

# MESSAGE FOR PARENTS



From now on the maths slides will look at the key skills that children need around a topic – this week the topic is measure. The skills go right from the beginning of introducing that topic to Year 6 challenges so don't expect your child to do everything on here (and frankly they won't be able to as I got a bit carried away!). The idea is that they can test themselves on a skill (the questions for everyone) and then do some more work on it if they need to (or just like the look of the activities). There are a range of activities for each skill – I have put in some practical and movement based activities for those of you who are struggling to get your child to sit and work. When they are happy they can do that skill they can move on to the next one. Different skills are on different coloured slides to make it easier to navigate. I hope this also means that if you have more than one child they can to some extent work together on the slides rather than all be doing different things. The skills do get progressively harder as you go through the slides.

There is no requirement to print off the work, answers can be written in books or pointed to on the screen. And you don't need to do all the work at once – it is meant to last all week. Just work your normal time on maths per day. There are answers at the end of each skill where relevant. Dr. Baker.

# INSTRUCTIONS FOR CHILDREN



First read the introduction to this week's theme or get someone to read it to you.

Then try the "Questions for Everyone" for Skill 1 and mark your answers. Instructions on what to do next are on the answer slide and continue throughout the presentation.

These slides are for the whole week but even then you don't have to do all the activities. Just make sure you do some each day.



**WATER, WATER  
EVERYWHERE**

**BUT HOW DO WE MEASURE IT?**



# THIS WEEKS THEME: MEASURE

The topic for this week is Water, Water, Everywhere but how do we measure water?



Do you know any ways of measuring things already?

Do you think we could use them to measure water?

If so, how? If not, why not?



Have a quick think about these questions, then have a look at this week's work on measure. We will come back to some possible answers about how we measure water at the very end.





# **SKILL 1 COMPARING MEASURES**





# SKILL 1 QUESTIONS FOR EVERYONE

See if you can answer these questions for everyone. The answers are on the next slide:



1. Look at the pictures above. Copy and complete these sentences to make them true: Cup \_\_\_\_ is full.

Cup \_\_\_\_ has more than Cup \_\_\_\_.

Cup \_\_\_\_ is half full.

Cup \_\_\_\_ has less than Cup \_\_\_\_

2. Copy the sentences and fill in the missing words:

A snail is \_\_\_\_\_ than a leopard.  
(taller/shorter)

A worm is \_\_\_\_\_ than a snake.  
(longer/shorter)

A car is \_\_\_\_\_ than a baby.  
(heavier/lighter).

# SKILL 1 ANSWERS FOR EVERYONE

1. Cup B is full.

Cup A has more than Cup C **or** Cup B has more than Cup A/Cup C.

Cup A is half full.

Cup C has less than Cup A/Cup B **or** Cup A has less than Cup B

2. A snail is shorter than a leopard.

A worm is shorter than a snake.

A car is heavier than a baby.

If you found these questions easy move on to Skill 2 Questions for Everyone (orange slides).

If you found them hard or just like the look of the activities do the Skill 1 activities on the blue slides.

# SKILL 1

## LENGTH/ HEIGHT

Watch Week 5 Lesson 1 at:  
[https://whiterosemaths.com/  
homelearning/year-1/](https://whiterosemaths.com/homelearning/year-1/)

Circle the correct word

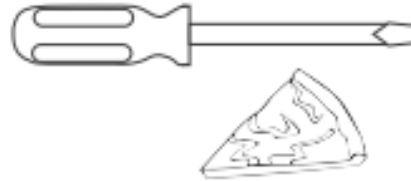
The key is \_\_\_\_\_ than the paper plane.

longer      shorter



The screwdriver is \_\_\_\_\_ than the pizza part.

longer      shorter



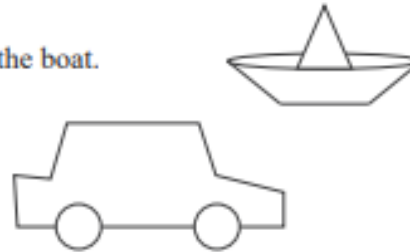
The hand is \_\_\_\_\_ than the ice-cream.

longer      shorter



The car is \_\_\_\_\_ than the boat.

longer      shorter

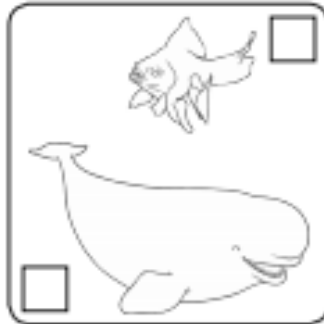
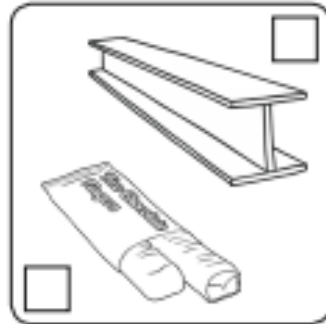
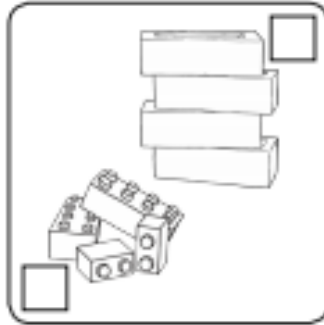
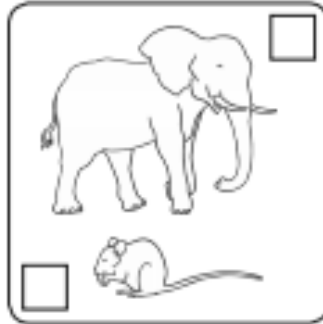
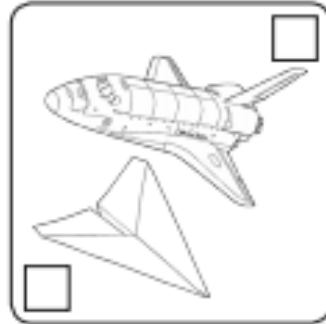




# SKILL 1 MASS/ WEIGHT

Watch Week 5 Lesson 4 at  
[https://whiterosemaths.com/  
homelearning/year-1/](https://whiterosemaths.com/homelearning/year-1/)

Tick the object that is heaviest.



# SKILL 1

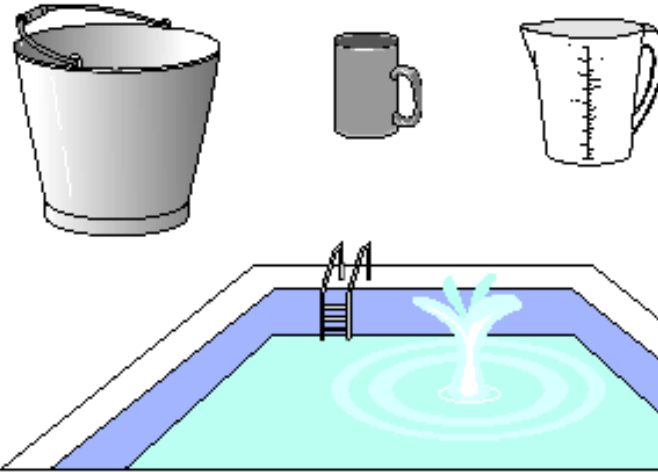
## CAPACITY/ VOLUME

Watch Week 6 Lesson 3 at  
<https://whiterosemaths.com/homelearning/year-1/>

Name \_\_\_\_\_

### Capacity

1. Number the containers from smallest to largest.



2. Join the labels to the right jug.



full

empty

nearly empty

half full

nearly full

# SKILL 1 PRACTICAL ACTIVITIES

Find some objects around your house or on your desk. Arrange them in a line from lightest to heaviest. Now arrange them in a line from shortest to longest. Finally arrange them in a line from shortest to tallest. Are all your lines the same? Is the longest or shortest thing always the heaviest? If not, why do you think this is?

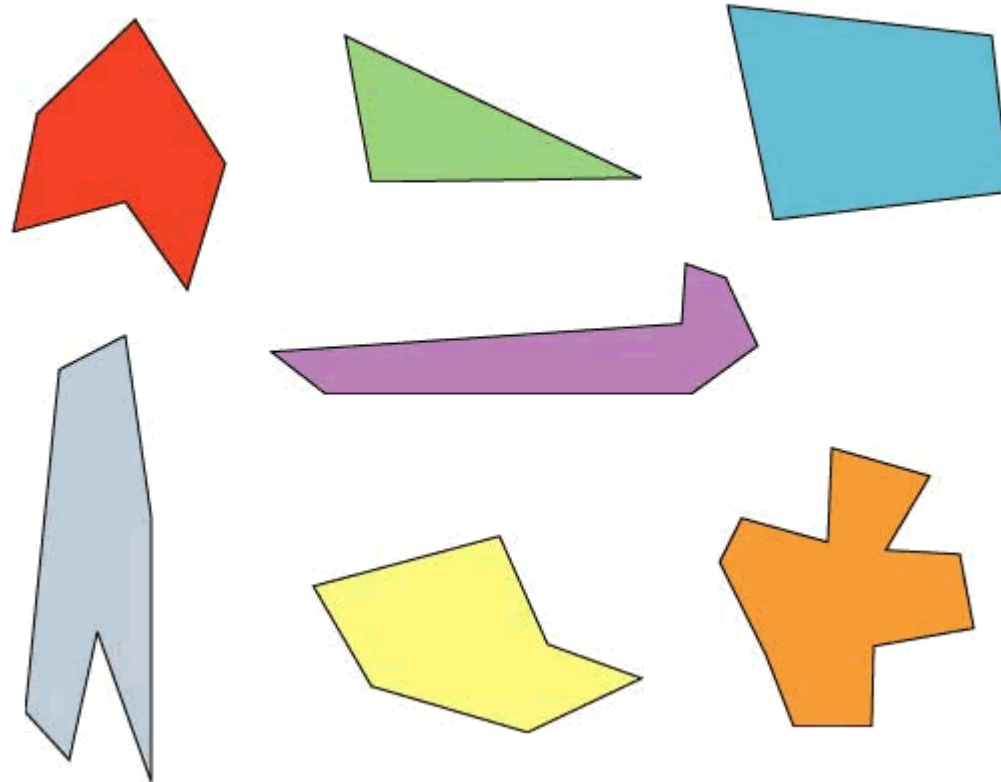
Find some containers around your house (maybe a cup, a mug, a bottle etc). Arrange them in a line from smallest to largest capacity (remember that is how much water you could fit inside). If you are allowed you could fill some up with water to see if you are right.



# SKILL 1: ACTIVITIES TO MAKE YOU THINK

The idea of these activities is not necessarily to get a right answer but to think about different ways you could go about solving it. For example here, what could we mean by smallest? Is there another way we could look at smallest?

Arrange these shapes in order of size. Put the smallest first.



# SKILL 1: ACTIVITIES TO MAKE YOU MOVE

**Be careful with this activity if you only have a small garden! If you don't have a beanbag at home try a ball or Frisbee.**

Here are some pictures of people throwing things in Olympic events. The first one shows a man throwing a hammer and the second shows a man throwing a discus.



They can throw them a long way. A recent Olympic record for throwing the hammer was about 80 adult paces and for throwing the discus was about 70 adult paces.

How far can you throw a beanbag?

Can you throw a beanbag 70 paces?

Can you throw a beanbag 80 paces?



# SKILL 1: ANSWERS

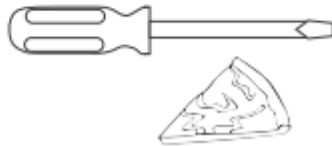
The key is \_\_\_\_\_ than the paper plane.

longer

**shorter**



The screwdriver is \_\_\_\_\_ than the pizza part.



**longer**

shorter

The hand is \_\_\_\_\_ than the ice-cream.



longer

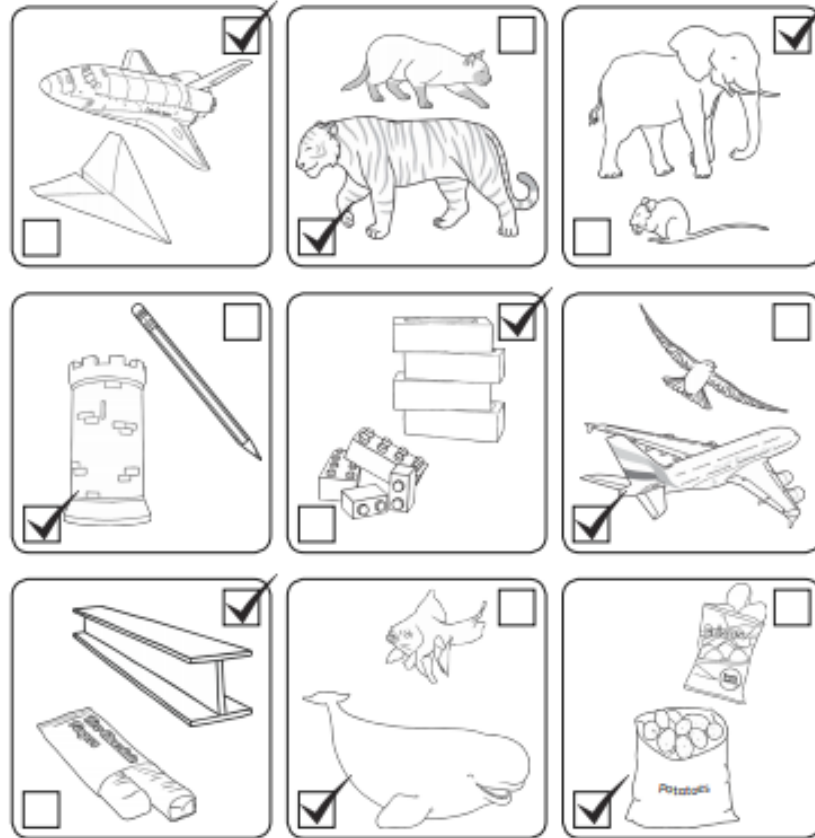
**shorter**

The car is \_\_\_\_\_ than the boat.



**longer**

shorter



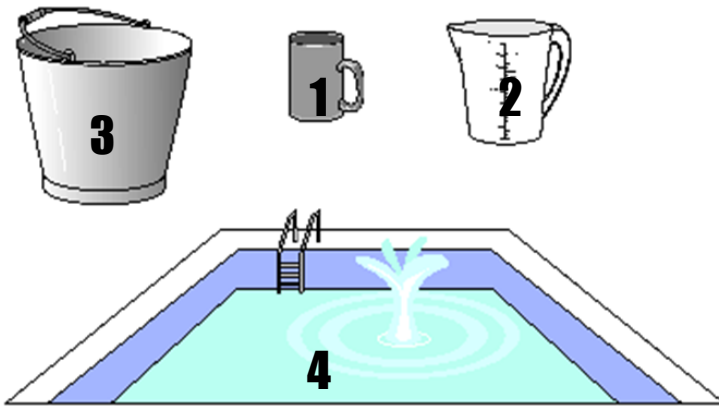


# SKILL 1: ANSWERS

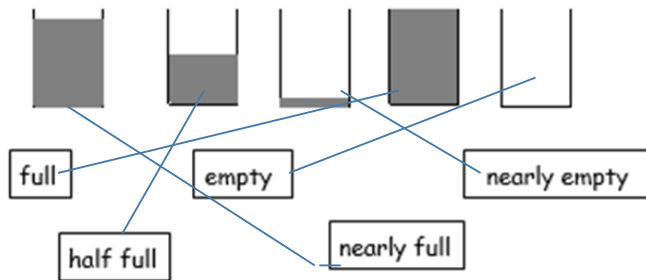
Name \_\_\_\_\_

## Capacity

1. Number the containers from smallest to largest.



2. Join the labels to the right jug.



## **Shape ordering activity**

How did you decide to order the shapes? Did you do them on the space inside? This is called area. Did you do them on the length or height of the shape? Perhaps you even ordered them on the distance round the outside (this is called the perimeter). Whatever you did, as long as you have a reason that makes sense to someone else, that is ok.

# SKILL 2 MEASURING WITH OBJECTS



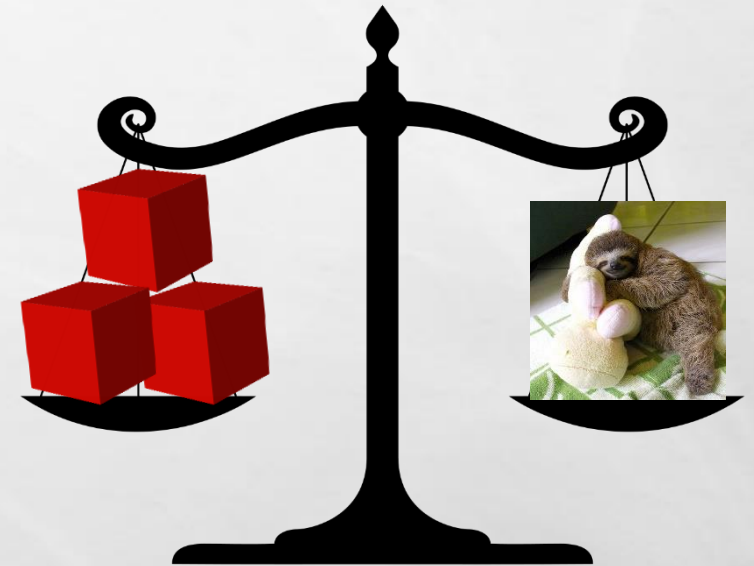
# SKILL 2 QUESTIONS FOR EVERYONE

See if you can answer these questions. The answers are on the next slide:

1. Approximately (about) how tall is the llama in cubes?



2. Approximately (about) how heavy is the sloth in cubes?



# SKILL 2 ANSWERS FOR EVERYONE

1. 6 cubes
2. 3 cubes

If you want some more practise at measuring with objects, have a go at the activities on the Skill 2 (orange) slides. Otherwise move on to the Skill 3 Questions for Everyone on the green slides.

# SKILL 2 LENGTH AND CAPACITY

**Watch Week 5 Lesson 2 at**

**<https://whiterosemaths.com/homelearning/year-1/>**

Find a small object in your house like a coin, a lego block or a paper clip. Measure the length of some other things in your house using your object. So for example it might be seven lego bricks tall or 15 lego bricks wide. You could record your lengths in a table.

**Watch Week 6 Lesson 4 at**

**<https://whiterosemaths.com/homelearning/year-1/>**

Ask an adult if you can take a plastic bowl and cup out into the garden. Estimate (have a sensible guess) how many cups of water you will need to fill your bowl. Try it and see if you were right. If you have some other containers try with them.

# SKILL 2 MASS/WEIGHT

Watch Week 6  
Lessons 1 and 2 at

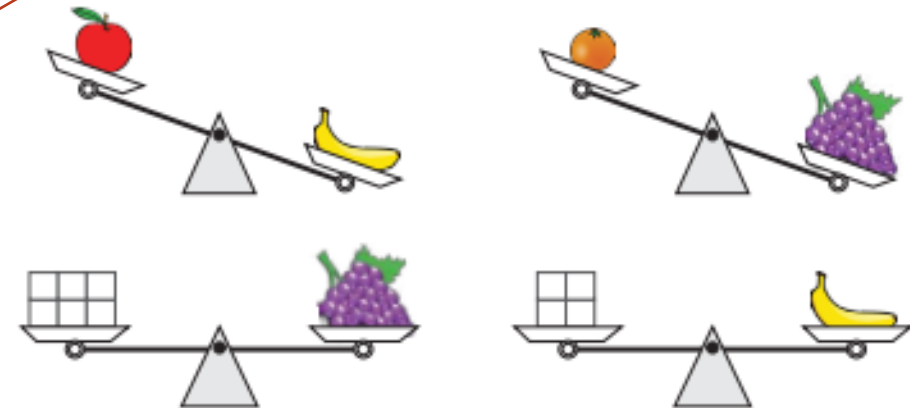
<https://whiterosemaths.com/homelearning/year-1/>

This is one  
unit

Name: \_\_\_\_\_ Class: \_\_\_\_\_

Use the balances and tell whether the statements below are true or false.

Each ☐ has the same mass.



The banana is heavier than the apple. \_\_\_\_\_

The orange is heavier than the grapes. \_\_\_\_\_

The mass of the grapes is 9 units. \_\_\_\_\_

The mass of banana is less than 5 units. \_\_\_\_\_

The banana is lighter than the grapes. \_\_\_\_\_

The apple is heavier than the grapes. \_\_\_\_\_

The mass of the apple is more than 4 units. \_\_\_\_\_

The mass of the orange is less than 6 units. \_\_\_\_\_

The grapes are the heaviest. \_\_\_\_\_



# SKILL 2 ACTIVITIES TO MAKE YOU THINK

**The idea of these activities is not necessarily to get a right answer but just to think about and discuss the question.**

The Man is much smaller than you and me.  
Here is a picture of him standing next to a mug.



Can you estimate how tall he is?  
Can you think of something that you have at school or home that is approximately twice as tall as the Man?  
What about something that is about half as tall as the Man?

How tall do you think the Man's mug might be?  
Can you estimate how many "Man mugs" of tea might fill one of our mugs?

# SKILL 2 ACTIVITIES TO MAKE YOU MOVE

Perhaps you could do  
this activity when you  
go out for a walk if you  
don't have a tree at  
home.

Spread your fingers as wide as you can,

What you have now is called a **hand span** .

A hand span can help you to find out how big

Is the height of a cow, a horse or a pig.

Use your hand span very carefully and see

How many it takes to go right round a tree.

Now get a good friend and make this a game,

Compare if the number of spans round the tree is the same.

Next find an adult and compare their hand span too

To see if they use more or less spans than you.

Now write down the answers and think as hard as can be,

Why is it better to use a tape measure like me?

# SKILL 2 ANSWERS

The banana is heavier than the apple. True

The orange is heavier than the grapes. False

The mass of the grapes is 9 units. False

The mass of banana is less than 5 units. True

The banana is lighter than the grapes. True

The apple is heavier than the grapes. False

The mass of the apple is more than 4 units. False

The mass of the orange is less than 6 units. True

The grapes are the heaviest. True







# SKILL 3 USING SCALES



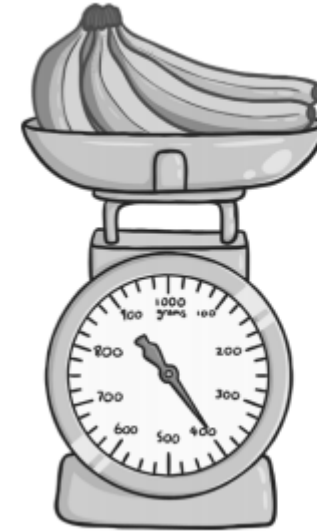
# SKILL 3 QUESTIONS FOR EVERYONE

See if you can answer these questions for everyone. The answers are on the next slide:

a) Draw a line from the measurement to what it is used for.

Metres	How cold? 
Kilograms	How much? 
°Celsius	How heavy? 
Millilitres	How high? 

c) How much do Maisie's bananas weigh?







e) Estimate how much liquid is in the jug.



# SKILL 3 ANSWERS FOR EVERYONE

a)

a) Draw a line from the measurement to what it is used for.

Metres	How cold?	
Kilograms	How much?	
°Celsius	How heavy?	
Millilitres	How high?	

c) 400g

e) 750ml

What next?

If you were fine with these questions go on to the Skill 4 Questions for Everyone on the pink slides. If not or you like the look of them try the activities on the Skill 3 green slides.

**If you struggled with this question watch this clip:**

**<https://www.bbc.co.uk/bitesize/clips/z48q6sg>**

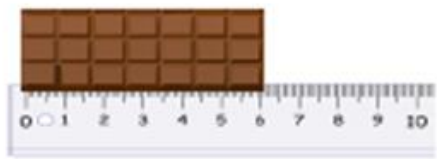

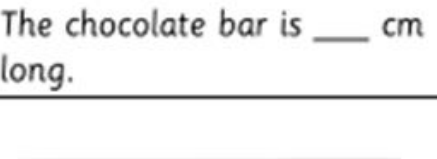
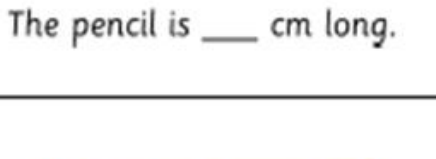

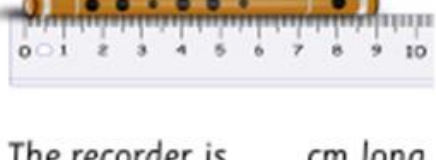

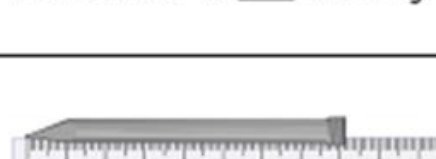


# SKILL 3 LENGTH

**Watch Week 5 Lesson 3 at**  
<https://whiterosemaths.com/homelearning/year-1/>

If you have a ruler at home, measure 10 things with it. Write them down in your book from smallest to largest. Did you measure them in millimetres (mm) or centimetres (cm).

What is the length of each object in centimetres?

 <p>The chocolate bar is ____ cm long.</p>	 <p>The pencil is ____ cm long.</p>
 <p>The knife is ____ cm long.</p>	 <p>The recorder is ____ cm long.</p>
 <p>The scissors are ____ cm long.</p>	 <p>The nail is ____ cm long.</p>
 <p>The ribbon is ____ cm long.</p>	 <p>The paper clip is ____ cm long.</p>

# SKILL 3 MASS/WEIGHT

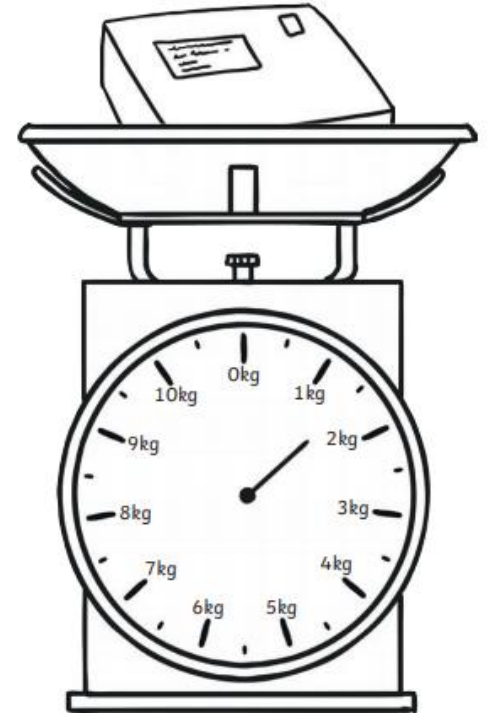
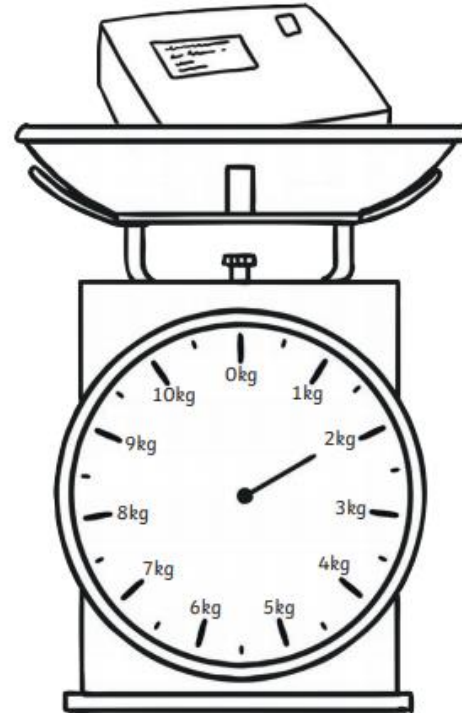
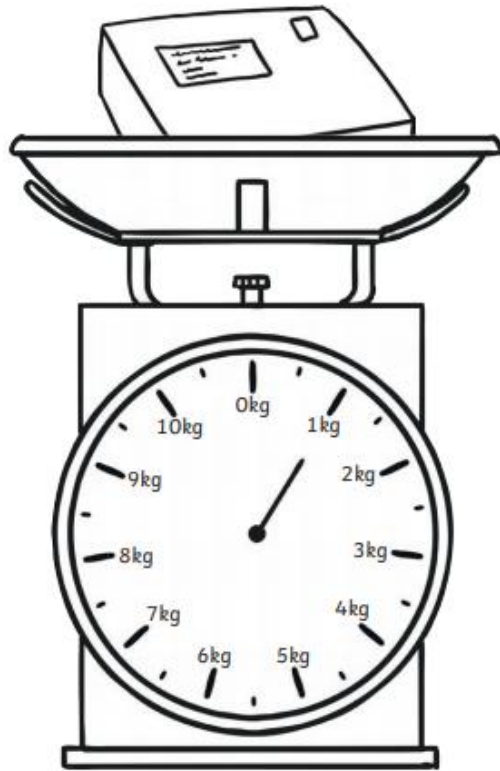
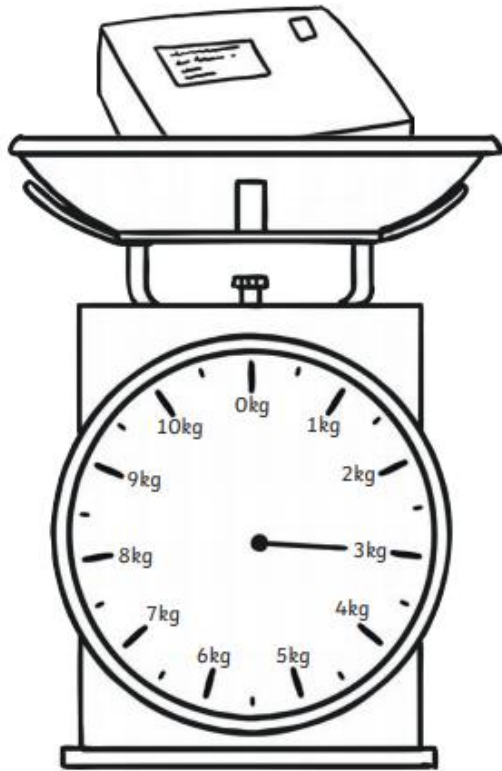
**Watch these clips:** <https://www.bbc.co.uk/bitesize/clips/z7w7tfr> and <https://www.youtube.com/watch?v=ptaVY3-vRZM>

If you have some digital scales at home, measure 10 things with them. Write them down in your book from smallest to largest. Did you measure them in grams (g) or kilograms (kg) or another unit?

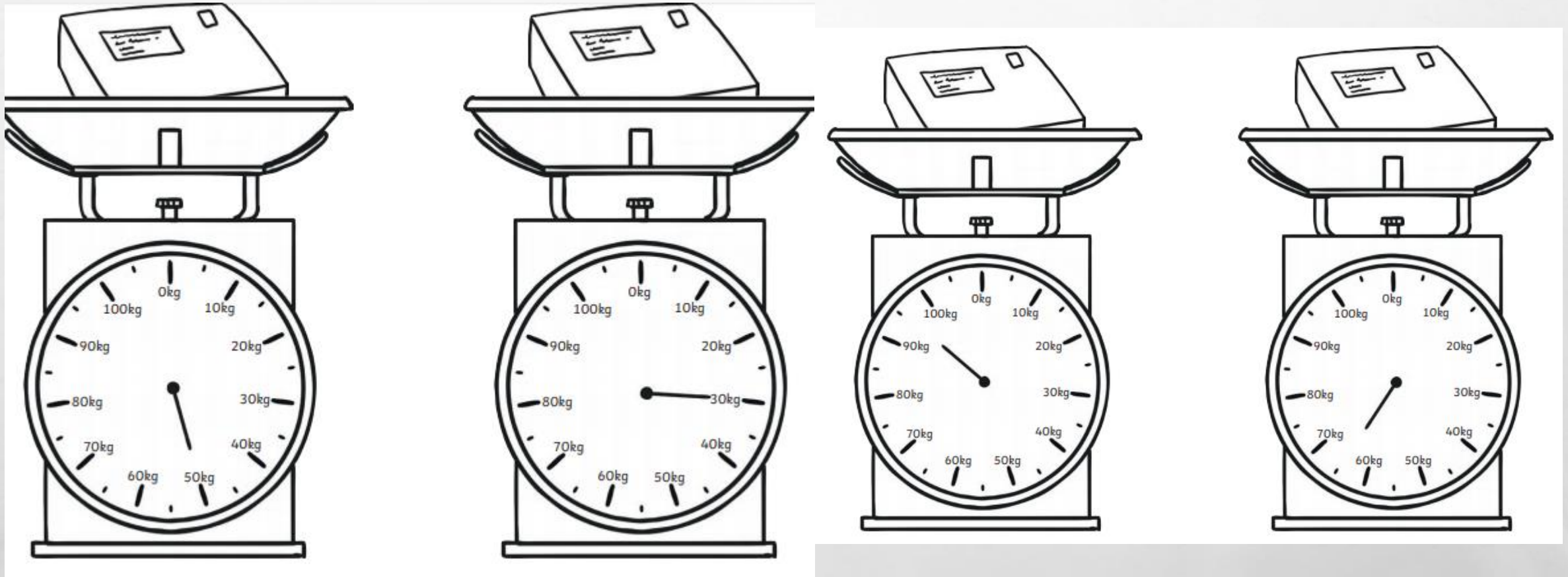
If you don't have scales at home, have a look at the weights on some tins and packets in your cupboard. What units are they measured in?

# SKILL 3 MASS/WEIGHT

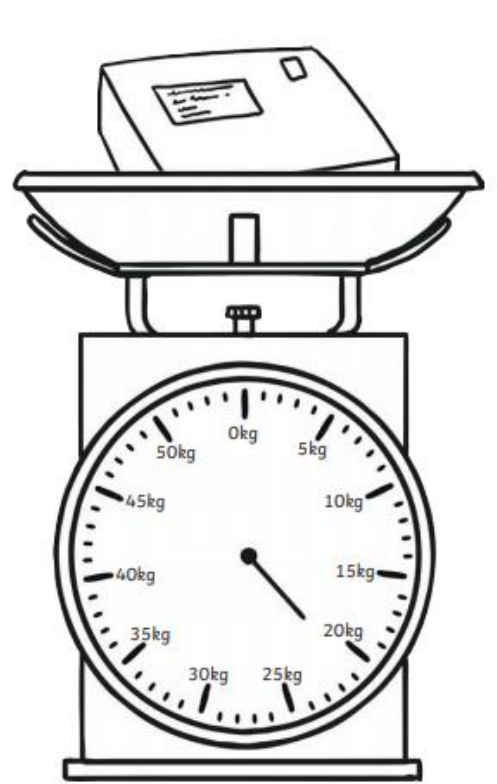
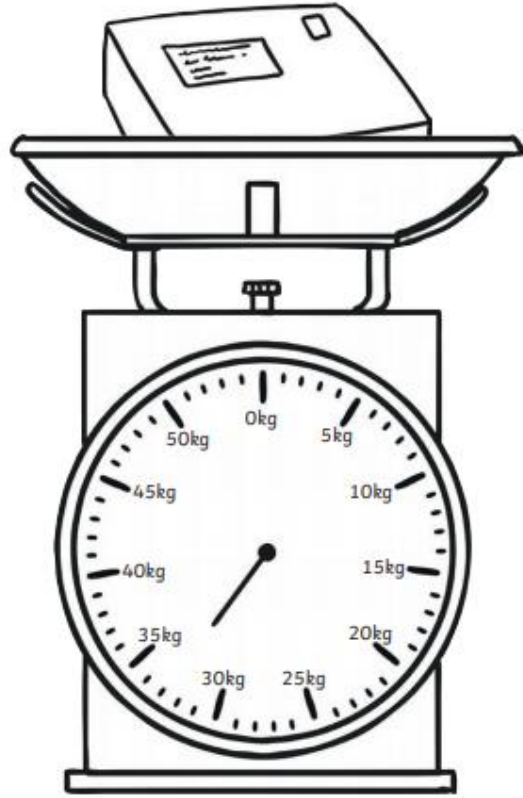
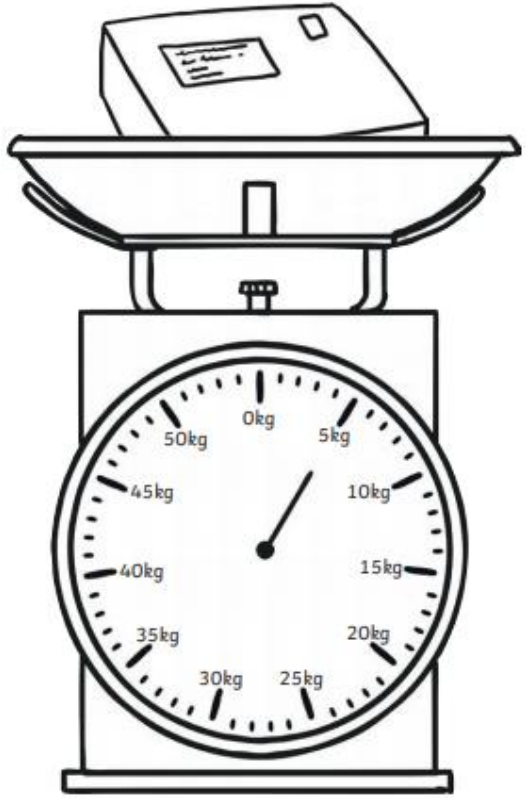
Write how much each parcel weighs.



# SKILL 3 MASS/WEIGHT



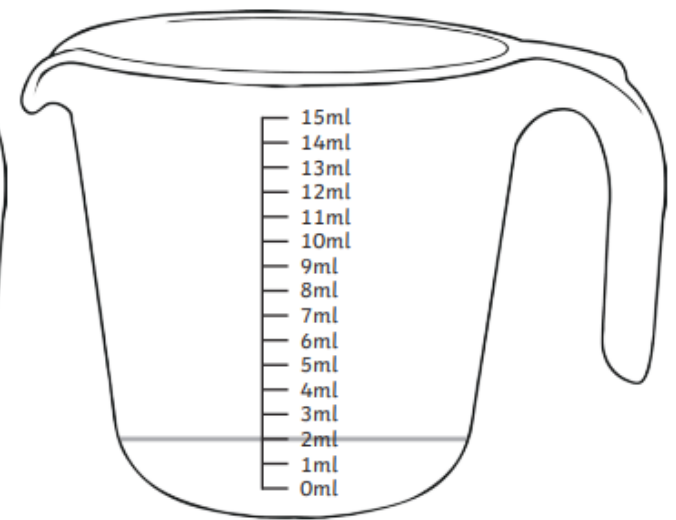
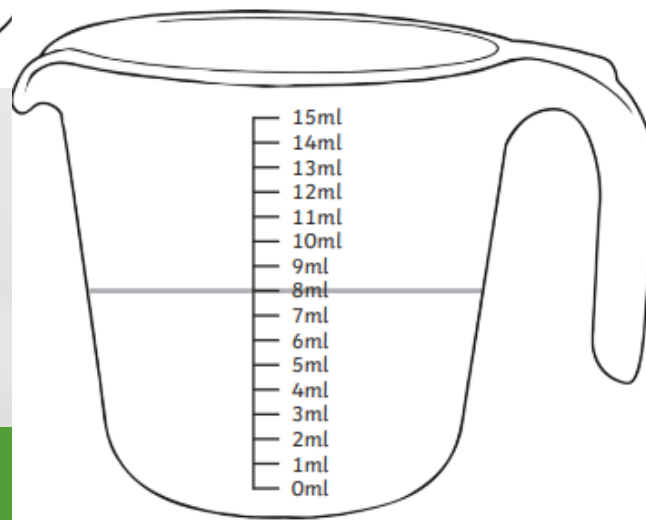
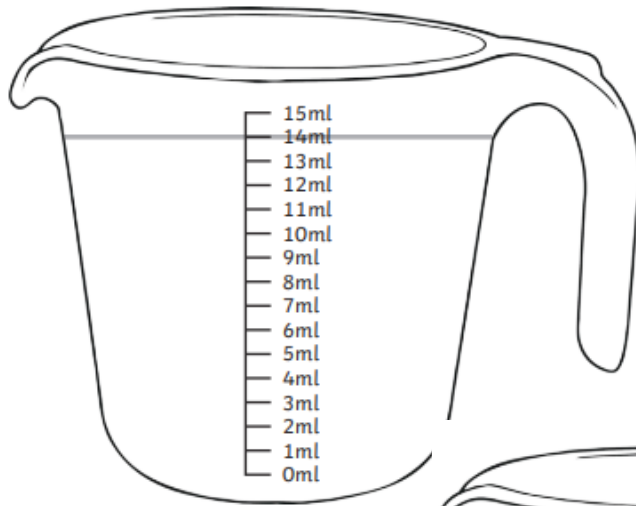
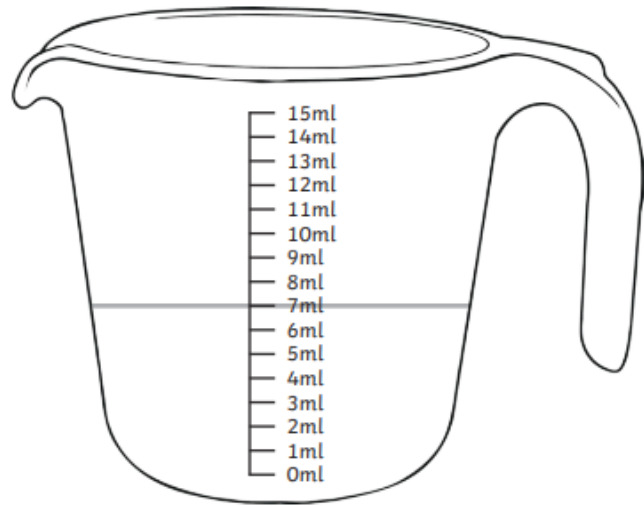
# SKILL 3 MASS/WEIGHT





# SKILL 3 CAPACITY

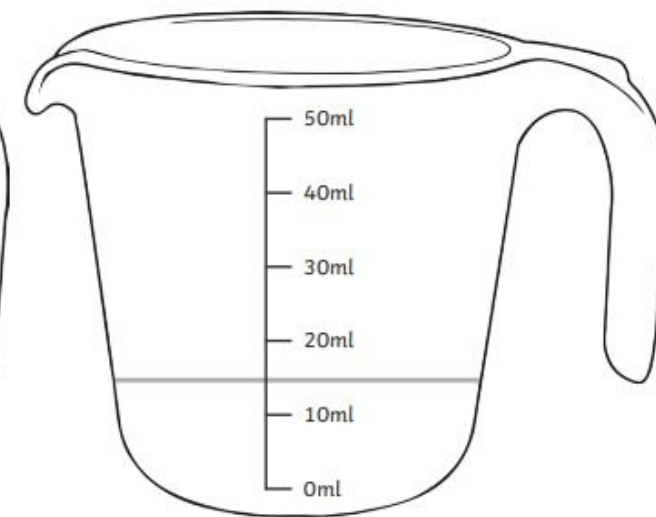
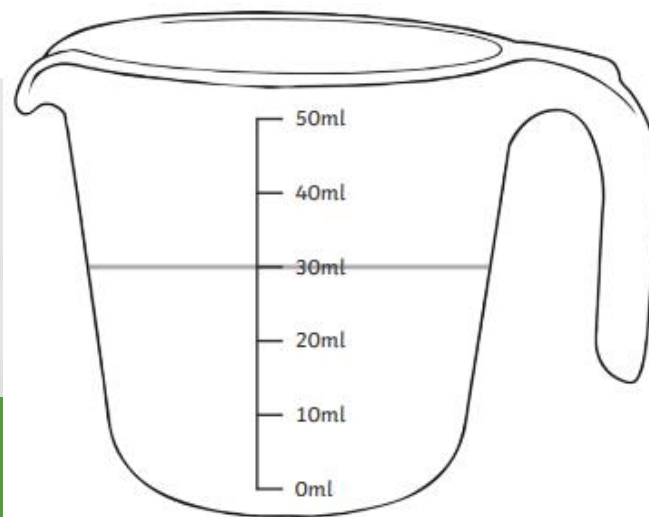
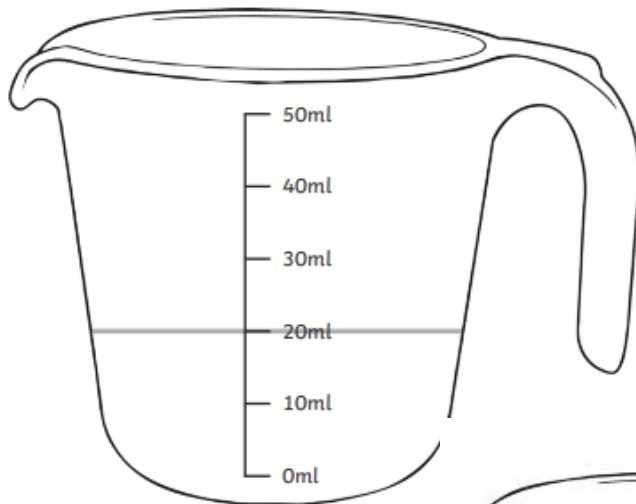
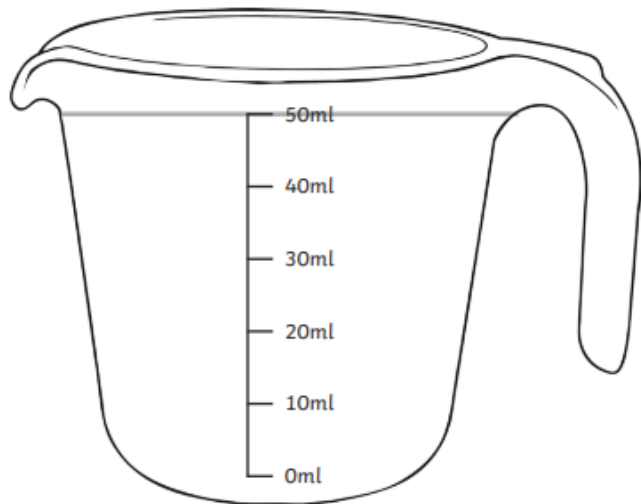
Write how much liquid is in each jug.





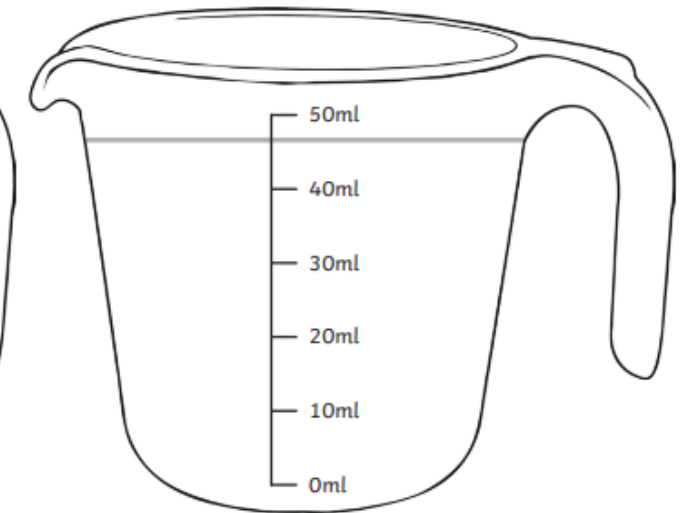
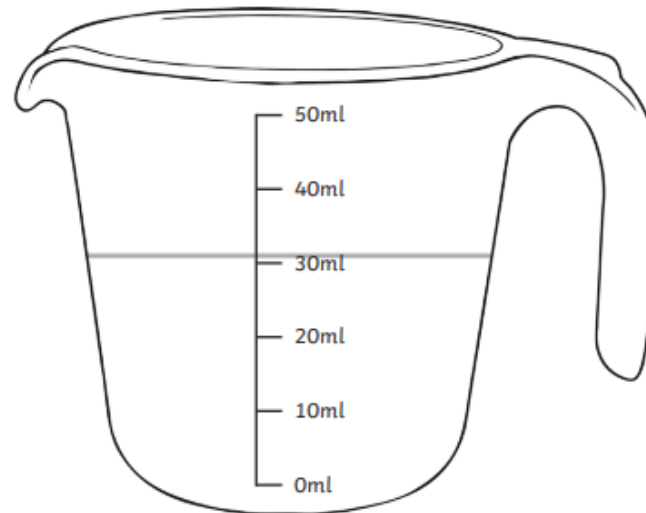
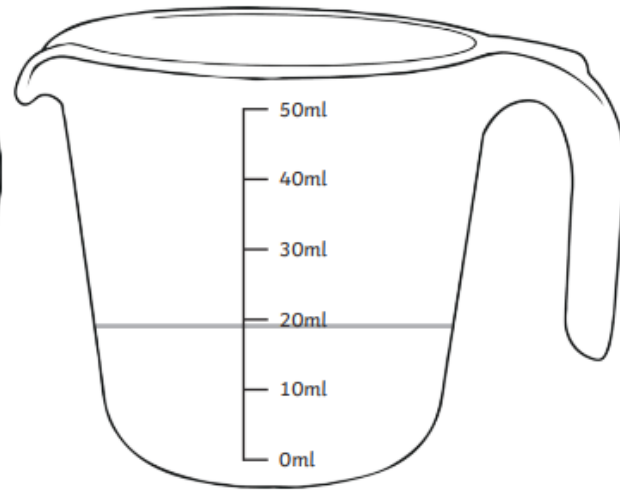
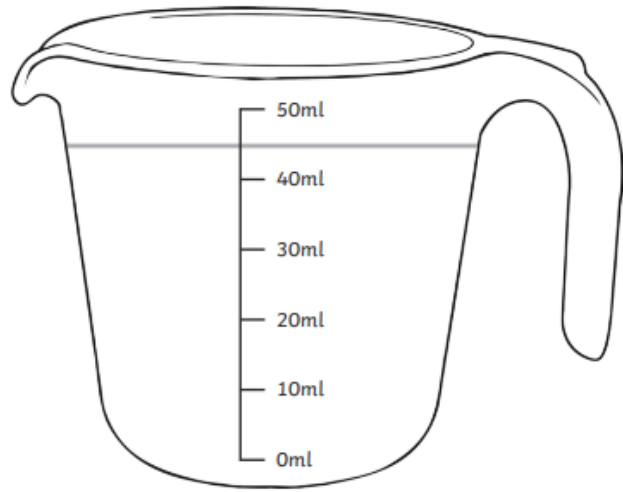
# SKILL 3 CAPACITY

Write how much liquid is in each jug.



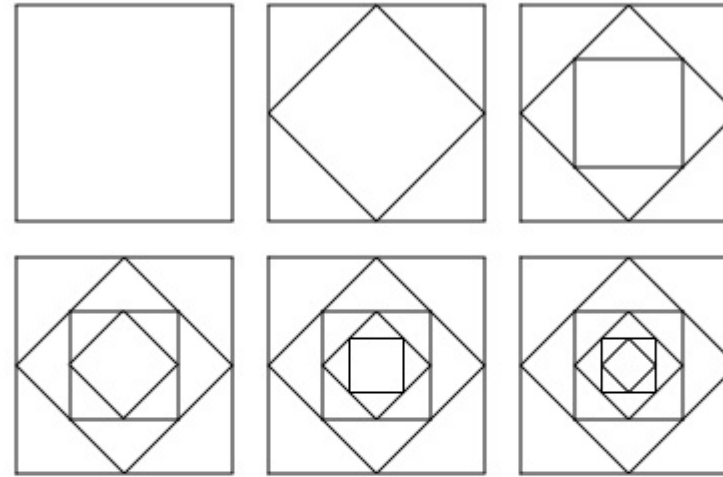
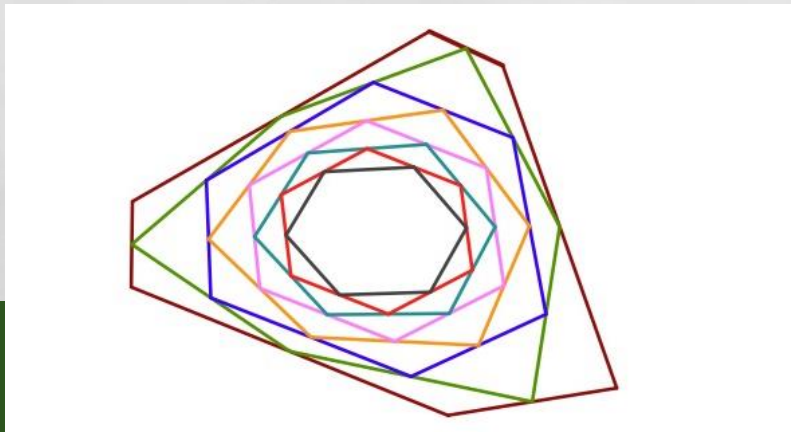
# SKILL 3 CAPACITY

Write how much liquid is in each jug.



# SKILL 3 ACTIVITIES TO MAKE YOU THINK

Here you will need to use a ruler to make sure you get find exactly half way. Try starting with some different shapes and see what patterns you create. You could use colour like the example below.



These pictures were made quite simply by starting with a square, finding the half-way point on each side and joining those points up. This creates a smaller shape (which also happens to be a square) inside the original. The half-way points of this new shape are then joined up to make a third shape. This way of making new shapes is continued until it gets too small to do properly.

You can, of course, start with any straight-lined shape.

# SKILL 3 ACTIVITIES TO MAKE YOU MOVE

**In Stage 1 we did this activity and measured our distances in paces.**

**If you have a tape measure or ruler at home have a go and measure your throw in centimetres or metres. You could measure your pace as well and see if you are throwing further now.**

Here are some pictures of people throwing things in Olympic events. The first one shows a man throwing a hammer and the second shows a man throwing a discus.



They can throw them a long way. A recent Olympic record for throwing the hammer was about 80 adult paces and for throwing the discus was about 70 adult paces.

How far can you throw a beanbag?

Can you throw a beanbag 70 paces?

Can you throw a beanbag 80 paces?

# SKILL 3 ANSWERS

Write how much each parcel weighs.

3kg

1kg

2kg

$1\frac{1}{2}$  kg

50kg

30kg

95kg

65kg

Write how much each parcel weighs.

5kg

32-33kg

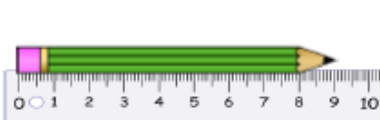
47-48kg

**Note either of  
the answers  
is fine**

21-22kg



The chocolate bar is 6 cm long.



The pencil is 9 cm long.



The knife is 10 cm long.



The recorder is 9 cm long.



The scissors are 7 cm long.



The nail is 8 cm long.



The ribbon is 5 cm long.



The paper clip is 3 cm long.



# SKILL 3 ANSWERS

Write how much liquid is in each jug.

**7ml**

**14ml**

**8ml**

**2ml**

Write how much liquid is in each jug.

**50ml**

**20ml**

**30ml**

**15ml**

Write how much liquid is in each jug.

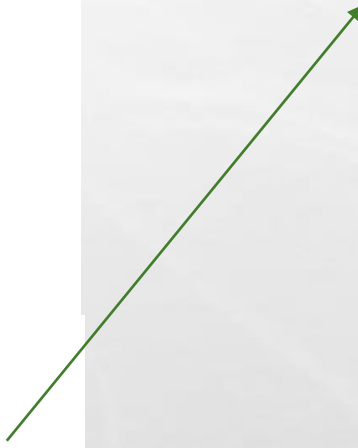
**45ml**

**18-19ml**

**31-32ml**

**47-48ml**

**Note either of  
these answers  
are fine.**



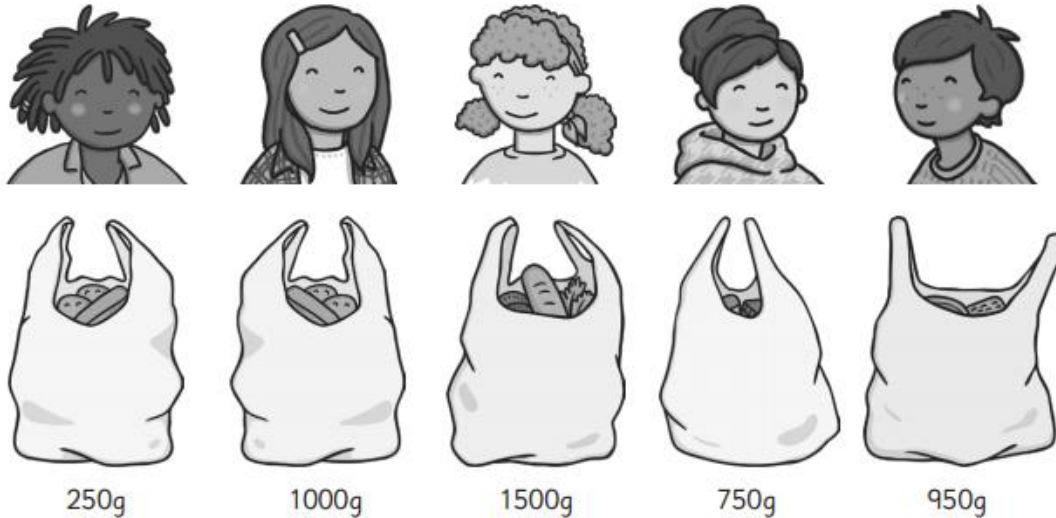


# SKILL 4 COMPARING MEASUREMENTS



# SKILL 4 QUESTIONS FOR EVERYONE

a) These children have been shopping. Who has the heaviest bag? Number their bags from 1-5 to order them from the heaviest to the lightest.



b) Put < > or = in these sentences.

1 litre  750ml

1kg  1000g

90cm  1m

See if you can answer these questions. The answers are on the next slide.

## SKILL 4 ANSWERS FOR EVERYONE

a	5, 2, 1, 4, 3	1
b	1 litre $>$ 750ml 1kg = 1000g 90cm $<$ 1m	3

As usual if you got on fine with these go on to the Skill 5 Questions for Everyone on the yellow slides but if you want some more practise, try the Skill 4 activities on the pink slides.

# SKILL 4 UNITS

Watch this BBC Bitesize clip <https://www.bbc.co.uk/bitesize/topics/z4nsgk7/articles/zqf4cwx> and try the activities underneath. It would be a good idea to write down the unit equivalences in your book to help with the next few slides. These are just facts you have to remember. I have copied them below for you.

The metric system is used to measure the length, weight or volume of an object. Length is measured in **millimetres** (mm), **centimetres** (cm), **metres** (m) or **kilometres** (km).

- 1 cm = 10 mm
- 1 m = 100 cm
- 1 km = 1000 m
- 1 cm is about the width of a staple
- 1 m is about the width of a single bed

Weight is measured in **grams** (g) and **kilograms** (kg). Volume is measured in **millilitres** (ml) and **litres** (l).

- 1 kg = 1000 g
- 1 l = 1000 ml
- 1 kg is the weight of seven apples
- 1 l is the volume of a carton of orange juice

# SKILL 4 LENGTH

**Look  
carefully at  
the units!**

## Compare Measurements

### Amazing Fact

The longest race in the world requires runners to run 5649 laps of an area in New York. This is the same as 3100 miles. They have 52 days to do this!

### Challenge

Use the signs below in the empty boxes to make the statements true.

<	>	=
---	---	---

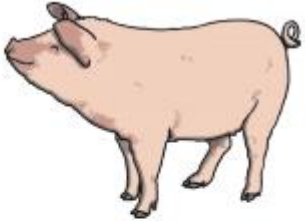
1. 12m  10m
2. 3cm  1cm
3. 24m  23m
4. 104m  140m
5. 6m  4m
6. 100cm  1m
7. 10cm  10m
8. 18cm  81cm





# SKILL 4 LENGTH AND MASS

Pig



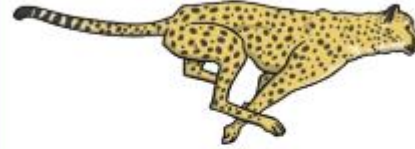
Length: 200cm  
Height: 110 cm  
Weight: 350 kg  
Top Speed: 18 km/h

Lion



Length: 250cm  
Height: 120cm  
Weight: 190kg  
Top Speed: 80 km/h

Cheetah



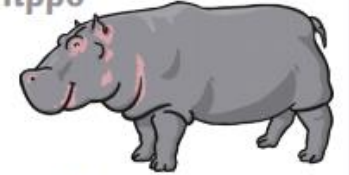
Length: 150cm  
Height: 94cm  
Weight: 72kg  
Top Speed: 120km/h

Wolf



Length: 160cm  
Height: 85cm  
Weight: 80kg  
Top Speed: 60 km/h

Hippo



Length: 520cm  
Height: 150cm  
Weight: 1800kg  
Top Speed: 30 km/h

Horse



Length: 240cm  
Height: 180cm  
Weight: 1000kg  
Top Speed: 88km/h

Anaconda



Length: 880 cm  
Height: 15cm  
Weight: 227kg  
Top Speed: 32km/h

Bison



Length: 280cm  
Height: 195cm  
Weight: 620kg  
Top Speed: 56km/h

Look at these Top Trump cards and answer the questions on the next slide.



1. Which is the longest animal?

\_\_\_\_\_

2. Which is the tallest animal?

\_\_\_\_\_

3. Which is the shortest (height) animal?

\_\_\_\_\_

4. Which is the heaviest animal?

\_\_\_\_\_

5. Which is the lightest animal?

\_\_\_\_\_

6. Which are the three fastest animals?

\_\_\_\_\_

7. Which animal has the lowest number in 2 separate categories?

\_\_\_\_\_

8. Can you put the animals in order from the shortest to the tallest?

shortest

--	--	--	--



--	--	--	--

tallest

9. Use < or > to show which card would win.

Top Speed		
lion		anaconda

Height		
bison		wolf

Weight		
hippo		lion

Length		
wolf		horse

Height		
pig		cheetah

Top Speed		
anaconda		hippo

# SKILL 4 CAPACITY

Fill in the blanks to complete the statements about these containers.

750ml



300ml



550ml

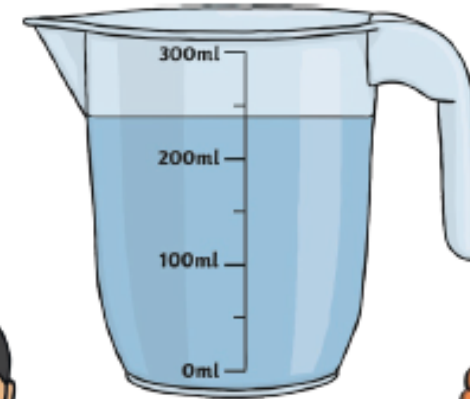


The bottle of milk holds \_\_\_\_\_ than the can of cola.

The capacity of the can of cola is \_\_\_\_\_ ml.

The can of cola holds \_\_\_\_\_ than the carton of orange juice.

Ranjit and Holly are using a measuring jug to measure water.



I think there's less than 250ml in the jug.

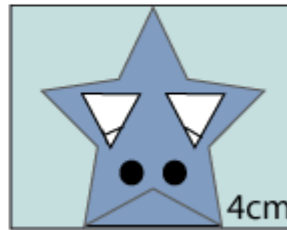
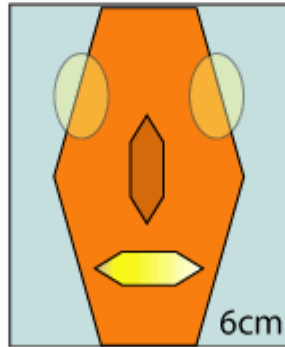
I think there's more than 250ml in the jug.

Who is correct? Convince me! How much do you think is in the jug?

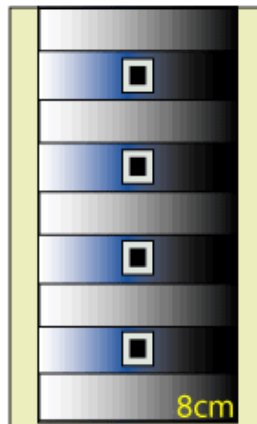
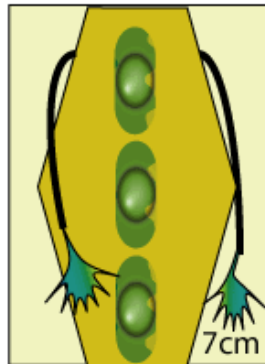
# SKILL 4 ACTIVITIES TO MAKE YOU THINK

You are going to make three Robot Monsters. They are all 5 cm wide.

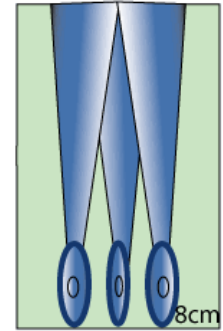
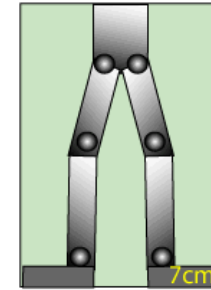
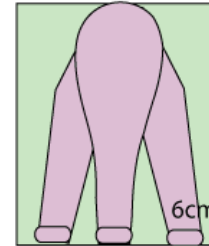
Here are their heads which all have blue backgrounds:



Here are their bodies which all have yellow backgrounds:



Here are their legs which all have green backgrounds:



What is the tallest Robot Monster that you can make using one head, one body and one set of legs?

What is the shortest one you can make using one head, one body and one set of legs?

How tall would the Robot Monster be that was made from the three bits left over after you had made the tallest and the shortest?

How many Robot Monsters which are all different heights can you make with the nine pieces (all with one head, one body and one set of legs)?

You will find robot monsters to cut out here:  
<https://nrich.maths.org/content/id/2404/Robot%20Monsters%20final.pdf>

# SKILL 4 ACTIVITIES TO MAKE YOU MOVE

**Use a measuring jug to fill up a plastic container with water so you know how much you are starting with.**

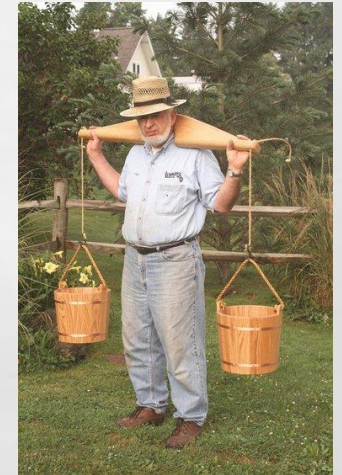
**Carrying your container run/hop/jump or skip across your garden. (You don't have to carry it like this man!)**

**Your challenge is to work out how much water has splashed out of your container.**

**Do it in another way and see if more or less has splashed out.**

**Record your results.**

**Which is the best way to carry water across your garden? You might need to think about whether best means – does it mean quickest or something else? You decide.**



# SKILL 4 ANSWERS

## Compare Measurements **Answers**

1. 12m **>** 10m
2. 3cm **>** 1cm
3. 24m **>** 23m
4. 104m **<** 140m
5. 6m **>** 4m
6. 100cm **=** 1m
7. 10cm **<** 10m
8. 18cm **<** 81cm

1. Which is the longest animal?  
**anaconda**
2. Which is the tallest animal?  
**bison**
3. Which is the shortest (height) animal?  
**anaconda**
4. Which is the heaviest animal?  
**hippo**
5. Which is the lightest animal?  
**cheetah**
6. Which are the three fastest animals?  
**cheetah, horse, lion**
7. Which animal has the lowest number in 2 separate categories?  
**cheetah**

8. Can you put the animals in order from the shortest to the tallest?

anaconda	wolf	cheetah	pig
lion	hippo	horse	bison

9. Use < or > to show which card would win.

Top Speed		
lion	>	anaconda

Height		
bison	>	wolf

Weight		
hippo	>	lion

Length		
wolf	<	horse

Height		
pig	>	cheetah

Top Speed		
anaconda	>	hippo

# SKILL 4 ANSWERS

The bottle of milk holds **more** than the can of cola.

The capacity of the can of cola is **300ml**.

The can of cola holds **less** than the carton of orange juice.

*The water line is less than the halfway point between 200ml and 300ml.*

*The halfway point is 250ml so there must be less than 250ml of water.*

*Ranjit is correct. There is 240ml of water in the jug.*





# SKILL 5 CONVERTING UNITS



# SKILL 5 QUESTIONS FOR EVERYONE

See if you can answer these questions. The answers are on the next slide.

1. What is 6cm in millimetres?
2. What is 700cm in metres?
3. What is 5kg in grams?
4. What is 3000ml in litres?
5. Put these lengths in ascending order (from smallest to biggest):  
2m 20cm, 230cm, 2m, 260mm

# SKILL 5 ANSWERS FOR EVERYONE

1. 60mm
2. 7m
3. 5000g
4. 3l
5. 260mm (=26cm), 2m (=200cm), 2m 20cm (=220cm), 230cm

If you need more practise at this skill do the Skill 5 activities on the yellow slides. If you think you have mastered all of these skills go on to the Challenge Activities on the purple slides.

# SKILL 5 ACTIVITIES

Watch this clip. It uses decimal numbers so is suitable for older children as well as younger ones. When you do the exercises on the next few slides pick the level that you think you can do – you don't have to get all the way to decimals if you are only in Year 3 (though you can if you want!)

[HTTPS://WWW.YOUTUBE.COM/WATCH?TIME\\_CONTINUE=9&V=NCSPE6KARQA&FEATURE=EMB\\_LOGO](https://www.youtube.com/watch?time_continue=9&v=NCSPE6KARQA&feature=emb_logo)

# SKILL 5 LENGTH

This doesn't have decimals.

Remember:

- $1\text{cm} = 10\text{mm}$
- $1\text{m} = 100\text{cm}$
- $1\text{km} = 1000\text{cm}$

- |   |   |
|---|---|
| 1) $1\text{cm} = \underline{\hspace{1cm}} \text{ mm}$ | 2) $2\text{cm} = \underline{\hspace{1cm}} \text{ mm}$ |
| 3) $3\text{cm} = \underline{\hspace{1cm}} \text{ mm}$ | 4) $4\text{cm} = \underline{\hspace{1cm}} \text{ mm}$ |
| 5) $1\text{m} = \underline{\hspace{1cm}} \text{ cm}$  | 6) $2\text{m} = \underline{\hspace{1cm}} \text{ cm}$  |
| 7) $3\text{m} = \underline{\hspace{1cm}} \text{ cm}$  | 8) $4\text{m} = \underline{\hspace{1cm}} \text{ m}$   |
| 9) $1\text{km} = \underline{\hspace{1cm}} \text{ m}$  | 10) $2\text{km} = \underline{\hspace{1cm}} \text{ m}$ |
| 11) $3\text{km} = \underline{\hspace{1cm}} \text{ m}$ | 12) $4\text{km} = \underline{\hspace{1cm}} \text{ m}$ |

Which is the most? Circle the largest amount in each box.

1 m <u>1 km</u> 1 cm	10 m 100 cm 200 mm	100 m 500 cm 1 km	1 m 200 cm 300 mm
----------------------------	--------------------------	-------------------------	-------------------------

Use greater than (>), less than (<) or equals (=) to compare the amounts.

- |          |   |       |            |  |        |
|----------|---|-------|------------|--|--------|
| 1) 1 m   | > | 10 cm | 2) 1 km    |  | 1000 m |
| 3) 20 mm |   | 1 cm  | 4) 80 cm   |  | 1 m    |
| 5) 200 m |   | 1 km  | 6) 3cm     |  | 40 mm  |
| 7) 10 mm |   | 1 cm  | 8) 2 km    |  | 3000 m |
| 9) 3 m   |   | 40 cm | 10) 500 cm |  | 3 m    |

# SKILL 5 LENGTH

This does have decimals.

Remember:

- 1cm = 10mm
- 1m = 100cm
- 1km = 1000cm

Convert to the units shown:

1. 0.08 km = \_\_\_\_\_ m
2. 0.6 m = \_\_\_\_\_ mm
3. 0.3 cm = \_\_\_\_\_ mm
4. 1.9 mm = \_\_\_\_\_ km
5. 0.77 km = \_\_\_\_\_ mm
6. 9.5 m = \_\_\_\_\_ mm
7. 0.8 m = \_\_\_\_\_ km
8. 0.46 mm = \_\_\_\_\_ m
9. 0.5 m = \_\_\_\_\_ km
10. 0.03 m = \_\_\_\_\_ cm
11. 0.30 cm = \_\_\_\_\_ m
12. 2.0 m = \_\_\_\_\_ cm
13. 0.05 cm = \_\_\_\_\_ km
14. 0.5 cm = \_\_\_\_\_ m
15. 0.2 m = \_\_\_\_\_ km
16. 4 mm = \_\_\_\_\_ cm
17. 0.04 mm = \_\_\_\_\_ cm
18. 0.03 km = \_\_\_\_\_ m
19. 0.41 m = \_\_\_\_\_ km
20. 3.2 mm = \_\_\_\_\_ km



# SKILL 5 WEIGHT AND CAPACITY

This doesn't have decimals.

Remember:

- $1\text{ kg} = 1000\text{ g}$
- $1\text{ l} = 1000\text{ ml}$

Note:  
Americans  
use a  
capital L  
for litres  
but we use  
a lower  
case one,  
l.

- |   |   |
|---|---|
| 1) $1\text{ kg} = \underline{\hspace{1cm}}\text{ g}$  | 2) $2\text{ kg} = \underline{\hspace{1cm}}\text{ g}$  |
| 3) $3\text{ kg} = \underline{\hspace{1cm}}\text{ g}$  | 4) $4\text{ kg} = \underline{\hspace{1cm}}\text{ g}$  |
| 5) $5\text{ kg} = \underline{\hspace{1cm}}\text{ g}$  | 6) $6\text{ kg} = \underline{\hspace{1cm}}\text{ g}$  |
| 7) $1\text{ L} = \underline{\hspace{1cm}}\text{ mL}$  | 8) $2\text{ L} = \underline{\hspace{1cm}}\text{ mL}$  |
| 9) $3\text{ L} = \underline{\hspace{1cm}}\text{ mL}$  | 10) $4\text{ L} = \underline{\hspace{1cm}}\text{ mL}$ |
| 11) $5\text{ L} = \underline{\hspace{1cm}}\text{ mL}$ | 12) $6\text{ L} = \underline{\hspace{1cm}}\text{ mL}$ |

Which is the most? Circle the largest amount in each box.

1 kg 100 g 500 g	2 L 1950 mL 2100 mL	600 g 4 kg 3500 g	3 L 3090 mL 3200 mL
------------------------	---------------------------	-------------------------	---------------------------

Use greater than (>), less than (<) or equals (=) to compare the amounts.

- |                    |     |                 |                     |  |                  |
|--------------------|-----|-----------------|---------------------|--|------------------|
| 1) $1\text{ L}$    | $>$ | $50\text{ mL}$  | 2) $1000\text{ mL}$ |  | $1\text{ L}$     |
| 3) $2\text{ kg}$   |     | $1500\text{ g}$ | 4) $4000\text{ g}$  |  | $3\text{ kg}$    |
| 5) $700\text{ mL}$ |     | $1\text{ L}$    | 6) $1400\text{ mL}$ |  | $1\text{ L}$     |
| 7) $2000\text{ g}$ |     | $2\text{ kg}$   | 8) $3\text{ L}$     |  | $2700\text{ mL}$ |
| 9) $5\text{ kg}$   |     | $4500\text{ g}$ | 10) $3200\text{ g}$ |  | $3\text{ kg}$    |

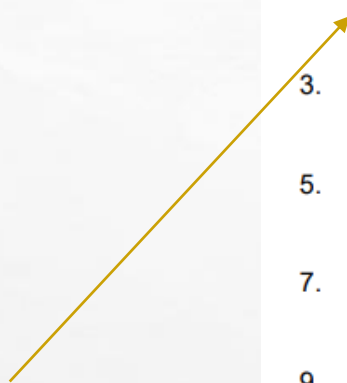
# SKILL 5 WEIGHT AND CAPACITY

This does have decimals.

Remember:

- $1\text{ kg} = 1000\text{ g}$
- $1\text{ l} = 1000\text{ ml}$

Note:  
Americans  
use a  
capital L  
for litres  
but we use  
a lower  
case one,  
l.

- 
1.  $10.4\text{ L} = \underline{\hspace{2cm}}\text{ mL}$
  2.  $984\text{ L} = \underline{\hspace{2cm}}\text{ mL}$
  3.  $76\text{ kg} = \underline{\hspace{2cm}}\text{ g}$
  4.  $5.21\text{ L} = \underline{\hspace{2cm}}\text{ mL}$
  5.  $8.2\text{ L} = \underline{\hspace{2cm}}\text{ mL}$
  6.  $75.0\text{ L} = \underline{\hspace{2cm}}\text{ mL}$
  7.  $0.74\text{ kg} = \underline{\hspace{2cm}}\text{ g}$
  8.  $0.50\text{ L} = \underline{\hspace{2cm}}\text{ mL}$
  9.  $4.08\text{ L} = \underline{\hspace{2cm}}\text{ mL}$
  10.  $76.8\text{ L} = \underline{\hspace{2cm}}\text{ mL}$
  11.  $31,068\text{ mL} = \underline{\hspace{2cm}}\text{ L}$
  12.  $12,905\text{ g} = \underline{\hspace{2cm}}\text{ kg}$
  13.  $2,018\text{ g} = \underline{\hspace{2cm}}\text{ kg}$
  14.  $30,512\text{ mL} = \underline{\hspace{2cm}}\text{ L}$
  15.  $31,934\text{ mL} = \underline{\hspace{2cm}}\text{ L}$
  16.  $6,363\text{ g} = \underline{\hspace{2cm}}\text{ kg}$
  17.  $6,296\text{ g} = \underline{\hspace{2cm}}\text{ kg}$
  18.  $7,928\text{ g} = \underline{\hspace{2cm}}\text{ kg}$
  19.  $3,816\text{ mL} = \underline{\hspace{2cm}}\text{ L}$
  20.  $7,677\text{ g} = \underline{\hspace{2cm}}\text{ kg}$

# SKILL 5 ACTIVITIES TO MAKE YOU THINK

Remember here we are concerned with how you think about the problem rather than getting the right answer.

## Weighing Fruit

Age 7 to 11 ★



There are some open markets in England that would like to sell fruit by their weight in lbs (pounds), but we often buy them in kilos.

0.45 kilo = 1 lb

2.20 lb = 1 kilo

You get about 4 apples or 4 bananas in one pound (1 lb).

So, roughly, what would 6 bananas and 4 apples together weigh in kilos?

You get about 6 mangoes in a kilo.

So, roughly, what would 30 mangoes weigh in pounds (lbs)?

You get about 6 oranges in one pound (1 lb).

So, roughly, what would 20 oranges weigh in kilos?

**Kilos is a  
short form  
of the word  
kilograms**

# SKILL 5 ACTIVITIES TO MAKE YOU MOVE

If you have a tape measure you could measure your garden or a length in the park. Work out how long it is in metres and then convert it into miles with this fact: 1 mile = 1.6km.

How many times would you have to run you length to have done a marathon (26 miles) or half marathon (13)?

If you work it out perhaps you can try to do it – although not all in one day unless you are very fit!



# SKILL 5 ANSWERS

- |                         |                         |
|-------------------------|-------------------------|
| 1) 1cm = <u>10</u> mm   | 2) 2cm = <u>20</u> mm   |
| 3) 3cm = <u>30</u> mm   | 4) 4cm = <u>40</u> mm   |
| 5) 1m = <u>100</u> cm   | 6) 2m = <u>200</u> cm   |
| 7) 3m = <u>300</u> cm   | 8) 4m = <u>400</u> m    |
| 9) 1km = <u>1000</u> m  | 10) 2km = <u>2000</u> m |
| 11) 3km = <u>3000</u> m | 12) 4km = <u>4000</u> m |

Which is the most? Circle the largest amount in each box.

1 m	<u>10 m</u>	100 m	1 m
<u>1 km</u>	100 cm	500 cm	<u>200 cm</u>
1 cm	200 mm	<u>1 km</u>	300 mm

Use greater than (>), less than (<) or equals (=) to compare the amounts.

- |          |   |       |            |   |        |
|----------|---|-------|------------|---|--------|
| 1) 1 m   | > | 10 cm | 2) 1 km    | = | 1000 m |
| 3) 20 mm | > | 1 cm  | 4) 80 cm   | < | 1 m    |
| 5) 200 m | < | 1 km  | 6) 3cm     | < | 40 mm  |
| 7) 10 mm | = | 1 cm  | 8) 2 km    | < | 3000 m |
| 9) 3 m   | > | 40 cm | 10) 500 cm | > | 3 m    |

Convert to the units shown:

- |                                   |                                  |
|-----------------------------------|----------------------------------|
| 1. 0.08 km = <u>80</u> m          | 2. 0.6 m = <u>600</u> mm         |
| 3. 0.3 cm = <u>3</u> mm           | 4. 1.9 mm = <u>0.0000019</u> km  |
| 5. 0.77 km = <u>770,000</u> mm    | 6. 9.5 m = <u>9,500</u> mm       |
| 7. 0.8 m = <u>0.0008</u> km       | 8. 0.46 mm = <u>0.00046</u> m    |
| 9. 0.5 m = <u>0.0005</u> km       | 10. 0.03 m = <u>3</u> cm         |
| 11. 0.30 cm = <u>0.003</u> m      | 12. 2.0 m = <u>200</u> cm        |
| 13. 0.05 cm = <u>0.0000005</u> km | 14. 0.5 cm = <u>0.005</u> m      |
| 15. 0.2 m = <u>0.0002</u> km      | 16. 4 mm = <u>0.4</u> cm         |
| 17. 0.04 mm = <u>0.004</u> cm     | 18. 0.03 km = <u>30</u> m        |
| 19. 0.41 m = <u>0.00041</u> km    | 20. 3.2 mm = <u>0.0000032</u> km |



# SKILL 5 ANSWERS

- 1) 1 kg = 1000 g
- 2) 2 kg = 2000 g
- 3) 3 kg = 3000 g
- 4) 4 kg = 4000 g
- 5) 5 kg = 5000 g
- 6) 6 kg = 6000 g
- 7) 1 L = 1000 mL
- 8) 2 L = 2000 mL
- 9) 3 L = 3000 mL
- 10) 4 L = 4000 mL
- 11) 5 L = 5000 mL
- 12) 6 L = 6000 mL

Which is the most? Circle the largest amount in each box.

1 kg	2 L	600 g	3 L
100 g	1950 mL	4 kg	3090 mL
500 g	2100 mL	3500 g	3200 mL

Use greater than (>), less than (<) or equals (=) to compare the amounts.

- |           |   |        |            |   |         |
|-----------|---|--------|------------|---|---------|
| 1) 1 L    | > | 50 mL  | 2) 1000 mL | = | 1 L     |
| 3) 2 kg   | > | 1500 g | 4) 4000 g  | > | 3 kg    |
| 5) 700 mL | < | 1 L    | 6) 1400 mL | > | 1 L     |
| 7) 2000 g | = | 2 kg   | 8) 3 L     | < | 2700 mL |
| 9) 5 kg   | > | 4500 g | 10) 3200 g | > | 3 kg    |

1. 10.4 L = 10,400 mL
2. 984 L = 984,000 mL
3. 76 kg = 76,000 g
4. 5.21 L = 5,210 mL
5. 8.2 L = 8,200 mL
6. 75.0 L = 75,000 mL
7. 0.74 kg = 740 g
8. 0.50 L = 500 mL
9. 4.08 L = 4,080 mL
10. 76.8 L = 76,800 mL
11. 31,068 mL = 31.068 L
12. 12,905 g = 12.905 kg
13. 2,018 g = 2.018 kg
14. 30,512 mL = 30.512 L
15. 31,934 mL = 31.934 L
16. 6,363 g = 6.363 kg
17. 6,296 g = 6.296 kg
18. 7,928 g = 7.928 kg
19. 3,816 mL = 3.816 L
20. 7,677 g = 7.677 kg



# CHALLENGE ACTIVITIES



# CHALLENGE ACTIVITY

Have a look at the sets of four quantities below. Can you rank them in order from smallest to largest?

To help you decide, you may need to find extra information or carry out some experiments.

Can you convince us that your order is right?



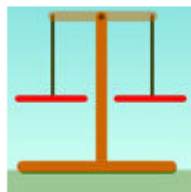
## **Time**

Taken to travel to school  
For mustard and cress to grow from seeds  
Taken to eat a biscuit  
Between your 6th and 7th birthdays



## **Distance**

You could jump up in the air  
You can kick a football  
You can run in half a minute  
Length of a bug



## **Mass**

Of a blown-up balloon  
Of a bar of chocolate  
Of a loaf of bread  
Of your teacher

# CHALLENGE ACTIVITY

I think Mrs Manning might be helpful for this one!



Here is part of the conversation between a group of children as they discuss a tall tree nearby:

"I wonder how tall it is?" says Linus.

"I think we could find out ," replies Raj.

"It could be difficult as it's very high," says Toby.

I wonder how they each went about finding out the height of the tree?

I wonder how YOU would find out how tall a large tree in your surroundings is?

# CHALLENGE ACTIVITY

A group of 10 students are on a field trip when their bus breaks down 40 miles away from the school.

A teacher takes 5 of them back to school in her car, travelling at an average speed of 40 miles per hour.

The other 5 students start walking towards school at a steady 4 miles per hour.



The teacher drops the 5 at school, then immediately turns around and comes back for the others, again travelling at a steady speed of 40 miles per hour.

**How far have the students walked by the time the car reaches them?**

**SO HOW DO WE  
MEASURE WATER?**





If you have been thinking about this question throughout the slides you might have realised that there are lots of ways we can measure water. We could use all of the methods we have used in these slides. We could:

- **Compare it** to something else. So we could say we had less water than in a river but more than in an egg cup.
- Measure it using measures of **length**. So we could talk about how deep the water was. You will often see this marked on the side of a swimming pool.
- Measure it using measures of **mass or weight**. So we could talk about how heavy the water was. [Although you would have to think carefully about how to hold the water on the scales! I think you would need to use a container but how would you know you are not measuring the container's weight as well as the water?]
- Measure it using measures of **capacity**. This is the way that bottled water is measured, in millilitres or litres.
- So which way would you chose to measure water? And what equipment would you need to do it?





## Credits:

The activities in this Powerpoint are freely available to use from Twinkl, Nrichmaths.org, MathsSalamanders, k5learning or have been developed by Dr K. Baker.

Links are from BBC Bitesize ,White Rose Maths and Mathalia.