest to longest.
5) A ribbon is 85 cm long. Another is 60 cm long. Find their combined length.
6) A rope is 3 m long. 75 cm is cut off. How much remains?

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C. Apply

7) A table is 1.4 m long. A desk is 125 cm long. Which is longer and by how much?

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Show your working and include the correct units in your answers.

WORKSHEET 03 | Mass: Grams and Kilograms

Name: _____ Date: _____

A. Learn

Mass tells us how heavy an object is. We commonly measure mass in grams (g) and kilograms (kg). 1 kg = 1,000 g.

B. Practise

1) Convert 3 kg to g.
2) Convert 2,500 g to kg and g.
3) Which is heavier: 1.8 kg or 1,650 g?
4) Add 750 g and 1 kg 250 g.
5) A bag weighs 5 kg. 1 kg 750 g is removed. Find the remaining mass.
6) Arrange 900 g, 1.2 kg, 750 g and 2 kg from lightest to heaviest.

_____

C. Think

7) Why might grams be more suitable than kilograms for measuring a paper clip?

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Show your working and include the correct units in your answers.

WORKSHEET 04 | Capacity: Millilitres and Litres

Name: _____ Date: _____

A. Learn

Capacity tells us how much liquid a container can hold. We commonly use millilitres (mL) and litres (L). 1 L = 1,000 mL.

B. Calculate

1) Convert 4 L to mL.
2) Convert 2,750 mL to L and mL.
3) Which is more: 1.5 L or 1,250 mL?
4) Add 750 mL and 1 L 500 mL.
5) A jug contains 2 L of juice. 650 mL is poured out. How much remains?
6) Three bottles each hold 750 mL. Find their total capacity.

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C. Apply

7) A container holds 5 L. It already has 3,250 mL. How much more is needed to fill it?

_____

_____

Show your working and include the correct units in your answers.

WORKSHEET 05 | Time: Reading and Calculating

Name: _____ Date: _____

A. Learn

Time can be measured in seconds, minutes, hours, days and weeks. 60 seconds = 1 minute; 60 minutes = 1 hour; 24 hours = 1 day.

B. Practise

1) Convert 3 hours to minutes.
2) Convert 240 seconds to minutes.
3) How many hours are there in 2 days?
4) A film starts at 14:20 and lasts 1 hour 35 minutes. When does it finish?
5) A journey begins at 09:45 and ends at 12:10. How long is the journey?
6) How many minutes are there in 1 hour 25 minutes?

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C. Think

7) Why is a 24-hour clock useful when planning journeys or timetables?

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Show your working and include the correct units in your answers.

WORKSHEET 06 | Temperature and Reading Scales

Name: _____ Date: _____

A. Learn

Temperature tells us how hot or cold something is. It is commonly measured in degrees Celsius (°C) using a thermometer. Always read the scale carefully.

B. Practise

1) Which is warmer: 18°C or 23°C?
2) The temperature rises from 12°C to 19°C. Find the increase.
3) The temperature falls from 27°C to 16°C. Find the decrease.
4) The morning temperature is 14°C and afternoon temperature is 22°C. Find the difference.
5) Put these temperatures in ascending order: 5°C, –2°C, 12°C, 0°C.

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C. Reason

6) Why should you check the scale and unit when reading a thermometer?

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Show your working and include the correct units in your answers.

WORKSHEET 07 | Perimeter: Measuring Around

Name: _____ Date: _____

A. Learn

Perimeter is the total distance around the outside of a 2D shape. Add the lengths of all its sides.

B. Calculate

1) Find the perimeter of a square with side 5 cm.
2) Find the perimeter of a rectangle 8 cm long and 3 cm wide.
3) A triangle has sides 6 cm, 7 cm and 9 cm. Find its perimeter.
4) A rectangle has length 12 m and width 5 m. Find its perimeter.
5) A square has perimeter 36 cm. Find the length of one side.

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C. Apply

6) A garden is 9 m long and 4 m wide. How much fencing is needed to go all the way around it?

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Show your working and include the correct units in your answers.

WORKSHEET 08 | Area: Measuring Surface

Name: _____ Date: _____

A. Learn

Area measures the surface covered by a flat shape. Area is measured in square units, such as cm² or m². For a rectangle, area = length × width.

B. Calculate

1) Find the area of a rectangle 6 cm by 4 cm.
2) Find the area of a square with side 7 cm.
3) A rectangle is 9 m long and 3 m wide. Find its area.
4) A floor is 5 m long and 4 m wide. How many square metres of flooring are needed?
5) A rectangle has area 48 cm² and length 8 cm. Find its width.

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C. Think

6) Explain the difference between area and perimeter.

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Show your working and include the correct units in your answers.

WORKSHEET 09 | Measurement in Real Life

Name: _____ Date: _____

A. Solve

1) A recipe needs 250 mL of milk. How much milk is needed for 4 batches?
2) A parcel weighs 2 kg 350 g. Another weighs 1 kg 800 g. Find their total mass.
3) A runner completes 3 laps of a 400 m track. Find the total distance in metres and kilometres.
4) A water tank contains 18 L. 6.5 L is used. How much remains?
5) A trip takes 2 hours 45 minutes. Express this in minutes.
6) A room is 4 m long and 3 m wide. Find its area and perimeter.

B. Explain

7) Give two examples of measurement used in everyday life and name the units involved.

_____

Show your working and include the correct units in your answers.

WORKSHEET 10 | Measurement Detective: Reasoning and Challenge

Name: _____ Date: _____

A. Solve the clues

1) I am a length equal to 3,500 mm. Express me in metres and centimetres.
2) A bag weighs 4 kg. You add 750 g. What is the new mass?
3) A bottle contains 1.25 L. How many millilitres is this?
4) A rectangular garden has perimeter 30 m. Its length is 9 m. Find its width.
5) A rectangular floor has area 54 m² and width 6 m. Find its length.

B. Challenge

6) A walk begins at 10:35 and lasts 1 hour 50 minutes. What time does it end?
7) A container has 3.5 L of water. 875 mL is poured into each of 3 jugs. How much water remains?
8) Create a practical measurement problem involving two different units and solve it.

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Show your working and include the correct units in your answers.

TEACHER ANSWER KEY

Suggested answers. Accept equivalent forms and clearly explained methods.

Worksheet 1

1) cm 2) km 3) kg 4) L 5) minutes 6) Ruler/tape measure; balance or scales; thermometer 7) Units show what the number measures and prevent confusion.

Worksheet 2

1) 50 mm 2) 2 m 40 cm 3) 1.2 m 4) 45 cm, 80 cm, 1 m, 120 cm 5) 145 cm 6) 2 m 25 cm 7) Table by 15 cm.

Worksheet 3

1) 3,000 g 2) 2 kg 500 g 3) 1.8 kg 4) 2 kg 5) 3 kg 250 g 6) 750 g, 900 g, 1.2 kg, 2 kg 7) It is a very light object.

Worksheet 4

1) 4,000 mL 2) 2 L 750 mL 3) 1.5 L 4) 2 L 250 mL 5) 1 L 350 mL 6) 2,250 mL or 2 L 250 mL 7) 1 L 750 mL.

Worksheet 5

1) 180 minutes 2) 4 minutes 3) 48 hours 4) 15:55 5) 2 hours 25 minutes 6) 85 minutes 7) It avoids confusion between morning and afternoon times.

Worksheet 6

1) 23°C 2) 7°C 3) 11°C 4) 8°C 5) −2°C, 0°C, 5°C, 12°C 6) To interpret the reading accurately.

Worksheet 7

1) 20 cm 2) 22 cm 3) 22 cm 4) 34 m 5) 9 cm 6) 26 m.

Worksheet 8

1) 24 cm^2 2) 49 cm^2 3) 27 m^2 4) 20 m^2 5) 6 cm 6) Area is the surface inside; perimeter is the distance around the boundary.

Worksheet 9

1) 1,000 mL 2) 4 kg 150 g 3) 1,200 m or 1.2 km 4) 11.5 L 5) 165 minutes 6) Area 12 m^2; perimeter 14 m 7) Answers vary; e.g. cooking in mL, travel in km.

Worksheet 10

1) 3 m 50 cm 2) 4 kg 750 g 3) 1,250 mL 4) 6 m 5) 9 m 6) 12:25 7) 875 mL remains 8) Answers vary.