



Colin and Coco's Deliberate Practice

Year 3 Unit 13

Answers

Measurement: Length, Mass and Capacity





Contents

This pack of deliberate practice is designed to be used flexibly to secure the manageable steps of this unit.

The table below indicates which activities are linked to which manageable steps.

	Do It	Challenge It	Play It
Use a ruler to measure lengths in millimetres		1	
Compare the length of two objects	1		
Order lengths			1
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Find the perimeter of a 2-D shapes by measuring		2	
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Do It 1

Insert the symbol $<$, $=$ or $>$

40mm $>$ 14mm

30mm $=$ 3cm

23mm $<$ 43mm

52mm $>$ 5cm

78mm $>$ 72mm

1m $<$ 120cm

19mm $<$ 91mm

200cm $=$ 2m

100mm Measure Challenge

Challenge It 1

Find as many items as possible that are:

- i) Less than 100mm long
- ii) Greater than 100mm long
- iii) Exactly 100mm long

Find 3 items with a total length of 100mm



Order Lengths Game

Play It 1

You need:

0 - 9 dice

To play:

Player 1 rolls the dice three times to create a 3-digit number.

This is their first length in millimetres (mm).

Player 1 now rolls the dice two times to create a 2-digit number.

This is their second length in centimetres (cm).

Player 2 now rolls the dice three times to create a 3-digit number.

This is their length in millimetres (mm)

If this length can be placed between player 1's lengths then player 2 scores one point.

Player 2 now rolls the dice to create two lengths and player 1 tries to create a length that can be placed between them.

Players keep taking turns until one player scores 10 points.

To win:

The winner is the first player to score 10 points.



Do It 2

Calculate:

$$12\text{mm} + 8\text{mm} = 20\text{mm}$$

$$25\text{cm} + 12\text{cm} = 37\text{cm}$$

$$120\text{cm} + 30\text{cm} = 150\text{cm}$$

$$32\text{m} + 22\text{m} = 54\text{m}$$

$$250\text{mm} + 125\text{mm} = 375\text{mm}$$

$$1\text{cm} + 6\text{mm} = 1\text{cm}6\text{mm}$$

$$1\text{cm and } 4\text{mm} + 3\text{cm } 5\text{mm} = 4\text{cm and } 9\text{mm}$$

$$3\text{m and } 25\text{cm} + 2\text{m and } 60\text{cm} = 5\text{m and } 85\text{cm}$$

$$32\text{cm and } 3\text{mm} + 5\text{cm and } 5\text{mm} = 37\text{cm and } 8\text{mm}$$

Draw shapes with a perimeter of 24cm

Challenge It 2

Investigate shapes with:

i) 3 sides

ii) 4 sides

iii) 5 sides

iv) 6 sides



Subtract Lengths Game

Play It 2

You need:

Four 0 - 9 dice

To play:

Players take turns to roll the four dice.

They use the four numbers to create two lengths in centimetres.

They find the difference between the two lengths in centimetres.

The player with the smallest difference scores one point.

To win:

The winner is the first player to score 10 points.



Do It 3

Insert the symbol $<$, $=$ or $>$

$$423\text{g} \quad (>) \quad 324\text{g}$$

$$800\text{g} \quad (<) \quad 1\text{kg}$$

$$750\text{g} \quad (>) \quad \frac{1}{2} \text{ kg}$$

$$250\text{g} \quad (=) \quad \frac{1}{4} \text{ kg}$$

Put the masses in order from lightest to heaviest

600g, 620g, 62g, 602g

62g, 600g, 602g, 620g

18kg, 8kg, 800g, 80g,

80g, 800g, 8kg, 18kg

4kg, 3kg, 350g, 20kg

350g, 3kg, 4kg, 20kg

$\frac{1}{2}$ kg, 100g, 50g, 300g

50g, 100g, 300g, $\frac{1}{2}$ kg

500g Measure Challenge

Challenge It 3

Find as many items as possible that are:

i) Lighter than 500g

ii) Heavier than 500g

iii) Exactly 500g

Find 3 items with a total mass of 500g



Add and Subtract Mass Game

Play It 3

You need:

1 - 6 Dice

Mass Grid (below)

To play:

Player 1 rolls the dice four times.

The player creates a target mass of ... kg and g.

The player then adds and subtracts any combination of the masses in the grid to get as close to the target.

They score the difference between their mass and the target.

To win:

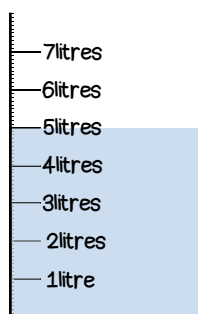
The winner is the player with the lowest total score after 5 goes each.

1kg	100g	50g	10g
2kg	200g	150g	25g
3kg	300g	250g	50g
4kg	400g	350g	75g

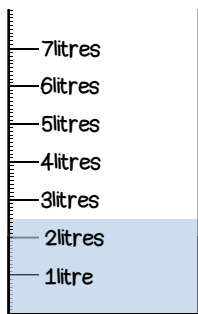


How much is in each container?

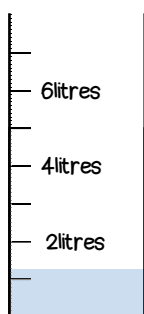
Insert the symbol $<$, $=$ or $>$



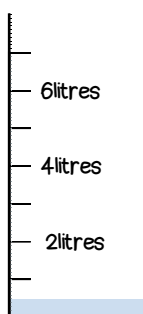
5 litres



$2\frac{1}{2}$ litres



$1\frac{1}{4}$ litre



$\frac{1}{2}$ litre
or 500 ml

750ml $>$ 570ml

130ml $<$ 1 litre

250g $<$ $\frac{1}{2}$ litre

500ml $=$ $\frac{1}{2}$ litre

Measures Challenge

Challenge It 4

Find two items ...

One is twice long as the other.

One is three times as heavy as the other.

One holds four times as much liquid as the other.



Add and Subtract Capacity Game

Play It 4

You need:

1 - 6 Dice

Capacity Grid (below)

To play:

Player 1 rolls the dice four times.

The player creates a capacity of ... litre and ml

The player then adds and subtracts any combinations of the capacities in the grid to get as close to the target.

They score the difference between their capacity and the target.

To win:

The winner is the player with the lowest total score after 5 goes each.

1 litre	100ml	$\frac{1}{4}$ litre	20ml
2 litres	200ml	$\frac{1}{2}$ litre	25ml
3 litres	300ml	$\frac{3}{4}$ litre	50ml
4 litres	400ml	10ml	75ml