Mathletics

Series C Teacher

Measurement

Series C – Measurement

Contents

Series Author:

Rachel Flenley

Series C – Measurement

Page 1

1 Answers will vary.

2 Answers will vary.
Students may suggest giving a precise fractional answer, rounding to the nearest whole number or using a term such as 'a bit.'

Page 2

What to do:

Longer than the string: 4, 3

Shorter than the string: 1, 2

Same length as the string: 5

1a <

b >

c >

d <

Page 3

1a–e Answers will vary.

Page 4

1a 2 cm

b 9 cm

c 5 cm

2 Checkmark next to 6 cm hand.

Page 5

What to do:

Observe students.

What to do next:

a, b Answers will vary

Page 6

What to do:

Answers will vary.

What to do next:

Observe students.

Page 7

What to do:

Observe students.

What to do next:

Answers will vary.

Page 8

What to do:

a, b Answers will vary

What to do next:

Answers will vary.

Page 9

What to do:

A trundle wheel has a circumference of 1 m.

What to do next:

a Answers will vary.

b The measurements are the same.

c Answers will vary.

Page 10

What to do:

a, b Answers will vary

What to do next:

Answers will vary.

Page 11

What to do:

a–d Observe students.

What to do next:

Answers will vary and may include options such as:

5 × 20 cm = 1 m

5 × 10 cm + 1 × 50 cm = 1 m

1 × 50 cm + 5 × 10 cm = 1 m

1 × 50 cm + 1 × 20 cm + 3 × 10 cm = 1 m

4 × 20 cm + 2 × 10 cm = 1 m

4 × 10 cm + 3 × 20 cm = 1 m

Try:

Answers will vary.

Page 12

What to do:

a 8 m

b 27 cm

c 50 m

d 10 cm

e yes, 20 cm

Page 13

1 Mass

2 Students should colour:
heavier than
a bit more
heavy
about the same
exactly
weigh
more mass than
less mass than
different
lighter than

Page 14

What to do:

Answers will vary.

Page 15

What to do:

a–f Answers will vary.

What to do next:

Answers will vary and may look like:
A ..... has more mass than .....

Page 16

What to do:

a–c Answers will vary.

Page 17

What to do:

a–e Answers will vary.

What to do next:

Observe students.

Page 18

What to do:

Answers will vary.; <; Answers will vary.; <; Answers will vary.

Answers will vary.

What to do next:

Answers will vary.

Page 19

What to do:

a, b Answers will vary

What to do next:

Answers will vary.

Series C – Measurement

Page 20

1a–d Answers will vary.

2 Answers will vary.

3 Answers will vary.

Page 21

What to do:

a They balance each other on the scale.

b ✓ yes

c They still have the same mass. Do students understand the conservation of mass? Shape does not affect mass.

d ✓ yes

What to do next:

Answers will vary.

Page 22

1 28 kg

2 40 g

3 12 kg

4 4

5 yes

Page 23

Answers will vary and may include:

1a empty

b full

c a little full/$\frac{1}{4}$ full/$\frac{1}{3}$ full

d nearly full/$\frac{3}{4}$ full

e nearly full

f nearly empty

2 Answers will vary. Container would have a capacity of 1.25 l.

Page 24

What to do:

a–c Answers will vary.

Page 25

What to do:

a recipes/cooking

b Observe students.

What to do next:

a The capacity will have decreased by 2 markers.

b Answers will vary depending on the size of bottle used.

c Answers will vary. Students may say, 'Pour out 3 cups …'.

Page 26

a Answers will vary.

b Answers will vary.

Page 27

What to do:

a–c Answers will vary

What to do next:

Answers will vary.

Page 28

What to do:

Answers will vary.

What to do next:

a Answers will vary.

b Double the answer in question a.

Page 29

What to do:

a–d Answers will vary.

What to do next:

Answers will vary.

Page 30

1a 300 ml

b 700 ml

c 400 ml

2a 100 ml

b 800 ml

c 500 ml

Page 31

What to do:

Observe students.

What to do next:

Observe students.

Page 32

1 25 l

2 200 ml

3 7

4 25 ml

5 yes, $\frac{1}{2}$ l more

Page 33

1a 40°C

b 10°C

c 80°C

d 30°C

2a 70°C

b 0°C

c 60°C

d 30°C

Page 34

What to do:

Observe students.

What to do next:

Answers will vary.

Length

Name _____

1 Look at the words below. Colour any words you might use when you measure and talk about length.

longer than

the same as

more mass than

volume

lighter than

a bit more

exactly

shorter than

2 Insert the correct symbol: <, > or =.

a 

b 

c 

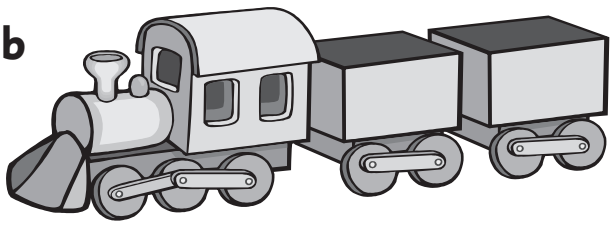
d 

3 How long do you think these toys are? Put a ring around the best estimate for each.

a

5 cm 5 m 50 cm

b



80 cm 80 m 8 cm

Length

Name _____

4 Measure these lines with a ruler to the nearest cm.

a _____

b -

c .....

5 Rule a line that is 13 cm long.

6 How many centimetres in a metre?

7 **a** A young giraffe is 3 m tall, 11 m less than its mother. How tall is its mother?

b If I lay my 5 crayons in a line they measure 25 cm. All the crayons are the same length, so how long is each?

Skills and understandings	Not yet	Kind of	Got it
• Uses a variety of terms to talk about length			
• Uses <, > and = symbols to compare lengths			
• Makes reasonable estimates of lengths (cm, m)			
• Measures straight lines to nearest cm			
• Solves word problems involving m and cm			

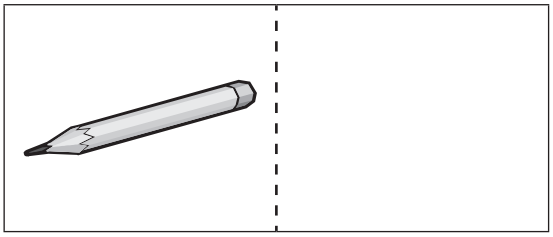
Mass

Name _____

1 Write some words we use when we talk about mass.

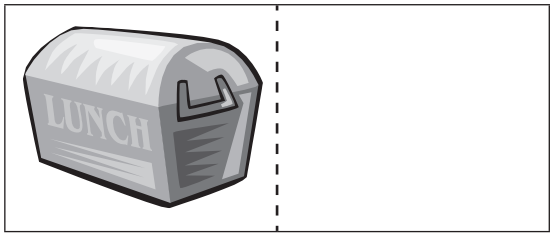
2 Draw something with:

a



less mass

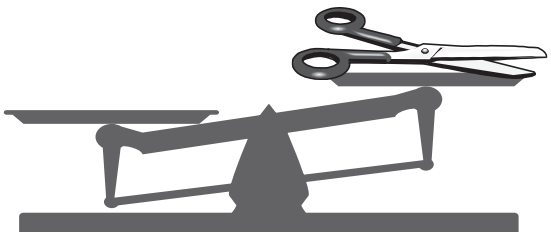
b



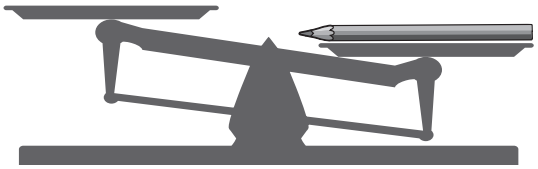
less mass

3 Draw a classroom object on each scale that might make it look like:

a



b



4 What can you think of that is

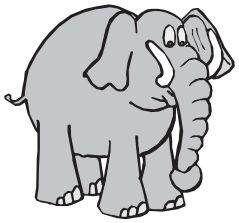
a bigger than an orange but lighter than it?

b smaller than a pillow but heavier than it?

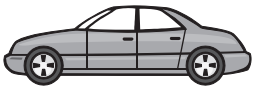
Mass

Name _____

5 Compare the masses. Insert the correct symbol: <, > or =.

a  ☐ 

b  ☐ 

c  ☐ 

d  ☐ 

6 What is the likely mass of these objects? Circle the best guess.

a 

7 kg

700 g

70 kg

b 

4 kg

40 g

40 kg

7 **a** Three children weigh 10 kg, 8 kg and 12 kg. What is their total mass? ☐

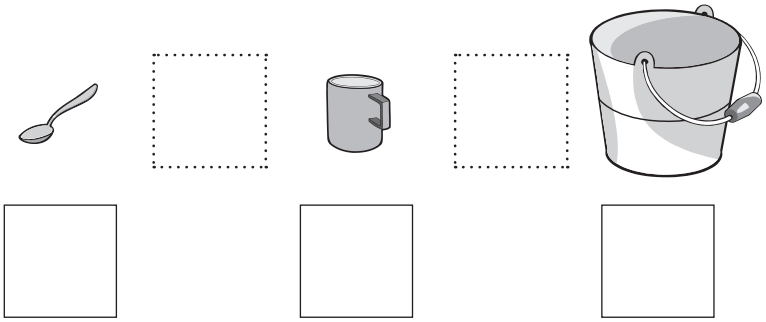
b A box contains ten 5 g packets of sugar. What is the total mass of the sugar? ☐

Skills and understandings	Not yet	Kind of	Got it
• Uses a variety of terms to talk about mass			
• Uses <, > and = symbols to compare mass			
• Chooses appropriate formal units of measurement (kg, g)			
• Solves word problems involving kg and g			

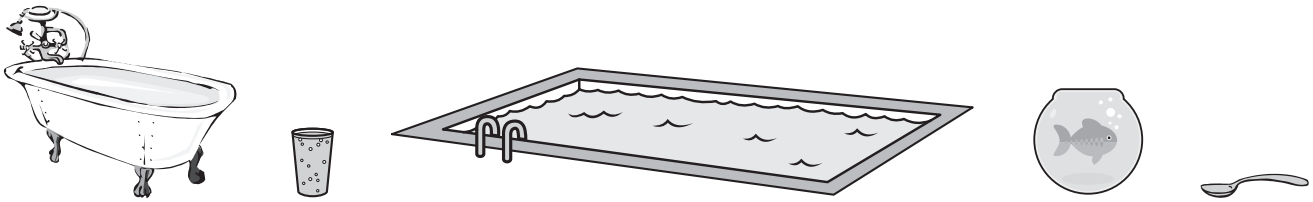
Volume and capacity

Name _____

1 Would you measure the capacity of the following objects in litres or millilitres? Insert < or > between each object.



2 Draw lines to match the capacities to the objects.



250 ml 10 ml 150 l 5 l 100 000 l

3 **a** If I pour 200 ml of water from a full 800 ml jug, how much water is left?

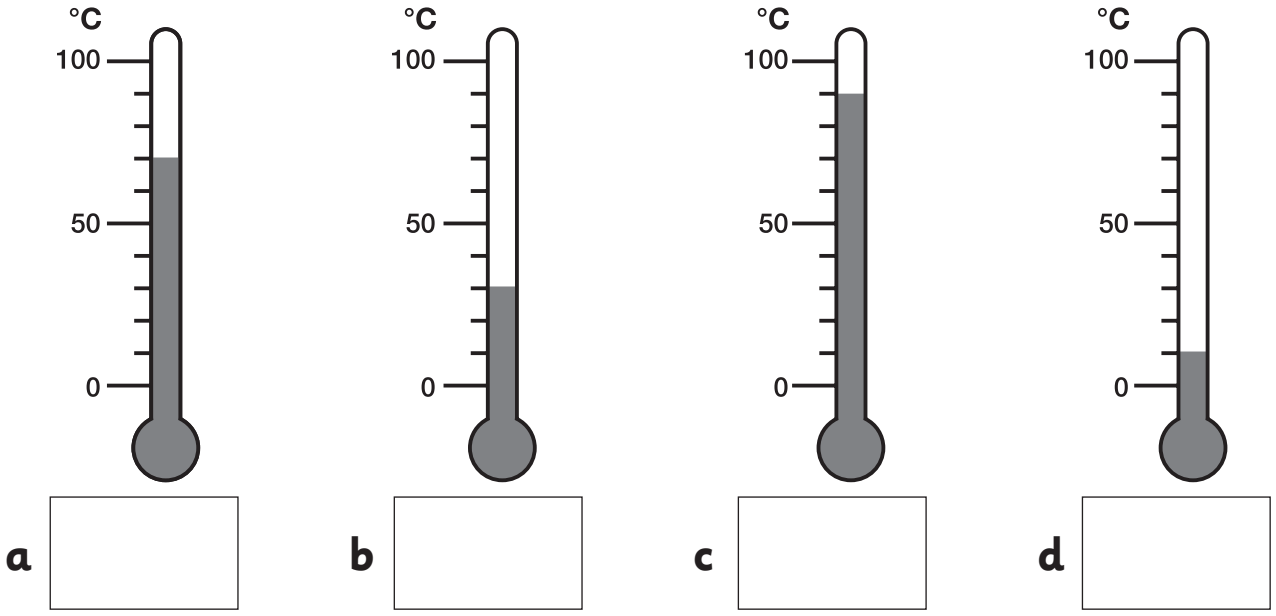
b I have 400 ml of juice. If I share it equally between four children, how much juice would each child have?

Skills and understandings	Not yet	Kind of	Got it
• Uses <, > and = symbols to compare capacity			
• Chooses appropriate formal units of measurement (l, ml)			
• Solves word problems involving ml and l			

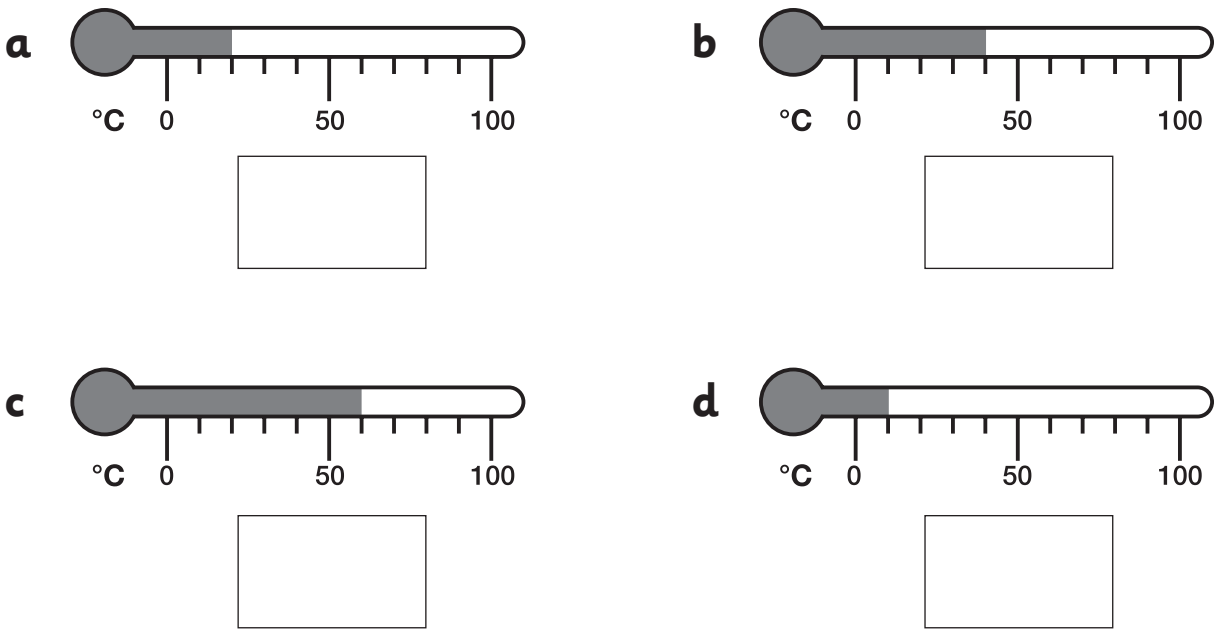
Temperature

Name _____

1 What temperature do these thermometers show?



2 What temperature do these thermometers show?



Skills and understandings	Not yet	Kind of	Got it
• Reads temperatures in degrees Celsius			

Series C – Measurement – Student Progress Record

Name _____ Class _____ Date _____

What went well: _____

_____

_____

_____

What I need to improve: _____

_____

_____

_____

Series C – Measurement – Student Progress Record

Name _____ Class _____ Date _____

What went well: _____

_____

_____

_____

What I need to improve: _____

_____

_____

_____

Series C – Measurement

ASSESSMENT ANSWERS

Pages 3–4

1 Students should colour:
longer than
the same as
a bit more
exactly
shorter than

2a <

b <

c >

d =

3a 5 cm

b 8 cm

4a 10 cm

b 12 cm

c 6 cm

5 Teacher check.

6 100 cm

7a 14 m

b 5 cm

Pages 5–6

1 Answers will vary and may include:
more mass
light
exactly
less mass
lighter than
half
heavy
same
double
heavier
and a bit

2a, b Answers will vary.

3a, b Answers will vary.

4a, b Answers will vary.

5a >

b <

c >

d =

6a 70 kg

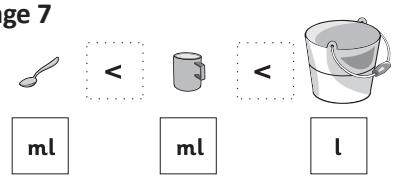
b 4 kg

7a 30 kg

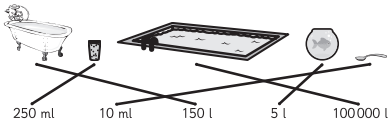
b 50 g

Page 7

1



2



3a 600 ml

b 100 ml

Page 8

1a 70°C

b 30°C

c 90°C

d 10°C

2a 20°C

b 40°C

c 60°C

d 10°C

Series C – Measurement

Topic	Reference	Strand	Objective
Length	2M1	Measurement	Compare and order lengths, mass, volume/capacity and record the results using >, < and =
Length	2M2	Measurement	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
Mass	2M1	Measurement	Compare and order lengths, mass, volume/capacity and record the results using >, < and =
Mass	2M2	Measurement	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
Volume & Capacity	2M1	Measurement	Compare and order lengths, mass, volume/capacity and record the results using >, < and =
Volume & Capacity	2M2	Measurement	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
Temperature	2M2	Measurement	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels