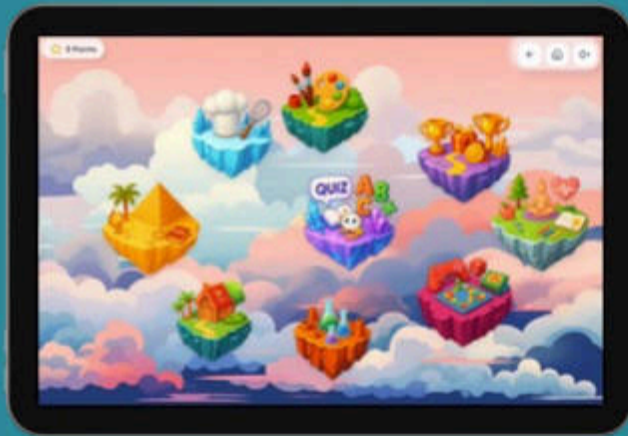




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Making Sense of Measurement - Year 3

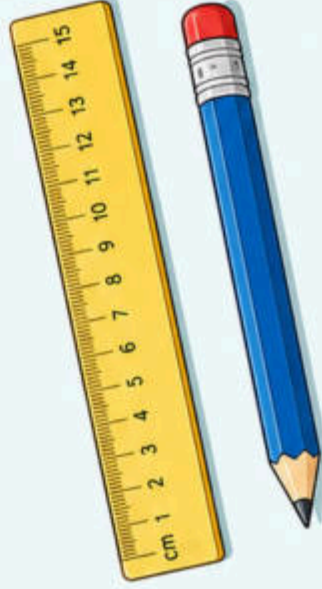
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Worksheet Pack: Metric Measurement Practice
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Assessment: Classroom Measurement Challenge
Rubric: Making Sense of Measurement Rubric



Metric Measurement at a Glance

Length

- ★ How long, tall or wide?
- ★ cm for small lengths
- ★ m for larger lengths
- ★ Tools: ruler, tape measure



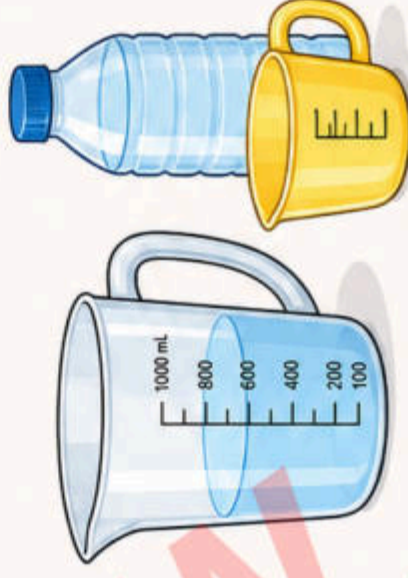
Mass

- ★ How heavy?
- ★ g for lighter objects
- ★ kg for heavier objects
- ★ Tools: balance scales, kitchen scales



Capacity

- ★ How much can it hold?
- ★ mL for smaller amounts
- ★ L for larger amounts
- ★ Tools: measuring jug, cup



Estimate first. Measure carefully. Compare using the same unit.



Length Scavenger Hunt



Find each item. Estimate first, then measure. Record your result.

Find	Estimate	Measure	Unit
1  something about 10 cm long			cm m
2  something about 30 cm long			cm m
3  something about 1 m long			cm m
4  something longer than 1 m			cm m
5  a book width			cm m
6  a desk width			cm m
7  a pencil length			cm m
8  a doorway height			cm m
9  the length of your shoe			cm m
10  a classroom object you choose			cm m



Challenge: Which estimate was closest? _____

Which was furthest away? _____





Mass and Capacity Scavenger Hunt

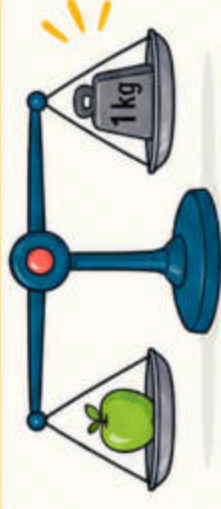


Estimate first. Use the best tool available. Record a sensible unit.

Task	Estimate	Measure or compare	Unit	
1  Find something close to 100 g			g	kg L
2  Find something close to 1 kg			g	kg L
3  Compare two pencil cases			g	kg L
4  Compare two school bags			g	kg L
5  Find a container close to 1 L			g	kg L
6  Find a container that holds more than 1 L			g	kg L
7  Which container holds more?			g	kg L
8  Which object has greater mass?			g	kg L
9  Choose your own mass item			g	kg L
10  Choose your own capacity item			g	kg L



Challenge: Explain how you knew which unit to use.



Estimate, Measure, Compare Stations

Choose a station. Estimate first. Measure carefully. Record your result.

1.

Length Station:
Measure the
length of a
book in cm.



2.

Length Station:
Measure a
table in
m and cm.



3.

Mass Station:
Estimate and
weigh a pencil
case in g.



4.

Mass Station:
Compare two
school bags
in kg.



5.

Capacity Station:
Estimate a cup
as less than 1 L.



6.

Capacity Station:
Compare two
bottles in L.



7.

Challenge:
Which object
is closest
to 1 m?



8.

Challenge:
Which container
is closest
to 1 L?



Metric Unit Sort Cards



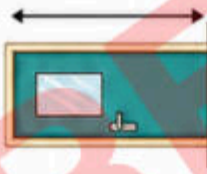
Cut out or discuss the cards. Sort each card to the most sensible metric unit.

cm	
m	
g	
kg	
mL	
L	

pencil
length



classroom
door height



paperclip
length



running track
length



apple
mass



school bag
mass



feather
mass



student
mass



medicine cup
capacity



water bottle
capacity



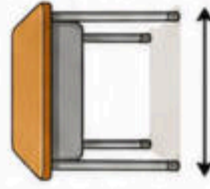
bathtub
capacity



soup bowl
capacity



desk
width



book
thickness



bag of
rice mass



paint pot
capacity



glue stick
mass



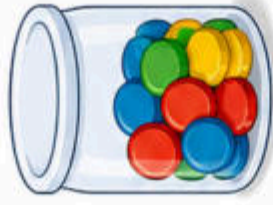
drink carton
capacity



Measurement Mission

Rule

Roll. Move.
Answer the space.
If you are correct,
stay there.
If not, move
back 1.



1 Choose: cm or m? 	2 Choose: g or kg? 	3 Choose: mL or L? 	4 100 cm = ? m 	5 1 kg = ? g 	6 1 L = ? mL
12 Measure a pencil 	11 Compare 900 g and 1 kg 	10 Compare 75 cm and 1 m 	9 Measure a book 	7 Estimate a desk 	8 Estimate a bottle
13 Name a tool 	14 Miss a turn 	15 Move ahead 2 	16 Teacher check 	23 Teacher check 	24 FINISH
17 Say a capacity unit 	18 Say a mass unit 	19 Say a length unit 	20 Order 2 m, 80 cm 	21 Order 2 kg, 500 g 	22 Order 1 L, 750 mL

Check / Answers



★ Measurement Mission Cards ★



1 Name a length unit.

2 Name a mass unit.

3 Name a capacity unit.

4 Which is longer: 80 cm or 1 m?

5 Which is heavier: 900 g or 1 kg?

6 Which holds more: 2 L or 5 L?

7 100 cm = ? m

8 1 kg = ? g

9 2 m = ? cm

10 3000 g = ? kg

11 Estimate a pencil.

12 Estimate a desk.

13 Estimate a school bag.

14 Choose a tool for length.

15 Choose a tool for mass.

16 Choose a tool for capacity.

17 Order: 40 cm, 1 m, 70 cm

18 Order: 500 g, 1 kg, 750 g

19 Order: 1 L, 3 L, 2 L

20 Measure something nearby.

21 Explain your unit choice.

22 Move ahead 1.

23 Move back 1.

24 Teacher check.

Name: _____

Choose the Best Metric Unit

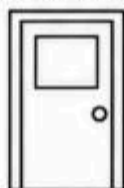
Circle the most sensible metric unit for each object. Then explain two choices.

1. pencil length:



cm / kg / L

2. classroom door height:



m / g / mL

3. paperclip length:



cm / L / kg

4. school bag mass:



kg / cm / mL

5. feather mass:



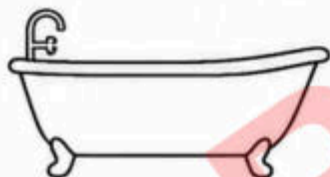
g / m / L

6. water bottle capacity:



mL / kg / cm

7. bathtub capacity:



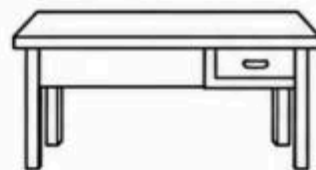
L / g / cm

8. apple mass:



g / mL / m

9. desk width:



cm / kg / L

10. running track length:



m / g / mL

11. soup bowl capacity:



mL / cm / kg

12. bag of rice mass:



kg / L / cm

Explain your thinking

One item I measured with a small unit was _____
because _____

One item I measured with a larger unit was _____
because _____

Name: **ANSWERS**

Choose the Best Metric Unit

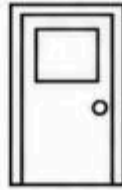
Circle the most sensible metric unit for each object. Then explain two choices.

1. pencil length:



cm / kg / L

2. classroom door height:



m / g / mL

3. paperclip length:



cm / L / kg

4. school bag mass:



kg / cm / mL

5. feather mass:



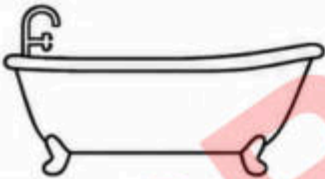
g / m / L

6. water bottle capacity:



mL / kg / cm

7. bathtub capacity:



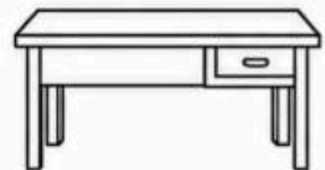
L / g / cm

8. apple mass:



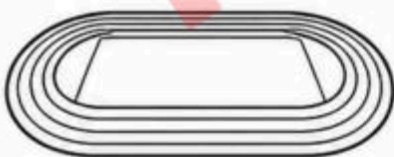
g / mL / m

9. desk width:



cm / kg / L

10. running track length:



m / g / mL

11. soup bowl capacity:



mL / cm / kg

12. bag of rice mass:



kg / L / cm

Explain your thinking

One item I measured with a small unit was pencil length - cm

because it is a small length.

One item I measured with a larger unit was door height - m

because it is a larger length.

Name: _____

The Right Tool for the Job

Match each measuring job to a sensible tool and unit.

1. Match the tool

1. measure a desk width		•	•		ruler
2. weigh an apple		•	•		tape measure
3. find how much a bottle holds		•	•		kitchen scales
4. measure a classroom wall		•	•		balance scales
5. weigh a school bag		•	•		measuring jug
6. measure a pencil		•	•		litre bottle
7. find how much a bucket holds		•	•		metre tape
8. weigh a feather		•	•		small scales

2. Write the best unit

desk width: _____	apple mass: _____	bottle capacity: _____
wall length: _____	school bag mass: _____	pencil length: _____

Explain one tool choice: _____

Name: **ANSWERS**

The Right Tool for the Job

Match each measuring job to a sensible tool and unit.

1. Match the tool

1. measure a desk width 	•	•	6  ruler
2. weigh an apple 	•	•	1  tape measure
3. find how much a bottle holds 	•	•	2  kitchen scales
4. measure a classroom wall 	•	•	5  balance scales
5. weigh a school bag 	•	•	3  measuring jug
6. measure a pencil 	•	•	7  litre bottle
7. find how much a bucket holds 	•	•	4  metre tape
8. weigh a feather 	•	•	8  small scales

2. Write the best unit

desk width: <u>cm</u>	apple mass: <u>g</u>	bottle capacity: <u>L</u>
wall length: <u>m</u>	school bag mass: <u>kg</u>	pencil length: <u>cm</u>

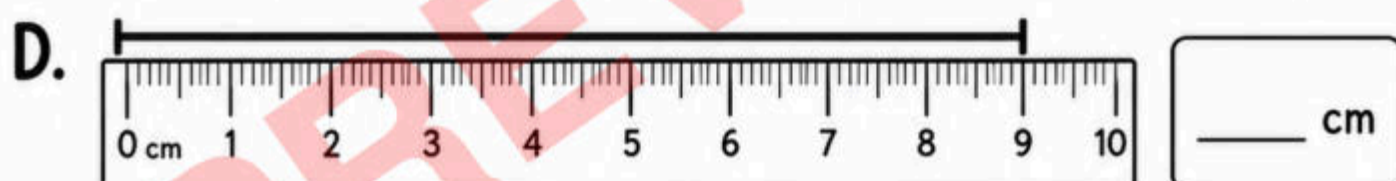
Explain one tool choice: A ruler is best for a pencil because it is a short length.

Name: _____

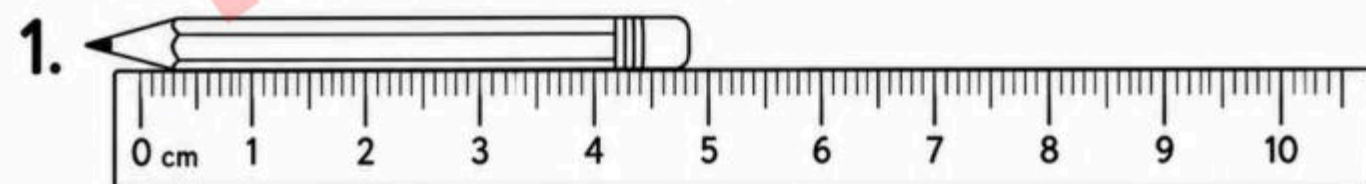
Ruler Reading Clinic

Read each ruler carefully. Start at 0 cm unless the question says otherwise.

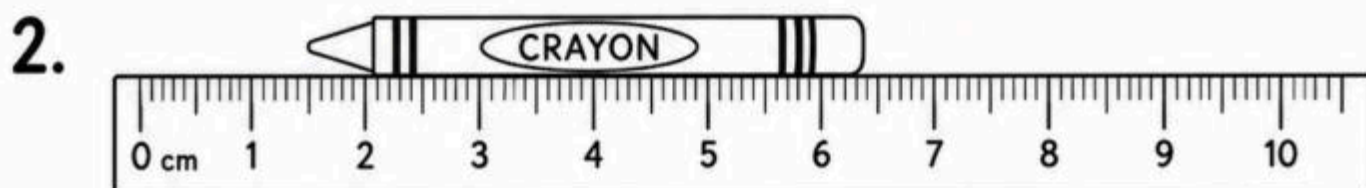
1. Read the centimetres



2. Spot the mistake



What is wrong? _____



How long is it? _____ cm

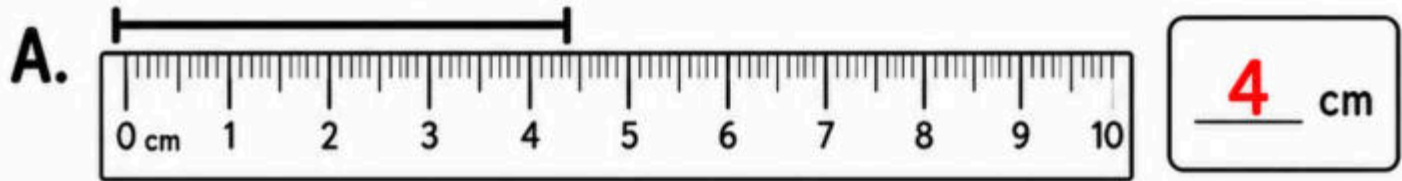
Line up the start of the object with 0 cm,
then read where the object ends.

Name: ANSWERS

Ruler Reading Clinic

Read each ruler carefully. Start at 0 cm unless the question says otherwise.

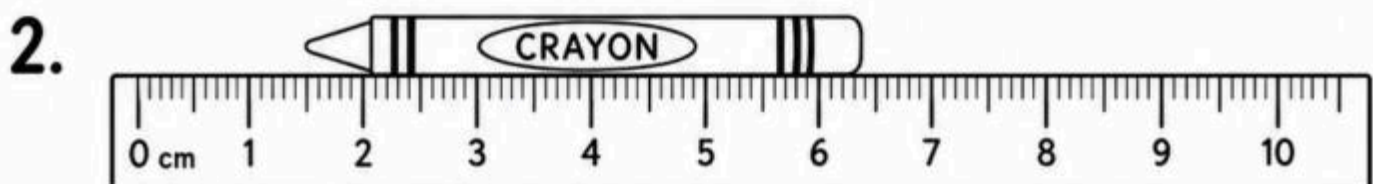
1. Read the centimetres



2. Spot the mistake



What is wrong? The pencil is not lined up with 0 cm.



How long is it? 4 cm

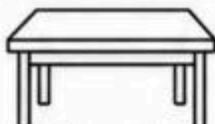
Line up the start of the object with 0 cm,
then read where the object ends.

Name: _____

Estimate, Then Measure

Estimate first. Then measure and compare your estimate with the real measurement.

1. Classroom measurement table

Object	Unit	My estimate	Actual measurement	Was my estimate close?
1.  pencil	cm			
2.  maths book	cm			
3.  desk width	cm			
4.  classroom door	m			
5.  water bottle	mL			
6.  school bag	kg			

2. Think about it

Which estimate was closest? _____

Which estimate was furthest away? _____

What helped you make a good estimate? _____



Use a sensible unit and compare your answer to something familiar.

Name: ANSWERS

Estimate, Then Measure

Estimate first. Then measure and compare your estimate with the real measurement.

1. Classroom measurement table

Object	Unit	My estimate	Actual measurement	Was my estimate close?
1.  pencil	cm	15 cm	17 cm	Yes
2.  maths book	cm	25 cm	28 cm	Yes
3.  desk width	cm	90 cm	100 cm	Almost
4.  classroom door	m	2 m	2 m	Yes
5.  water bottle	mL	500 mL	600 mL	Almost
6.  school bag	kg	3 kg	4 kg	Almost

2. Think about it

Which estimate was closest? Answers will vary.

Which estimate was furthest away? Answers will vary.

What helped you make a good estimate? Comparing with familiar objects.



Use a sensible unit and compare your answer to something familiar.

Name: _____

Mass and Capacity Match-Up

Choose sensible measurements. Then compare quantities with the same kind of measurement.

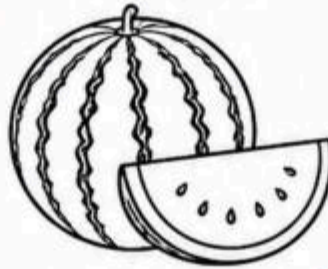
1. Circle the best measurement

1. feather



1 g / 1 kg / 1 L

2. watermelon



5 kg / 5 g / 5 L

3. bucket



10 L / 10 g / 10 cm

4. apple



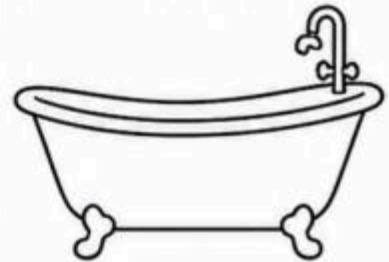
150 g / 150 kg / 150 L

5. full school bag



4 kg / 4 g / 4 L

6. bath tub



80 L / 80 g / 80 cm

2. Compare with <, > or =

1. 900 g 1 kg

4. 3 kg 2500 g

2. 2 L 1 L

5. 500 g 2 kg

3. 750 g 1 kg

6. 4 L 4 L

Explain one comparison: _____

Name: **ANSWERS**

Mass and Capacity Match-Up

Choose sensible measurements. Then compare quantities with the same kind of measurement.

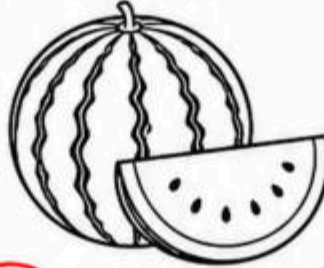
1. Circle the best measurement

1. feather



1 g / 1 kg / 1 L

2. watermelon



5 kg / 5 g / 5 L

3. bucket



10 L / 10 g / 10 cm

4. apple



150 g / 150 kg / 150 L

5. full school bag



4 kg / 4 g / 4 L

6. bath tub



80 L / 80 g / 80 cm

2. Compare with <, > or =

1. 900 g **<** 1 kg

4. 3 kg **>** 2500 g

2. 2 L **>** 1 L

5. 500 g **<** 2 kg

3. 750 g **<** 1 kg

6. 4 L **=** 4 L

Explain one comparison: 900 g is less than 1 kg because 1 kg = 1000 g.

Name: _____

Capacity Check

Think about how much each container can hold.

1. Circle the sensible capacity

1. medicine cup:



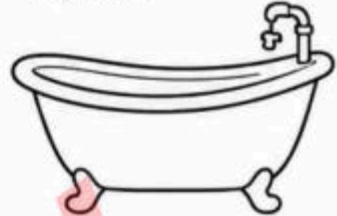
less than 1 L / 5 L / 50 L

2. drink bottle:



about 1 L / 20 L / 100 L

3. bathtub:



less than 1 L / about 80 L / 1 g

4. bucket:



about 10 L / 10 g / 10 cm

5. soup bowl:



less than 1 L / 30 L / 3 kg

6. watering can:



about 5 L / 5 cm / 5 g

2. Compare capacities

1. 1 L 5 L

2. 10 L 2 L

3. 4 L 4 L

4. 80 L 8 L

5. 3 L 1 L

Use <, > or = in the box.

3. Draw a container that holds more than 1 L. Label it.

Name: ANSWERS

Capacity Check

Think about how much each container can hold.

1. Circle the sensible capacity

1. medicine cup:



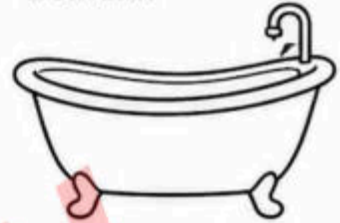
less than 1 L / 5 L / 50 L

2. drink bottle:



about 1 L / 20 L / 100 L

3. bathtub:



less than 1 L / about 80 L / 1 g

4. bucket:



about 10 L / 10 g / 10 cm

5. soup bowl:



less than 1 L / 30 L / 3 kg

6. watering can:



about 5 L / 5 cm / 5 g

2. Compare capacities

1. 1 L 5 L

2. 10 L 2 L

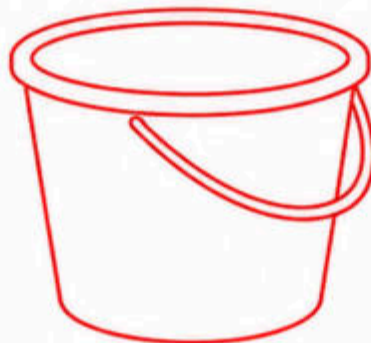
3. 4 L 4 L

4. 80 L 8 L

5. 3 L 1 L

Use <, > or = in the box.

3. Draw a container that holds more than 1 L. Label it.

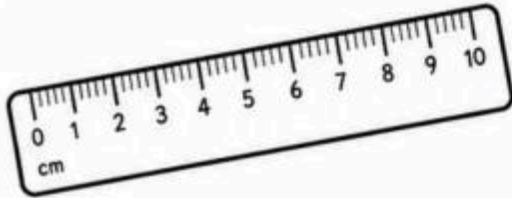


bucket - about 10 L

Name: _____

Metric Conversions: Small Steps

Use the conversion facts to complete each measurement.



Conversion facts

$$100 \text{ cm} = 1 \text{ m}$$

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



1. Fill the blanks

1. $1 \text{ m} =$ cm

6. $1 \text{ kg} =$ g

2. $2 \text{ m} =$ cm

7. $3 \text{ kg} =$ g

3. $5 \text{ m} =$ cm

8. $5000 \text{ g} =$ kg

4. $300 \text{ cm} =$ m

9. $2000 \text{ g} =$ kg

5. $600 \text{ cm} =$ m

10. $4 \text{ kg} =$ g

2. Use it in a sentence

11. A shelf is 2 m long. How many centimetres is that? cm

12. A bag has 3000 g of rice. How many kilograms is that? kg



Convert first, then compare using the same unit.

Name: **ANSWERS**

Metric Conversions: Small Steps

Use the conversion facts to complete each measurement.

Conversion facts



$$100 \text{ cm} = 1 \text{ m}$$

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



1. Fill the blanks

1. $1 \text{ m} =$ **100** cm

2. $2 \text{ m} =$ **200** cm

3. $5 \text{ m} =$ **500** cm

4. $300 \text{ cm} =$ **3** m

5. $600 \text{ cm} =$ **6** m

6. $1 \text{ kg} =$ **1000** g

7. $3 \text{ kg} =$ **3000** g

8. $5000 \text{ g} =$ **5** kg

9. $2000 \text{ g} =$ **2** kg

10. $4 \text{ kg} =$ **4000** g

2. Use it in a sentence

11. A shelf is 2 m long. How many centimetres is that? **200** cm

12. A bag has 3000 g of rice. How many kilograms is that? **3** kg



Convert first, then compare using the same unit.

Name: _____

Order the Measurements

Write each group from smallest to largest. Convert first if you need to.

Smallest to largest

1. 	45 cm	1 m	80 cm		→		→	
2. 	2 m	150 cm	90 cm		→		→	
3. 	900 g	1 kg	750 g		→		→	
4. 	2 kg	500 g	1500 g		→		→	
5. 	2 L	1 L	5 L		→		→	
6. 	4 L	3 L	1 L		→		→	

Explain your strategy

Which row needed a conversion? _____

How did converting help? _____



Measurements are easier to order when they use the same unit.

Name: ANSWERS

Order the Measurements

Write each group from smallest to largest. Convert first if you need to.

Smallest to largest

1. 	45 cm	1 m	80 cm	45 cm → 80 cm → 1 m
2. 	2 m	150 cm	90 cm	90 cm → 150 cm → 2 m
3. 	900 g	1 kg	750 g	750 g → 900 g → 1 kg
4. 	2 kg	500 g	1500 g	500 g → 1500 g → 2 kg
5. 	2 L	1 L	5 L	1 L → 2 L → 5 L
6. 	4 L	3 L	1 L	1 L → 3 L → 4 L

Explain your strategy

Which row needed a conversion? Rows 1, 2, 3 and 4.

How did converting help? Changing to the same unit made the order easier.



Measurements are easier to order when they use the same unit.

Name: _____

Measurement Problem Solving

Read each problem. Show your thinking and write a sensible unit.

- 1.** Mia measures a ribbon that is 80 cm long. Leo measures a ribbon that is 1 m long. Who has the longer ribbon?



Working:

Answer: _____

- 2.** A lunch box has a mass of 600 g. A water bottle has a mass of 900 g. What is their total mass?



Working:

Answer: _____

- 3.** A plant pot holds 3 L of soil. A bucket holds 10 L. How many more litres does the bucket hold?



Working:

Answer: _____

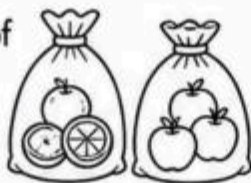
- 4.** A shelf is 2 m long. A poster is 50 cm wide. How many centimetres long is the shelf?



Working:

Answer: _____

- 5.** A bag of oranges has a mass of 2 kg. A bag of apples has a mass of 1500 g. Which bag is heavier?



Working:

Answer: _____

- 6.** A jug holds 4 L. A bottle holds 1 L. How many bottles would fill the jug?



Working:

Answer: _____



My best measurement tip: _____

Name: ANSWERS

Measurement Problem Solving

Read each problem. Show your thinking and write a sensible unit.

1. Mia measures a ribbon that is 80 cm long. Leo measures a ribbon that is 1 m long. Who has the longer ribbon?



Working:

$$1 \text{ m} = 100 \text{ cm}; 100 \text{ cm} > 80 \text{ cm}$$

Answer: Leo

2. A lunch box has a mass of 600 g. A water bottle has a mass of 900 g. What is their total mass?



Working:

$$600 \text{ g} + 900 \text{ g} = 1500 \text{ g}$$

Answer: 1500 g

3. A plant pot holds 3 L of soil. A bucket holds 10 L. How many more litres does the bucket hold?



Working:

$$10 \text{ L} - 3 \text{ L} = 7 \text{ L}$$

Answer: 7 L

4. A shelf is 2 m long. A poster is 50 cm wide. How many centimetres long is the shelf?

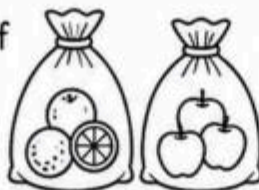


Working:

$$2 \text{ m} = 200 \text{ cm}$$

Answer: 200 cm

5. A bag of oranges has a mass of 2 kg. A bag of apples has a mass of 1500 g. Which bag is heavier?



Working:

$$2 \text{ kg} = 2000 \text{ g}; 2000 \text{ g} > 1500 \text{ g}$$

Answer: oranges

6. A jug holds 4 L. A bottle holds 1 L. How many bottles would fill the jug?



Working:

$$4 \text{ L} \div 1 \text{ L} = 4$$

Answer: 4 bottles



My best measurement tip: Use the same unit before comparing.

Name: _____

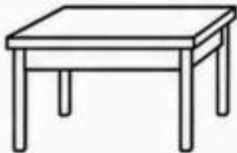
Classroom Measurement Challenge

Show what you know about metric length, mass and capacity.

1. Choose the unit

Write the most sensible metric unit (choose from: cm, m, g, kg, L).

1. desk length



Unit:

2. apple mass



Unit:

3. bucket capacity



Unit:

4. pencil length



Unit:

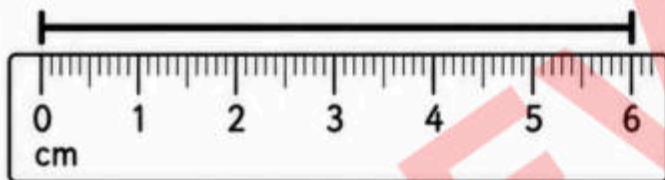
5. school bag mass



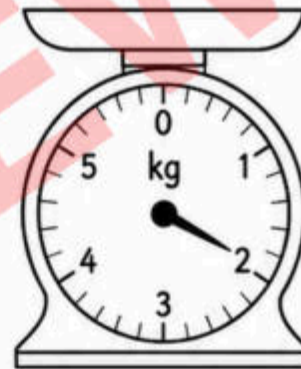
Unit:

2. Read and record

Read the measurement shown on each instrument.



Length: cm



Mass: kg

3. Compare and order

a) Order from smallest to largest:

90 cm, 1 m, 50 cm

→ →

b) Compare:

800 g 1 kg

4. Solve the problem

A jug holds 4 L of water. A small watering can holds 2 L.

How many watering cans fill the jug?

Working:

Answer: _____



5. Explain

How do you choose a sensible unit for measuring an object?

Name: ANSWERS

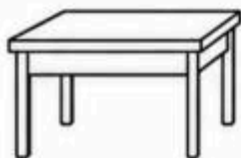
Classroom Measurement Challenge

Show what you know about metric length, mass and capacity.

1. Choose the unit

Write the most sensible metric unit (choose from: cm, m, g, kg, L).

1. desk length



Unit: cm

2. apple mass



Unit: g

3. bucket capacity



Unit: L

4. pencil length



Unit: cm

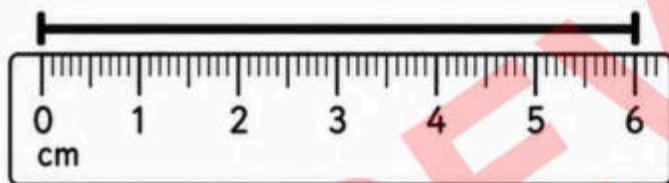
5. school bag mass



Unit: kg

2. Read and record

Read the measurement shown on each instrument.



Length: 6 cm cm



Mass: 2 kg kg

3. Compare and order

a) Order from smallest to largest:

90 cm, 1 m, 50 cm

50 cm

→

90 cm

→

1 m

b) Compare:

800 g

<

1 kg

4. Solve the problem

A jug holds 4 L of water. A small watering can holds 2 L.

How many watering cans fill the jug?

Working: $4 \text{ L} \div 2 \text{ L} = 2$

Answer: 2 watering cans



5. Explain

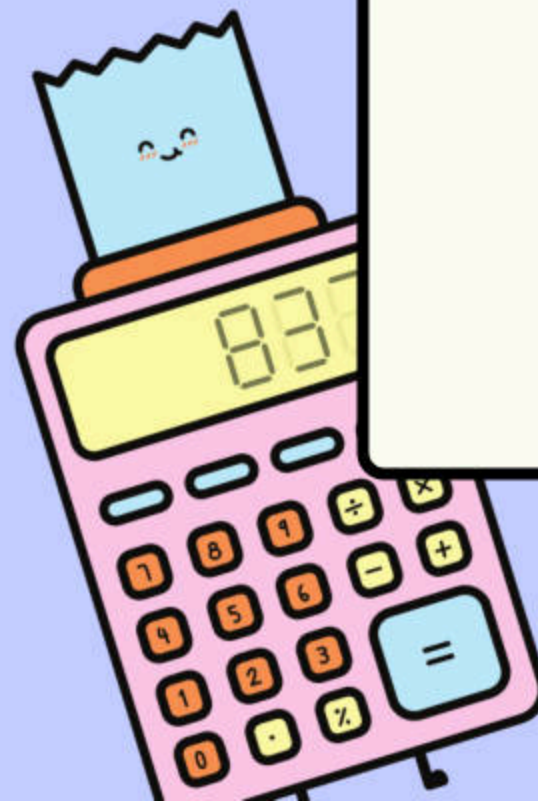
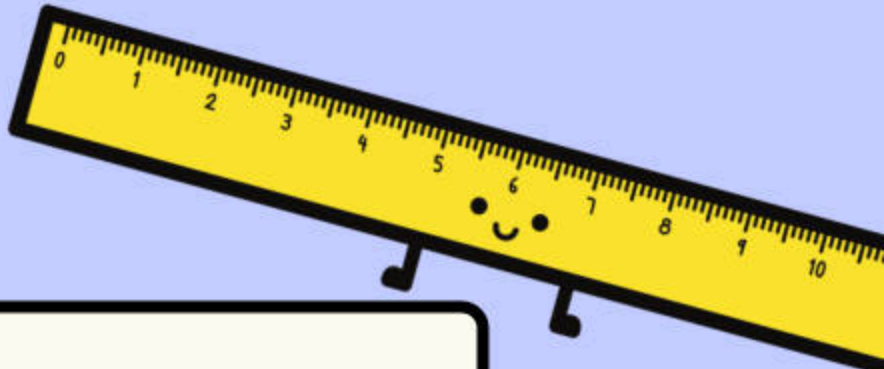
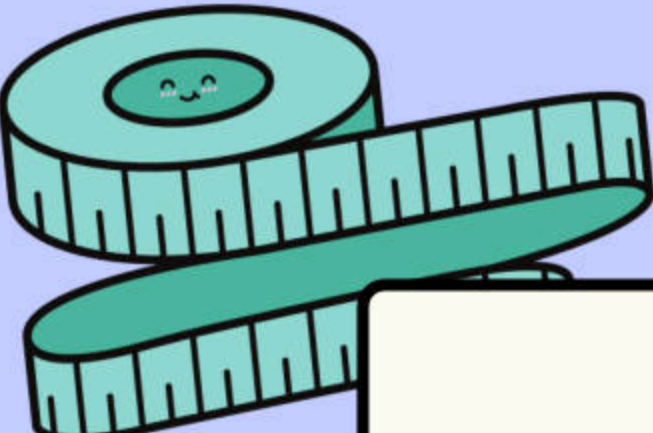
How do you choose a sensible unit for measuring an object?

I think about what is being measured, choose length, mass or capacity,
then choose a small or large metric unit.

Making Sense of Measurement Rubric

Criteria	BEGINNING	DEVELOPING	ACHIEVING	CONFIDENT	EXCEEDING
1. Chooses metric units	Needs support to choose appropriate metric units. Choices are often incorrect or inconsistent.	Chooses some appropriate units with help. Some choices are correct but not always consistent.	Chooses appropriate metric units for most situations. Minor errors may occur.	Consistently chooses appropriate metric units independently and accurately.	Always chooses the best metric unit and explains why it is suitable. Shows flexibility in choice.
2. Estimates and measures	Estimates are far from the truth. Measurements are often inaccurate and need support.	Estimates are sometimes close. Measurements are partly accurate with guidance.	Estimates are reasonably close. Measurements are mostly accurate and sensible.	Estimates are close and measurements are accurate, independent and careful.	Estimates are very close and measurements are precise. Uses strategies to improve accuracy.
3. Reads measuring tools	Struggles to read rulers or scales. Many errors and needs support.	Reads some scales or rulers with help. Some errors still occur.	Reads scales and rulers mostly correctly. Few errors.	Reads scales and rulers accurately and independently.	Reads measuring tools precisely, including small markings. Explains how the tool works.
4. Compares and converts	Finds it hard to compare or convert. Needs support and practice.	Makes some comparisons or conversions with help. Some errors.	Compares and converts using common units mostly correctly.	Compares and converts accurately using appropriate strategies.	Compares and converts flexibly and explains relationships between units.
5. Explains reasoning	Finds it hard to explain thinking. Explanations are limited or unclear.	Gives simple explanations with some prompting. Ideas are basic.	Explains thinking clearly using mathematical language.	Explains reasoning clearly and independently using relevant vocabulary.	Explains reasoning in depth using precise language and links ideas together.

Use this rubric with the Classroom Measurement Challenge and unit work samples.



Making Sense of Measurement



Learning Goal

We can choose and use metric units to estimate, measure and compare length, mass and capacity.



What Is Measurement?

Measurement tells us how long, heavy or full something is. We use a unit so others understand the size.



Metric Units

Length uses millimetres, centimetres and metres.
Mass uses grams and kilograms.
Capacity uses millilitres and litres.



Length Tools

Use a ruler, tape measure or metre ruler.
Line up the zero mark before reading the length.



Mass Tools

Use kitchen scales or balance scales.
Check the unit on the scale before recording the mass.



Capacity Tools

Use a measuring jug or marked container.
Read the level at the scale mark.



Estimate First

An estimate is a careful guess.
Think about a familiar benchmark before you measure.



Measure Carefully

Choose the right tool.
Start from zero.
Read the nearest marked unit.
Record the unit.



Read the Scale

Look at the numbers and marks.
Work out what each small mark is worth before you answer.



Choose the Best Unit

Small objects often use millimetres, centimetres, grams or millilitres.
Larger objects often use metres, kilograms or litres.



Compare and Order

Put measurements in the same unit when you can.
Then compare the numbers from smallest to largest.



Simple Conversions

100 cm = 1 m.

1000 g = 1 kg.

1000 mL = 1 L.



Problem Solving

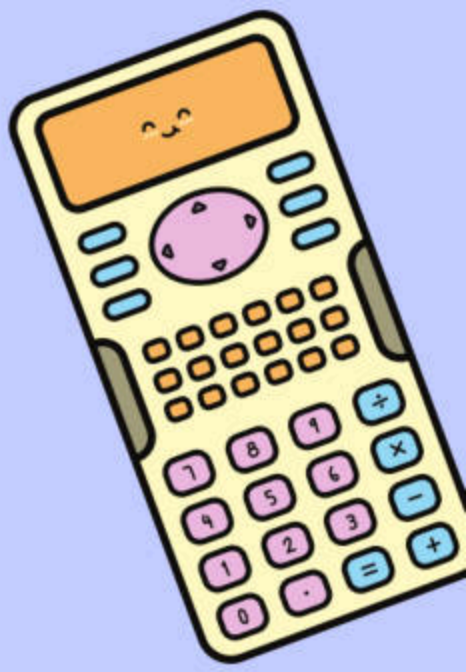
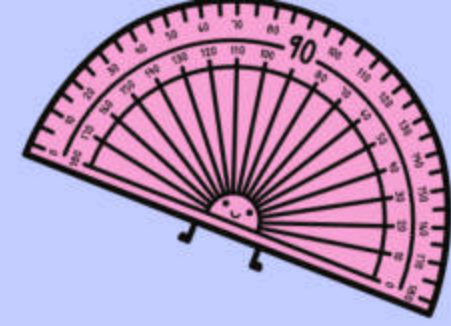
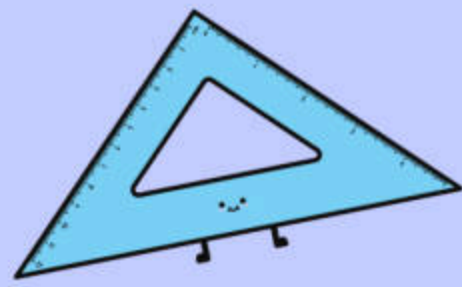
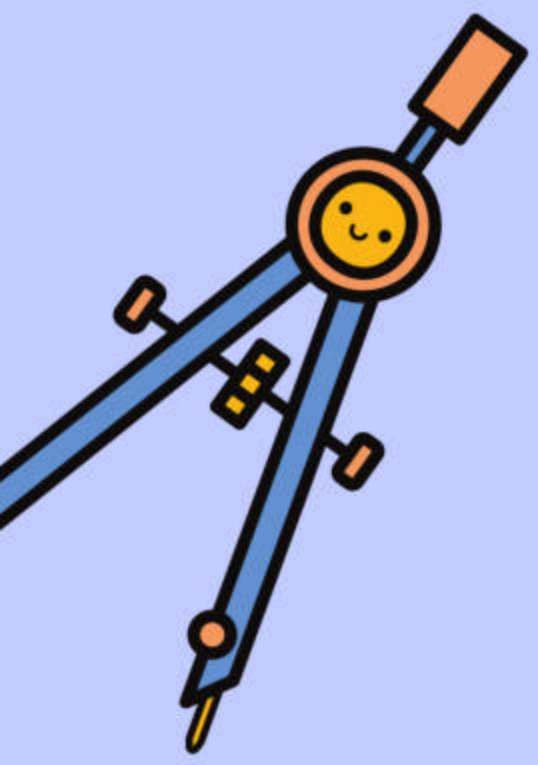
Read the question, choose the measurement, show your working and check if the answer makes sense.



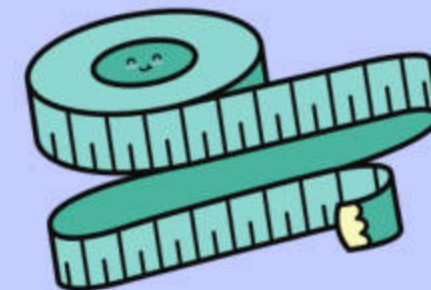
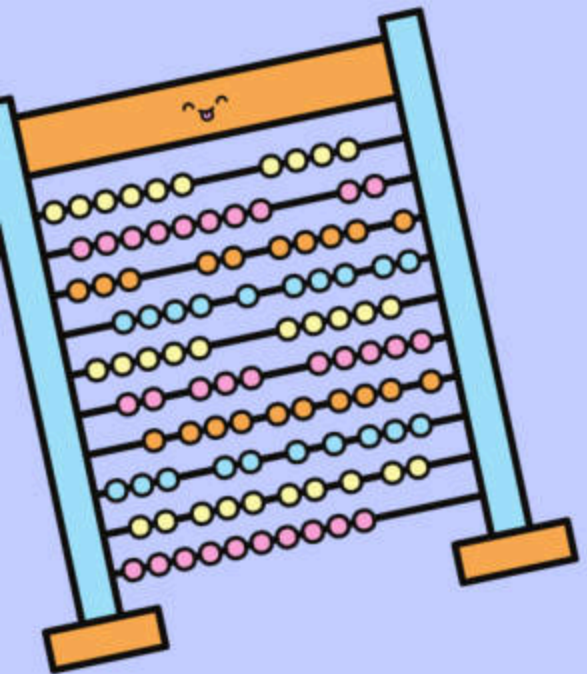
Review

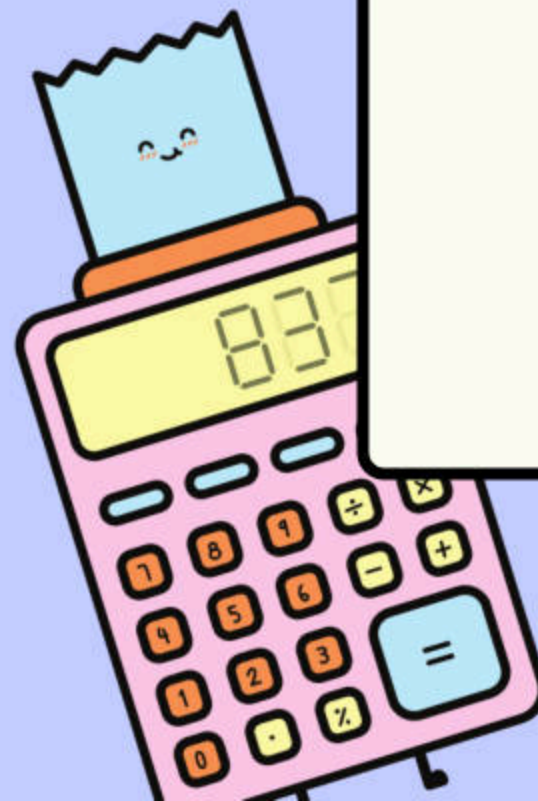
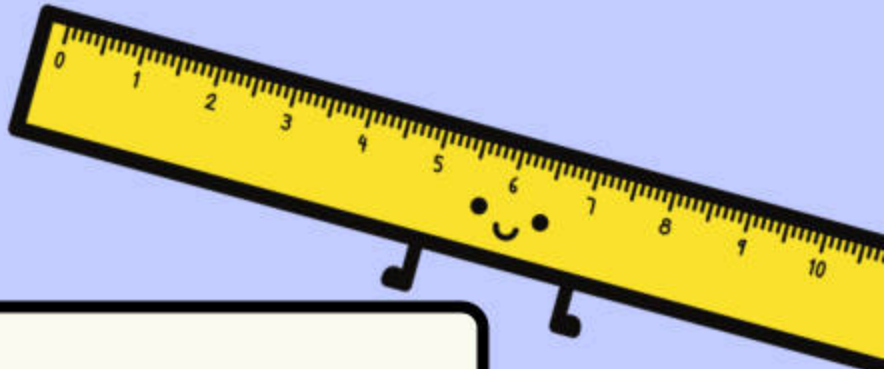
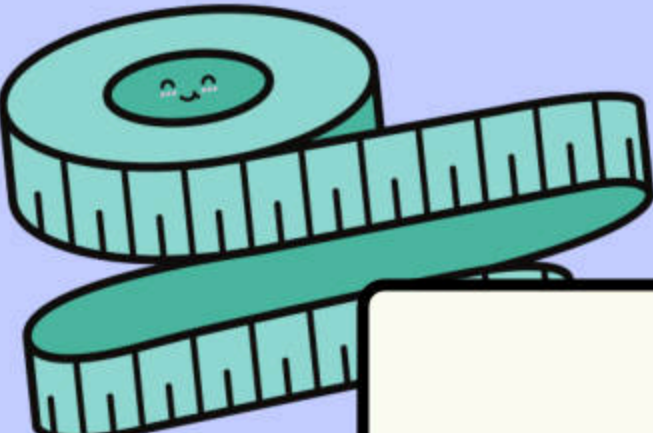
Estimate it.
Measure it.
Record the unit.
Compare and explain your thinking.





Great Work!





Measurement Quiz



Question 1

Question 1

Which unit is best for the length of a pencil?

- A. kilograms
- B. centimetres
- C. litres
- D. metres



Answer 1

Answer 1
B. centimetres



Question 2

Question 2

True or false: A measuring jug is a good tool for measuring capacity.



Answer 2

Answer 2
True.

PREVIEW



Question 3

Question 3

Which tool would you use to measure the mass of an apple?

- A. ruler
- B. tape measure
- C. kitchen scales
- D. measuring jug



Answer 3

Answer 3
C. kitchen scales



Question 4

Question 4

Complete the conversion: 3 m = _____ cm.



Answer 4

Answer 4
300 cm.

PREVIEW



Question 5

Question 5

Order from lightest to heaviest: 900 g, 2 kg, 1500 g.



Answer 5

Answer 5

900 g, 1500 g, 2 kg.



Question 6

Question 6

Which is the better estimate for the capacity of a drink bottle?

- A. 750 mL
- B. 750 kg
- C. 750 cm
- D. 750 m



Answer 6

Answer 6
A. 750 mL.

PREVIEW



Question 7

Question 7

A ribbon is 85 cm long. Another ribbon is 1 m long. Which ribbon is longer?



Answer 7

Answer 7

The 1 m ribbon is longer because $1\text{ m} = 100\text{ cm}$.



Question 8

Question 8

True or false: You should start measuring length from the zero mark on a ruler.



Answer 8

Answer 8
True.



Question 9

Question 9

Complete the conversion: 4 kg = _____ g.



Answer 9

Answer 9
4000 g.

PREVIEW



Question 10

Question 10

A jug has 1 L of water. A cup has 250 mL. How many millilitres are in 1 L?

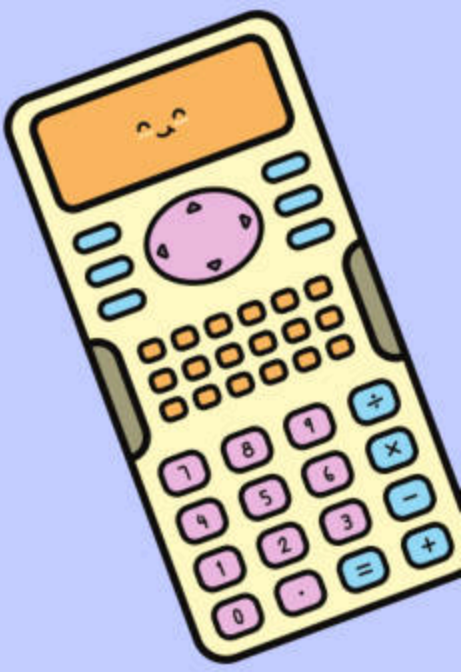
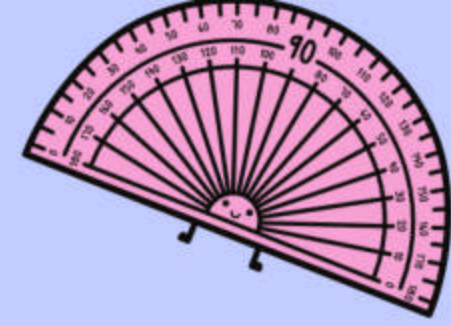
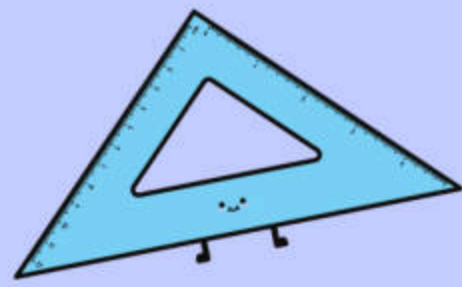
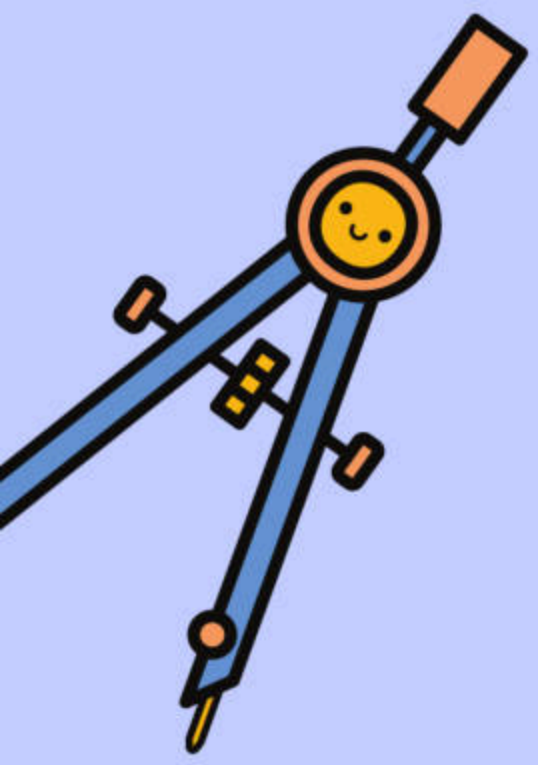


Answer 10

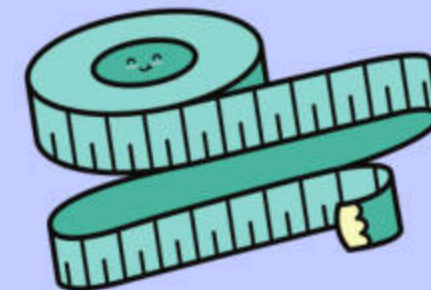
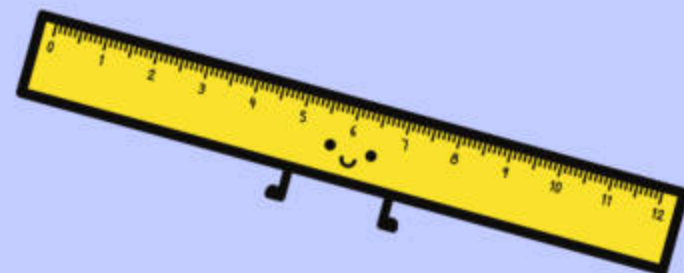
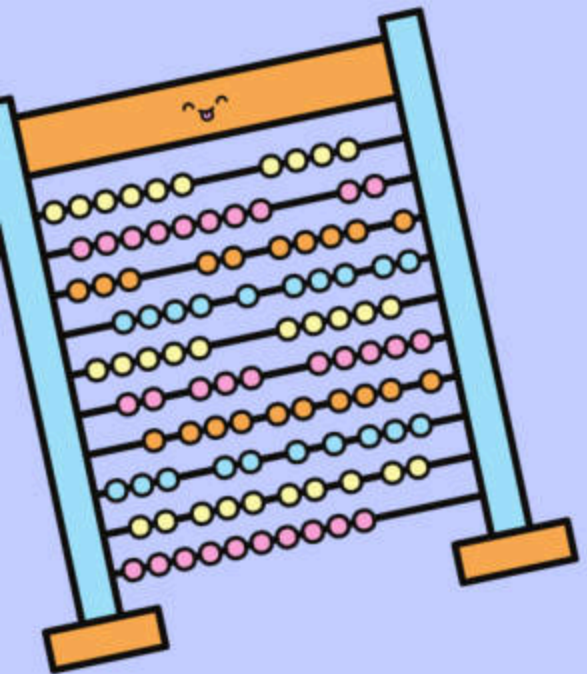
Answer 10
1000 mL.

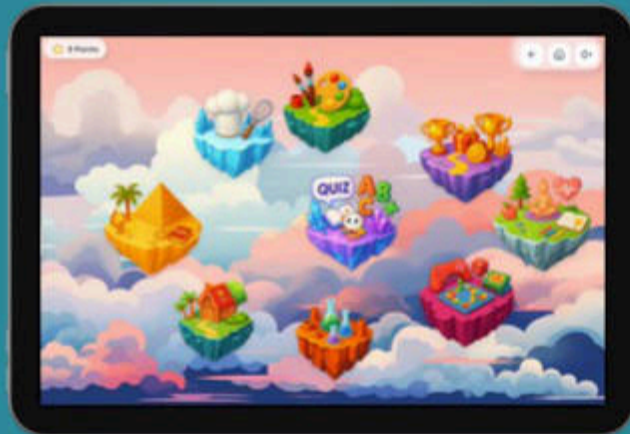
PREVIEW





Well Done!





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Measurement - Year 3

Table of Contents	
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Worksheet 5: Measurement Problem Solvers	
Quiz: Measurement	
Assessment: Measurement Challenge	
Rubric: Measurement Challenge Rubric	



METRIC MEASUREMENT TOOLKIT

LENGTH

mm – tiny thicknesses

cm – small objects

m – rooms and people

km – long distances



Tools: ruler • tape measure • bicycle wheel

MASS

g – light objects

kg – heavy objects



Tools: kitchen scale • balance • bathroom scale

CAPACITY

mL – small amounts

L – larger containers



Tools - measuring spoon • jug • measuring cylinder

Estimate • Choose • Measure • Record

MEASUREMENT MISSION

Roll. Move a card. Answer correctly to stay.

UNITS

TOOL

COMPARE



PREVIEW

UNIT

1

"Best unit for the length of a pencil?"



UNIT

2

"Best unit for the distance between towns?"



UNIT

3

"Best unit for the mass of an apple?"



UNIT

4

"Best unit for water in a bucket?"



TOOL

5

"Tool to measure the length of a desk?"



TOOL

6

"Tool to measure the mass of flour?"



TOOL

7

"Tool to measure 500 mL of milk?"



TOOL

8

"Tool to measure a playground distance?"



COMPARE

9

"Order: 18 cm, 45 cm, 72 cm"



COMPARE

10

"Which is heavier: 800 g or 350 g?"



COMPARE

11

"Which holds more: 900 mL or 500 mL?"



COMPARE

12

"Order: 2 kg, 5 kg, 8 kg"



ESTIMATE • MEASURE • CHECK

1



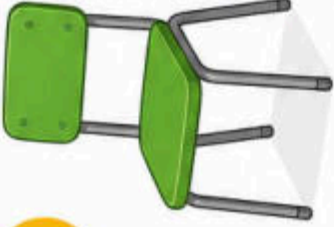
Measure a pencil
in centimetres.

2



Measure a book's
width in centimetres.

3



Measure a chair's
height in centimetres.

4



Measure a desk's
length in centimetres.

5



Find a pencil case's
mass in grams.

6



Find a school bag's
mass in kilograms.

7



Find a water bottle's
capacity in millilitres.

8



Find a bucket's
capacity in litres.



Estimate first.



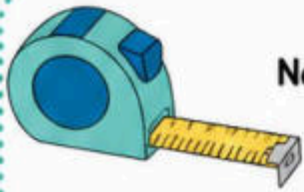
Choose a tool.



Measure.



Record.



Name: _____



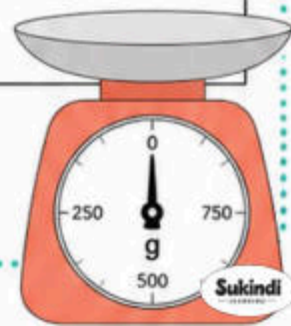
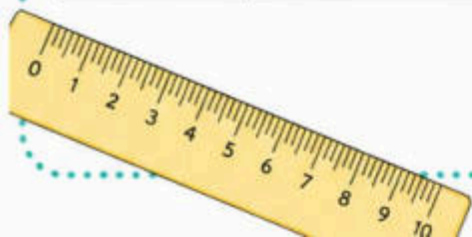
ESTIMATE • MEASURE • CHECK

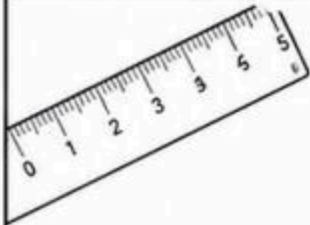


Complete each station. Record the unit with every result.

Station	What I measured	My estimate	Tool	Measured result
1				
2				
3				
4				
5				
6				
7				
8				

PREVIEW





METRIC MATCH-UP



Name: _____

Choose the most sensible unit for each item.

mm

cm

m

km

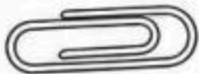
g

kg

mL

L

- 1 length of a paperclip



- 2 length of a pencil



- 3 length of a classroom



- 4 distance to another town



- 5 mass of a grape



- 6 mass of a school bag



- 7 medicine in a spoon



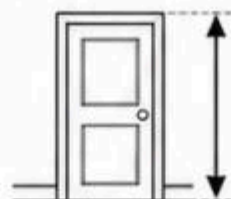
- 8 water in a bath



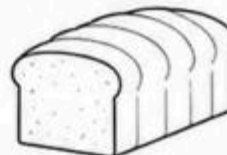
- 9 length of an ant



- 10 height of a doorway



- 11 mass of a loaf of bread



- 12 capacity of a drink bottle



PREVIEW



METRIC MATCH-UP



ANSWERS

Choose the most sensible unit for each item.

mm

cm

m

km

g

kg

mL

L

- 1 length of a paperclip



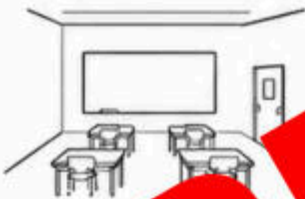
mm

- 2 length of a pencil



cm

- 3 length of a classroom



m

- 4 distance to another town



km

- 5 mass of a grape



g

- 6 mass of a school bag



kg

- 7 medicine in a spoon



mL

- 8 water in a bath



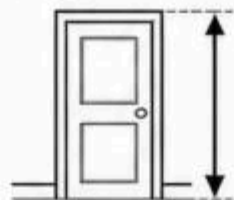
L

- 9 length of an ant



mm

- 10 height of a doorway



m

- 11 mass of a loaf of bread

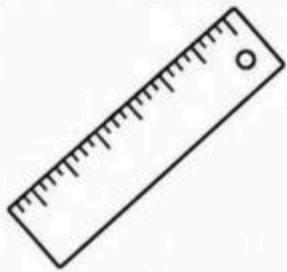


g

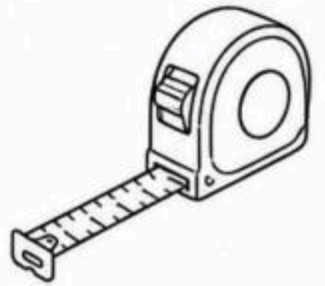
- 12 capacity of a drink bottle



mL



LENGTH LAB



Name: _____

A. Choose mm, cm, m or km.

1. thickness of a coin
2. length of a pencil
3. height of a doorway
4. length of a classroom
5. distance around a playground
6. distance between towns

B. Choose the best tool.

ruler

tape measure

protractor

metre rule

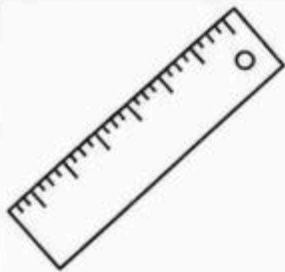
1. length of a table
2. distance around a playground
3. length of a pencil
4. width of a room

C. Write <, > or =.

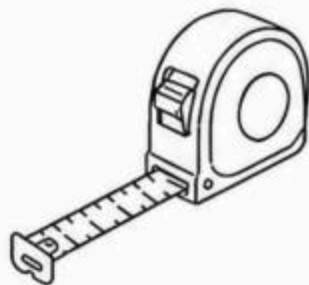
1. 35 cm ____ 72 cm
2. 1 m ____ 1 m
3. 90 cm ____ 40 cm
4. 200 m ____ 500 m

D. Order from shortest to longest.

65 cm, 18 cm, 90 cm, 42 cm



LENGTH LAB



ANSWERS

A. Choose mm, cm, m or km.

1. thickness of a coin
2. length of a pencil
3. height of a doorway
4. length of a classroom
5. distance around a playground
6. distance between towns

mm

cm

m

m

m

km

B. Choose the best tool.

ruler

tape measure

trundle wheel

metre rule

1. length of a whiteboard
2. distance around a playground
3. length of a pencil
4. width of a room

tape measure

trundle wheel

ruler

tape measure

C. Write <, > or =.

1. 35 cm < 72 cm
2. 1 m = 1 m
3. 90 cm > 40 cm
4. 200 m < 500 m

D. Order from shortest to longest.

18 cm, 42 cm, 65 cm, 90 cm

MASS DETECTIVES

Name: _____



A. Circle g or kg.

1.



g kg

4.



g kg

2.



g kg

5.



g kg

3.



g

6.



g kg

B. Write < or =.

1. 45 g ____ 620 g

2. 1 kg ____ 1 kg

3. 6 kg ____ 3 kg

4. 750 g ____ 500 g

C. Order from lightest to heaviest.

900 g, 250 g, 600 g, 400 g

MASS DETECTIVES

ANSWERS



A. Circle g or kg.

1.



g kg

4.



g **kg**

2.



g kg

5.



g **kg**

3.



g

6.



g kg

B. Write < or =.

1. 45 g < 620 g

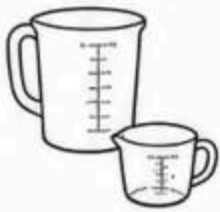
2. 1 kg = 1 kg

3. 6 kg > 3 kg

4. 750 g > 500 g

C. Order from lightest to heaviest.

250 g, 400 g, 600 g, 900 g



CAPACITY COUNTS



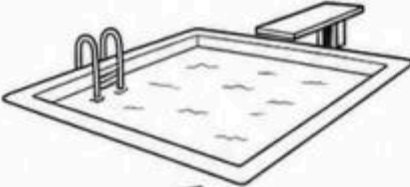
Name: _____

A. Circle mL or L.

1.  spoonful of medicine mL L

2.  drink bottle mL L

3.  bucket mL L

4.  swimming pool mL L

5.  juice box mL L

6.  bath mL L

B. Write <, > or =.

1. 300 mL _____ 650 mL

2. 1 L _____ 1 L

3. 8 L _____ 5 L

4. 900 mL _____ 450 mL

C. Order from least to greatest.

700 mL, 200 mL, 900 mL, 500 mL



CAPACITY COUNTS



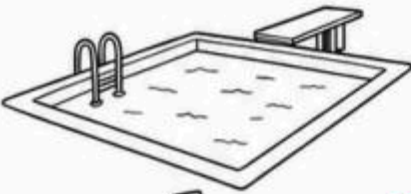
ANSWERS

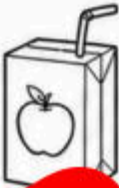
A. Circle mL or L.

1.  spoonful of medicine mL L

2.  drink bottle mL L

3.  bucket mL L

4.  swimming pool mL L

5.  juice box mL L

6.  bath mL L

B. Write <, > or =.

1. 300 mL < 650 mL

2. 1 L = 1 L

3. 8 L > 5 L

4. 900 mL > 450 mL

C. Order from least to greatest.

200 mL, 500 mL, 700 mL, 900 mL



MEASUREMENT PROBLEM SOLVERS



Name: _____

Show your working. Include the unit in every answer.

- 1 Mia has 25 cm of ribbon. She adds 18 cm. How much ribbon does she have now?

- 2 A jug holds 800 mL. Sam pours out 250 mL. How much remains?

- 3 A crate has 6 kg of apples. Add 3 kg. What is the new mass?

- 4 A 5 cm rope is cut by 30 cm. How long is it now?

- 5 A bucket holds 4 L. Add 2 L. How much is there?

- 6 Two parcels weigh 500 g and 300 g. What is their total mass?





MEASUREMENT PROBLEM SOLVERS



ANSWERS

Show your working. Include the unit in every answer.

- 1 Mia has 25 cm of ribbon. She adds 18 cm. How much ribbon does she have now?

$$25 + 18 = 43 \text{ cm}$$

- 2 A jug holds 800 mL. Sam pours out 250 mL. How much remains?

$$800 - 250 = 550 \text{ mL}$$

- 3 A crate has 6 kg of apples. Add 3 kg. What is the new mass?

$$6 + 3 = 9 \text{ kg}$$

- 4 A 95 cm rope is cut by 30 cm. How long is it now?

$$95 - 30 = 65 \text{ cm}$$

- 5 A bucket holds 4 L. Add 2 L. How much is there?

$$4 + 2 = 6 \text{ L}$$

- 6 Two parcels weigh 500 g and 300 g. What is their total mass?

$$500 + 300 = 800 \text{ g}$$



MEASUREMENT CHALLENGE

Page 1 of 2

Name: _____

Date: _____

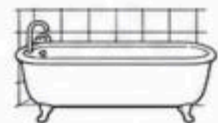
1. Explain.

Why do we use standard units?



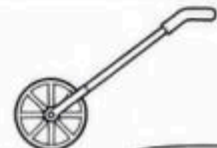
2. Choose the best unit.

- a length of a paperclip ☐ mm ☐ cm
- b length of a classroom ☐ m ☐ km
- c mass of an apple ☐ g ☐ kg
- d mass of a school bag ☐ g ☐ kg
- e capacity of a drink bottle ☐ mL ☐ L
- f capacity of a bath ☐ mL ☐ L



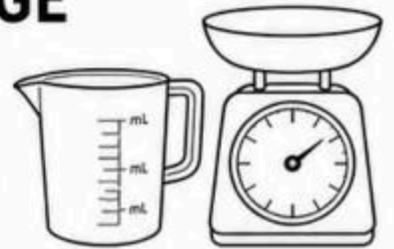
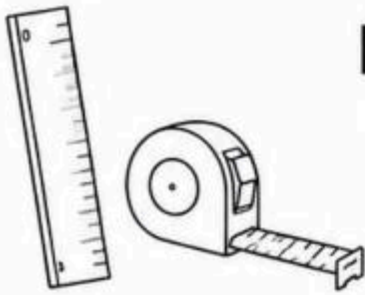
3. Choose the best tool.

- a length of a pencil ☐ ruler ☐ tape measure
- b distance around a playground ☐ ruler ☐ trundle wheel
- c mass of flour ☐ kitchen scale ☐ measuring jug
- d milk for a recipe ☐ measuring jug ☐ bathroom scale



MEASUREMENT CHALLENGE

Page 2 of 2



Name: _____

4. Write $<$, $>$ or $=$.

42 cm ____ 78 cm

2 kg ____ 2 kg

900 mL ____ 600 mL

4 L ____ 7 L

5. Order from least to greatest.

a 90 cm, 25 cm, 60 cm, 40 cm

b 800 g, 300 g, 500 g, 100 g

6. Solve. Show your working.

a A rope is 70 cm long. A 20 cm piece is cut off. What is the new length?

b A bottle holds 900 mL. Pour out 300 mL. How much remains?

c Two bags have masses of 3 kg and 4 kg. What is the total mass?

MEASUREMENT CHALLENGE

Page 1 of 2

ANSWERS _____

Date: _____

1. Explain.

Why do we use standard units?

Standard units let people measure

and compare in the same way.



2. Choose the best unit.

a length of a paperclip

☒ mm

☐ cm

b length of a classroom

☒ m

☐ km

c mass of an apple

☒ g

☐ kg

d mass of a school bag

☐ g

☒ kg

e capacity of a drink bottle

☒ mL

☐ L

f capacity of a bath

☐ mL

☒ L



3. Choose the best tool.

a length of a pencil

☒ ruler

☐ tape measure

b distance around a playground

☐ ruler

☒ trundle wheel

c mass of flour

☒ kitchen scale

☐ measuring jug

d milk for a recipe

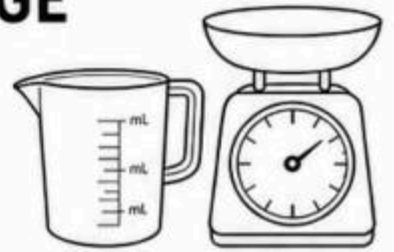
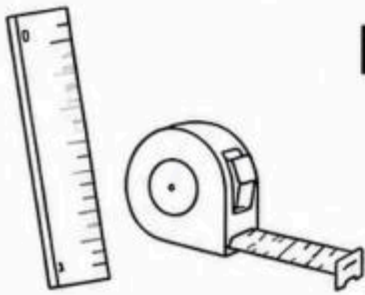
☒ measuring jug

☐ bathroom scale



MEASUREMENT CHALLENGE

Page 2 of 2



ANSWERS

4. Write $<$, $>$ or $=$.

42 cm $<$ 78 cm

2 kg $=$ 2 kg

900 mL $>$ 600 mL

4 L $<$ 7 L

5. Order from least to greatest.

a 90 cm, 25 cm, 60 cm, 40 cm

25 cm, 40 cm, 60 cm, 90 cm

b 800 g, 300 g, 500 g, 100 g

100 g, 300 g, 500 g, 800 g

6. Solve. Show your working.

a A rope is 70 cm long. Add 20 cm. What is the new length?

$$70 + 20 = 90 \text{ cm}$$

b A bottle holds 900 mL. Pour out 300 mL. How much remains?

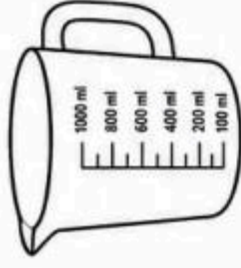
$$900 - 300 = 600 \text{ mL}$$

c Two bags have masses of 3 kg and 4 kg. What is the total mass?

$$3 + 4 = 7 \text{ kg}$$



MEASUREMENT CHALLENGE RUBRIC



Student: _____

Teacher feedback: _____

Criteria	BEGINNING	DEVELOPING	ACHIEVING	CONFIDENT	EXCEEDING
Chooses sensible units	Needs support	Sometimes suitable	Usually suitable	Consistently suitable	Justifies choices
Selects tools	Needs support	Matches some tools	Matches most tools	Matches all tools	Explains efficiency
Measures accurately	Not yet accurate	Some accurate steps	Accurate with prompts	Accurate independently	Checks and refines
Compares and orders	Needs support	Compares some	Compares some units	Orders accurately	Explains patterns
Explains reasoning	Unclear	Partial explanation	Clear simple explanation	Uses precise unit language	Connects estimate and result

Measurement

Why Do We Measure?

- Measurement tells us how long, heavy or full something is.
- Standard units help everyone describe the same amount.
- We can estimate first, then measure to check.



Three Measurement Families

LENGTH — how long, tall or far

MASS — how heavy

CAPACITY — how much a container can hold

Ask: What am I measuring? Then choose the family.



Length Units

millimetres (mm) – tiny lengths and thicknesses

centimetres (cm) – small objects

metres (m) – rooms and playgrounds

kilometres (km) – long distances between places



Length Tools

Ruler — short, straight objects

Tape measure — curved, tall or longer objects

Trundle wheel — longer ground distance

Choose a tool to measure the distance.



Measure Length Accurately

1. Line up the object's end with zero.
2. Keep the ruler straight and still.
3. Look directly above the end point.
4. Read the scale and record the measurement.
5. Measure again to see if the results are surprising.



Mass Units

grams (g) — light objects, such as a pencil or paper

kilograms (kg) — heavier objects, such as a school bag

Always write the number and its unit together. 10 g or 3 kg.



Mass Tools

Kitchen scales — food and classroom objects

Balance scales — compare two masses

Bathroom scales — people and heavier objects

Place the object carefully and check that the scale starts at zero.



Capacity Units

millilitres (mL) – small amounts of liquid

litres (L) – larger containers

Examples:

medicine spoon – mL

drink bottle – L

bucket or bath – L



Capacity Tools

Measuring spoon – very small amounts

Measuring jug – everyday liquid measures

Measuring cylinder – careful, precise measures

Read the scale at eye level on a flat surface.



Estimate, Measure, Check

ESTIMATE — make a sensible prediction.

MEASURE — choose a suitable unit and tool.

CHECK — compare the result with your estimate.

A close estimate shows strong measurement sense.



Choose a Sensible Unit

paperclip length — mm or cm

classroom length — m

distance to another town — km

apple mass — g

school bag mass — kg

drinking glass capacity — mL

bucket capacity — L



Compare and Order

Compare measurements written in the same unit.

$<$ means less than $>$ means greater than $=$ means equal to

Example: 45 cm

Order by reading each number carefully: 25 g, 40 g, 60 g, 90 g.



Solve Measurement Problems

1. Read the question and underline the unit.
2. Decide whether to add, subtract, compare or order.
3. Work with matching units.
4. Show your calculation.
5. Write the unit in the answer and check it makes sense.

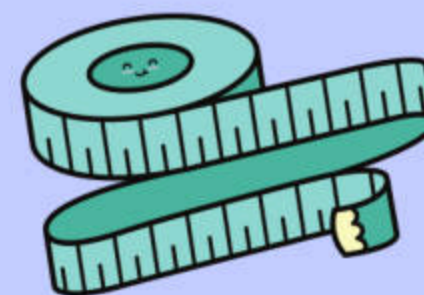
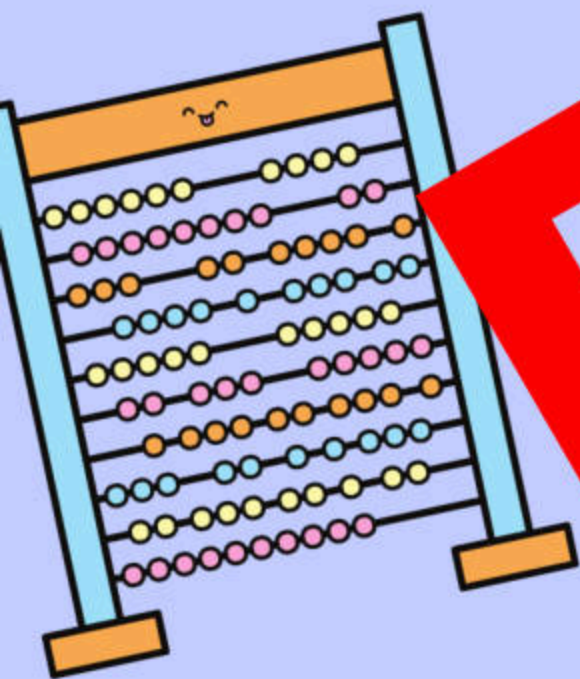
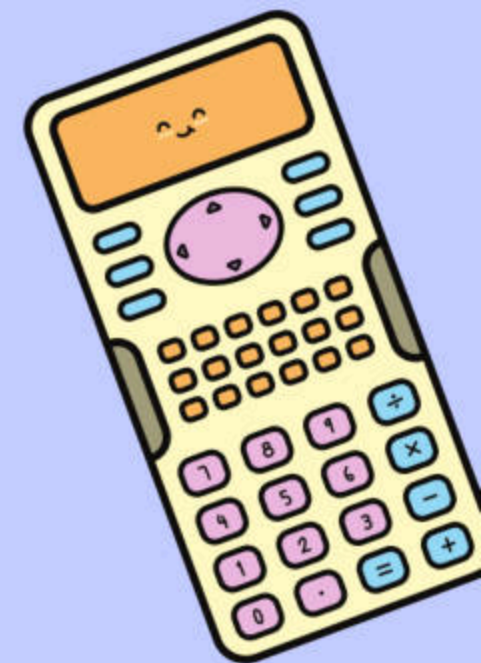
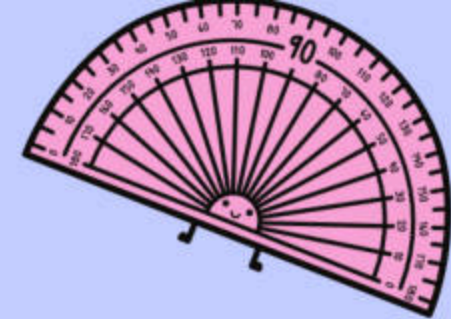
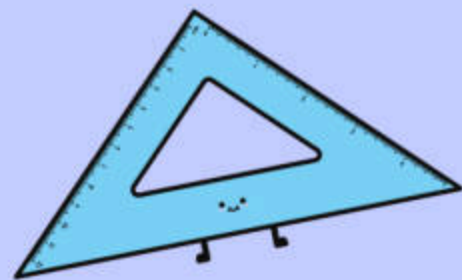
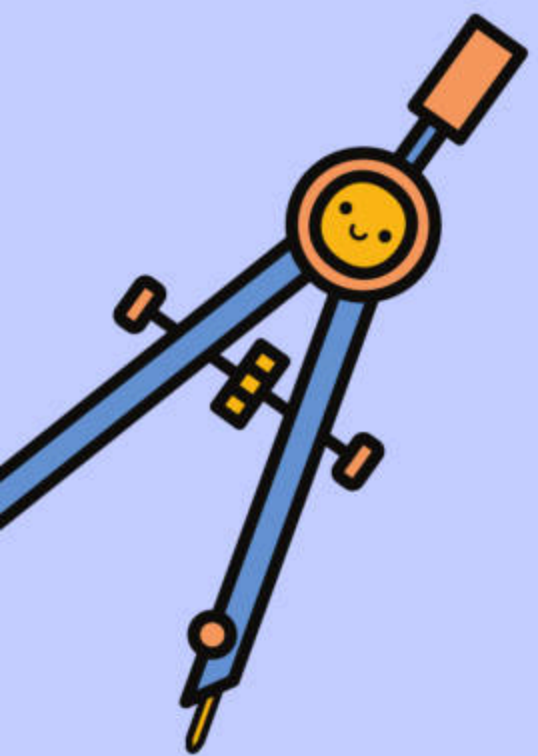


Quick Measurement Check

1. Which unit suits the length of your desk?
2. Which tool would measure the playground boundary?
3. Is 650 mL less than or greater than 800 mL?
4. A 70 cm rope has 20 cm added to it. What is its new length?

Explain how you know.





Well Done!
Measurement Ready!

Measurement Quiz

Question One

Which unit is most sensible for the length of a pen?

- A. millimetres
- B. centimetres
- C. metres
- D. kilometres



Answer One

B. centimetres

A pencil is a small object, so centimetres are a sensible unit.



Question Two

True or false?

Kilometres are a sensible unit for the width of a book.



Answer Two

False.

Centimetres are a sensible unit for the width of a book.



Question Three

Short answer

Which tool is best for measuring the distance around a playground?



Answer Three

A trundle wheel.

It is designed for measuring longer distances along the ground.



Question Four

Which unit is most sensible for the mass of an apple?

- A. grams
- B. kilograms
- C. millilitres
- D. litres



Answer Four

A. grams

An apple is light enough to measure in grams.



Question Five

True or false?

750 mL is less than 900 mL.



Answer Five

True.

The units match, and 750 is less than 900.



Question Six

Short answer

Order these lengths from least to greatest.

4 m, 1 m, 3 m, 2 m



Answer Six

1 m, 2 m, 3 m, 4 m

All measurements use metres. Compare the numbers.



Question Seven

Which tool is best for measuring milk for a recipe?

- A. ruler
- B. bathroom scales
- C. measuring jug
- D. trundle wheel



Answer Seven

C. measuring jug

A measuring jug measures liquid capacity.



Question Eight

True or false?

3 kg is greater than 2 kg.



Answer Eight

True.

The units match, and 3 is greater than 2.



Question Nine

Short answer

A ribbon is 90 cm long. You cut off 25 cm. How much ribbon remains?



Answer Nine

65 cm

$90 - 25 = 65$, so 65 cm remain



Question Ten

Why do we use standard units?

- A. To make tools heavier
- B. To compare measurements fairly
- C. To avoid writing numbers
- D. To make every object equal

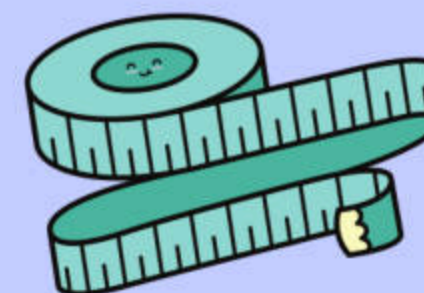
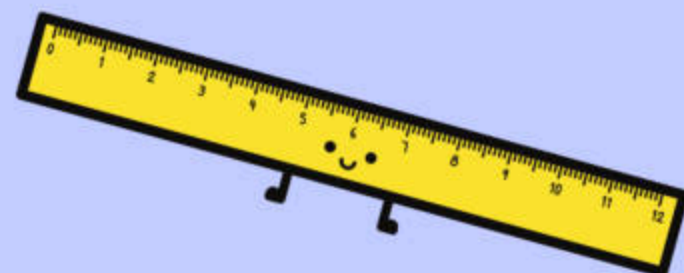
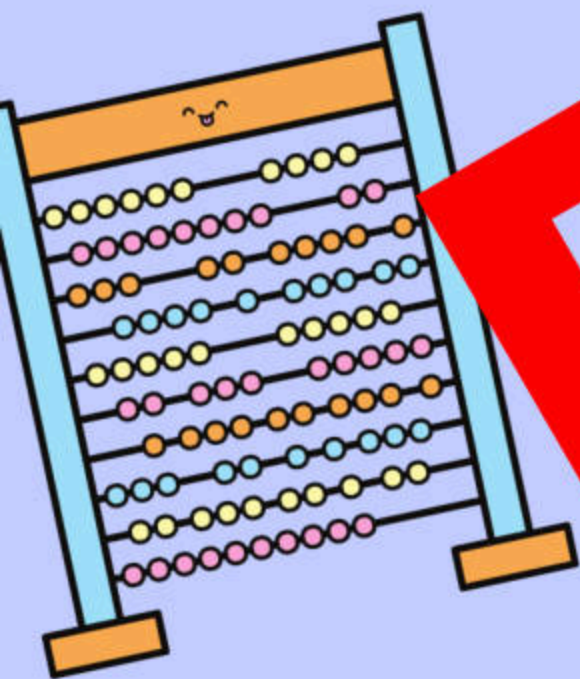
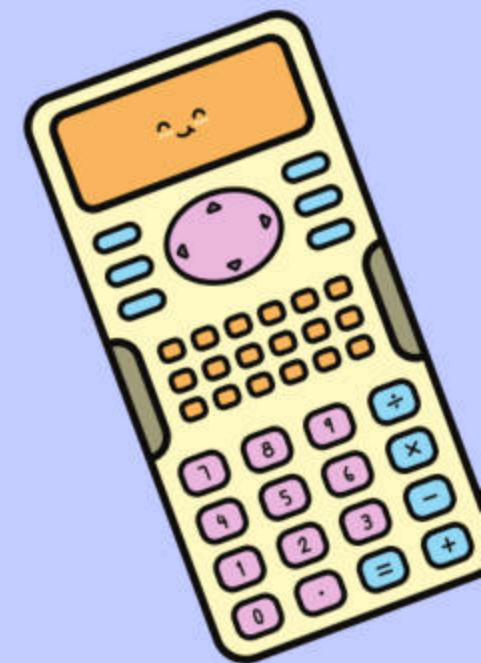
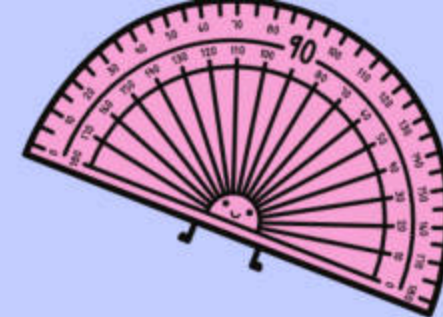
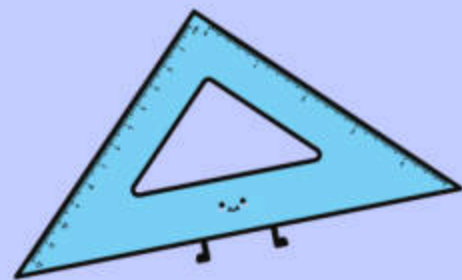
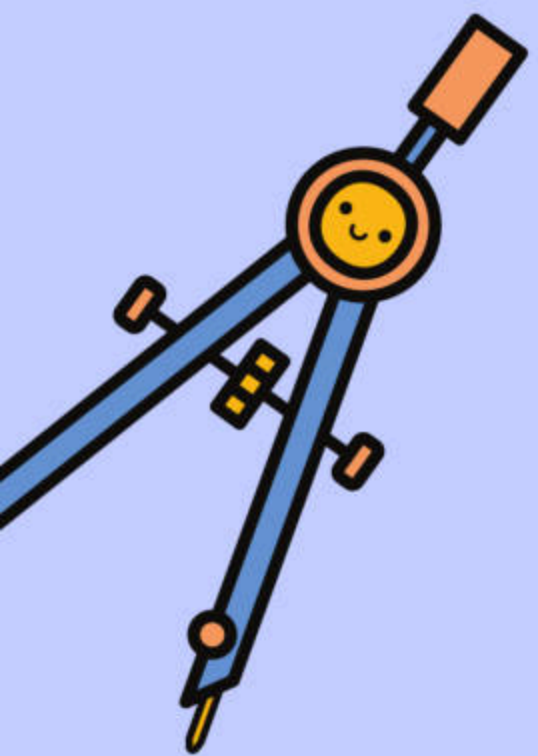


Answer Ten

B. To compare measurements fairly

Standard units let people measure and compare in the same way.





Well Done!
Great Measuring!