

Maths Week 2

Measurement and Length

Lesson 1: Activity to Upload

In this lesson the children are learning how to measure accurately in cms using a ruler. The children will need to have a ruler to complete the tasks. Children need to understand how to start at 0, use the cm edge and how to read the numbers correctly.

Flashback 4

Year 2 | Week 6 | Day 1

1) How many vertices does a rectangle have?

2) Name the 3D shape.



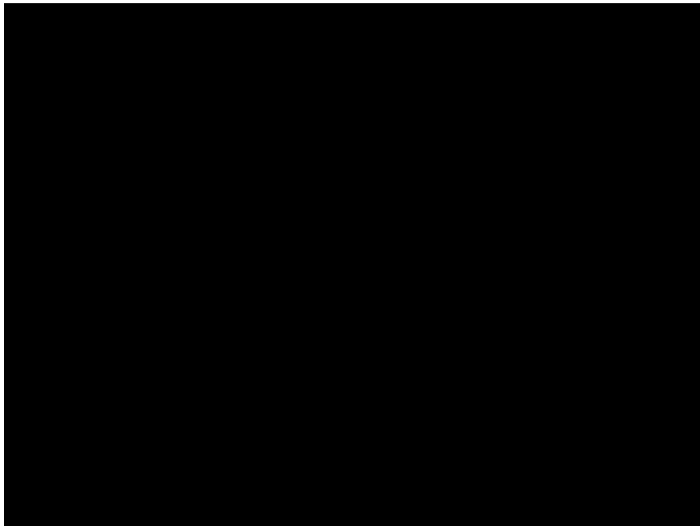
3) Complete the number sentence.

$$5 + 5 + 5 = 3 \times \square$$

4) Write twenty-nine in numerals.



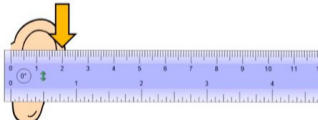
Start by watching this teaching video:



Can you remember these top tips and do some measuring?

Our top tips to help Eva measure ears.

- Make sure you're using the cm side of the ruler
- Try to get the 0 at the edge of the object you are measuring
- Look at the other edge of your object, which number is it nearest?



Can you find at least 10 things in your home that measure more than 10cm and less than 15cm?

As a challenge can you measure a teddy that is longer than your ruler and use the tips from the video to help you find it's height?

Can you measure these lines with a ruler?

Our top tips to help Eva measure ears.

- Make sure you're using the cm side of the ruler
- Try to get the 0 at the edge of the object you are measuring
- Look at the other edge of your object, which number is it nearest?



_____ cm



_____ cm



_____ cm



_____ cm



Which line is the longest and which is the shortest?

Burlington Bear has got some different lengths written here.
Can you draw the lines to the correct size?

6 cm

12 cm

9 cm

15 cm



Object hunt!



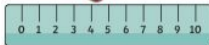
Do you have any of these objects around your house?

Can you find them and measure them?

If you don't have these objects you can use other items around your house!

Which of these is
the odd one out?

Why?



Can you write some tips
to help a friend measure
accurately?

Investigation:

Can you use what you have learnt today about measuring using a ruler to answer these questions!



My longest animal is between 22cm and 26 cm.

My shortest animal is between 12cm and 16cm.

What are all the possible lengths of the longest animal?

What are all the possible lengths of the shortest animal?

What lengths could the other animals be?

Now you can complete the worksheet for more practise.
Please upload the sheet onto Tapestry or Google Classroom.

Measure length (cm)

- 1 How long is the pen to the nearest centimetre?



The pen is cm long.

- 2 How tall is the doll to the nearest centimetre?



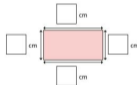
cm

- 3 Use a ruler to draw the lines.
a) 12 cm long

- b) 7 cm long

- c) 8 cm long

- 4 How long is each side to the nearest centimetre?
Measure and label the rectangle.



© 2015 Pearson Education Ltd.

- 5 Rosie measures the length of a tube of sweets.



- a) Do you agree with Rosie? _____
Talk about it with a partner.

- b) How long is the tube to the nearest centimetre? cm

- 6 You cannot use a ruler to measure the line.



Why not? How could you measure it?

- 7 a) Draw a line that is between 6 cm and 9 cm long.

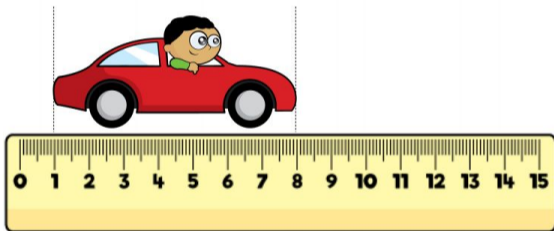
- b) How long is your line to the nearest centimetre? cm

- 8 Amir has a 15 cm ruler.



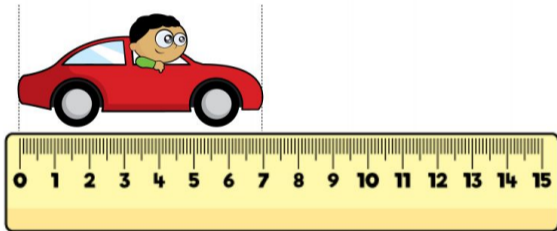
Is Amir correct? _____
How could he measure an object longer than 15 cm?
Talk to a partner.

The toy car is 8 centimetres long.



False

The toy car must be lined up with the 0



Lesson 2: Activity to upload

In this lesson we are measuring and estimating in m and m and cms. The children will need a metre 'stick' to measure with. We have attached a document that can be cut up to create a metre stick. Please use a tape measure or anything else you have at home.

Flashback 4

Year 2 | Week 6 | Day 2



- 1) Is the line of symmetry correct?



- 2) Name the shape.

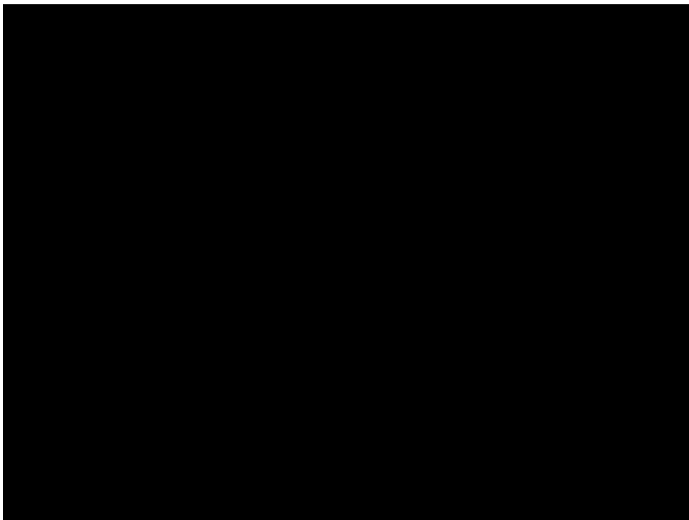


- 3) Complete the number sentence.

$$4 + 4 = 4 \times \square$$

- 4) Write 84 in words.

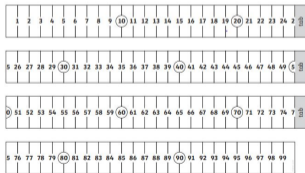
Start by watching this teaching video:



Now you have watched the video can you find a measuring tape or make the paper metre stick?

Metre Tape Measure

Instructions: Carefully, cut the strips out. Then, add glue to the tabs and stick the strips together.





Measure objects with a metre stick and sort them into groups.

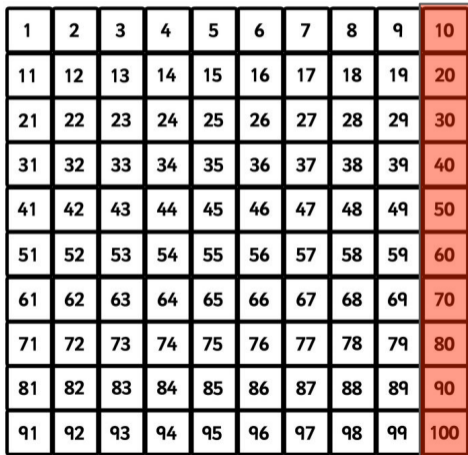
Shorter Than 1 Metre

Longer Than 1 Metre

Challenge:

Can you find something that measures exactly 1 metre?

Can you remember how to count in 10's?



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Count in jumps of 10cm to the end of the metre stick.



1 metre is equal to _____ centimetres.

The slide is shorter than 1 metre.



Click to hear Miss Holmes read out the questions with some support. Pause this video at any time whilst you figure out the answers. Feel free to use any physical resources or jot down some workings out!

Do you agree?
Explain why.

- Do you think a slide is shorter than one metre?
- Is a slide taller or shorter than you?
- How tall do you think you might be?
- How does that help you estimate the height of the slide?

Which measurement could match the height of the swing? Tick it.

2 Centimetres

20 Centimetres

2 metres

20 metres



Click to hear Miss Holmes read out the questions with some support. Pause this video at any time whilst you figure out the answers. Feel free to use any physical resources or jot down some workings out!

- Have you been on a swing before?
- Was it taller/shorter than you?
- Read one measurement at a time. What would this look like?
- Can you use a ruler/metre stick to check? Which measurement do you think is correct?

Would you measure these toys in metres or centimetres?



Click to hear Miss Holmes read out the questions with some support. Pause this video at any time whilst you figure out the answers. Feel free to use any physical resources or jot down some workings out!

- Have you played with toys like this before?
- Which unit would you choose to measure them? Why?
- Would you be able to measure them in metres? Why?
- Can you make a metre/centimetre challenge for a friend?
- Would you measure this object in metres or centimetres?

If you would like a super challenge take a
look at the next 2 slides!

OR

Skip to the worksheet!

Measure in
metres (m)



Measure in
centimetres (cm)



What other objects could you add to each group?

Click to hear Miss Holmes read out the questions with some support. Pause this video at any time whilst you figure out the answers. Feel free to use any physical resources or jot down some workings out!

Imagine these objects are real. They have been sorted into two groups: measure in metres/centimetres. Look at each object. **Do you agree with where they have been placed? Can you explain why? What would you add to each set?**



I only have 1 metre stick, so I can't measure the length of the classroom.

Can you use a metre stick to find the length of the classroom?



Our classroom is _____ metres and _____ centimetres long.

Can you measure the length of your bedroom?
Or any other room of your choice?

Click to hear Miss Holmes read out the questions with some support. Pause this video at any time whilst you figure out the answers. Feel free to use any physical resources or jot down some workings out!

Now you can complete the worksheet for more practise

Please upload the sheet onto Tapestry or Google Classroom.

Measure length (m)

1 Look around your classroom.

Choose 10 objects.

- Estimate which objects are longer than 1 metre and which are shorter than 1 metre.
- Draw each object in the correct part of the table.

Longer than 1 metre	Shorter than 1 metre

d) Use a metre ruler to measure your objects.

Did you put them in the correct column?

d) Which object is closest to 1 metre long?

2



Do you agree with Ron? _____

Talk about it with a partner.

Complete the sentences.

a) Dexter is 1 ____ and 8 ____ tall.

b) Dani is 1 metre and 21 centimetres tall.

Dani is m and cm tall.

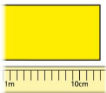
c) Scott is 1 metre and 11 centimetres tall.

Scott is and tall.

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1 Class 2 are measuring poster paper for an art lesson.

Nijah puts the paper next to a 2-metre stick.



How long is the poster paper?

m and cm

4 Measure the longest side of your classroom and complete the sentence.

My classroom is and long.

5



Daddy Bear is 2 metres tall.

Baby Bear is half as tall as Daddy Bear.

a) How tall is Baby Bear? m

b) Mummy Bear is taller than Baby Bear, but shorter than Daddy Bear.
How tall could Mummy Bear be?

Mummy Bear could be and tall.

Compare answers with a partner.

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A metre stick is better than a ruler to
measure the length of a table.

True

As a table is a large object, it is easier to measure in metres and it would give a more accurate measurement.

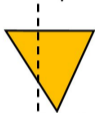
Lesson 3:

In this lesson the children are learning to compare lengths. They will use words such as - longer, longest, shorter and shortest. They are also using the symbols that represent, greater than $>$, less than $<$ and equal to $=$. The children will be familiar with these symbols however the video explains this in a way that all children will benefit from watching.

Flashback 4

Year 2 | Week 6 | Day 3

- 1) Is the line of symmetry correct?



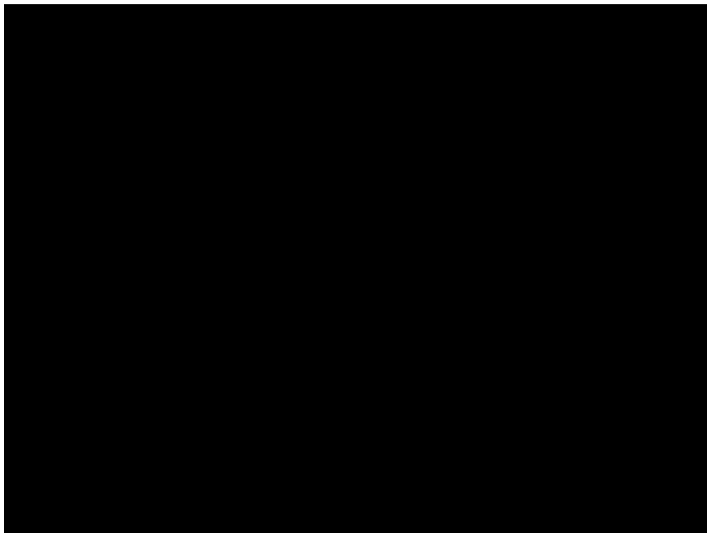
- 2) How many sides does a square have?

- 3) Is 17 odd or even?

- 4) How much money is there altogether?



Start by watching this teaching video:



Compare the lengths of the animals.
Which words complete each sentence?

A longer than

B shorter than

C the same as



12cm

The frog is ___ the lizard.



20cm



10cm

The caterpillar is ___ the butterfly.



10cm



30cm

The toucan is ___ the parrot.



30cm

Can you compare these lengths using the greater than, less than or equals signs?

14cm 14cm

17cm 17m

1m 11cm



Have you got a piece of paper ready?

Write $<$, $>$ or $=$ to compare the statements.

a) 11cm 34cm

b) thirty metres 50 m

c) Two metres 2 cm

Top Tip - look at the units of measurement.
Remember cm are smaller than m!

Some of Burlington Bear's friends are arguing over who is taller.
Can you help them?

I am 1m taller than the tiger.



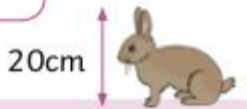
1m



How tall is the bear?
What number sentence could you
write to figure this out?

How tall is the rabbit?

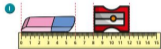
I am 10cm shorter than the rabbit.



What number sentence could you write to figure this out?

Now you can complete the worksheet for more practise.

Compare lengths



Choose a word to complete the sentences.

shorter

longer

The rubber is _____ than the sharpener.

The sharpener is _____ than the rubber.

2 Write <, > or = to compare the statements.

a) 9 cm 23 cm

b) fifty metres 50 m

c) one metre 1 cm

3 Write digits in the boxes to make the statements correct.

a) cm < 41 cm

b) 14 m < m

c) 14 cm > cm

d) 12 m < m < 20 m

Is there more than one answer for each?

4 Would you measure each one using centimetres or metres?

Tick your answer.

centimetres metres

- | | | |
|-------------------------------|--------------------------|--------------------------|
| a) the height of a baby | <input type="checkbox"/> | <input type="checkbox"/> |
| b) the length of a pencil | <input type="checkbox"/> | <input type="checkbox"/> |
| c) the height of a school | <input type="checkbox"/> | <input type="checkbox"/> |
| d) the height of your teacher | <input type="checkbox"/> | <input type="checkbox"/> |

What else would you measure in metres?

5 Write <, > or = to compare the statements.

a) 39 cm + 9 cm 47 cm

b) 22 m - 6 m 0 m + 15 m

c) 4 cm + 13 cm 20 m - 3 m

6

5 m = 5 cm

a) Why is the statement wrong?
Talk about it with a partner

b) Write < or > to correct the mistake.

5 m 5 cm

7 One large cube is three times as long as one small cube.



One small cube is 5 cm long.

a) How long are 2 small cubes?

cm

b) How long are 10 small cubes?

cm

c) How long is 1 large cube?

cm

d) How long are 2 large cubes?

cm

True or False ?

Compare lengths

$$70 \text{ cm} = 7 \text{ m}$$

False

There are 100 cm in a metre so
 $700 \text{ cm} = 7 \text{ m}$

Lesson 4:

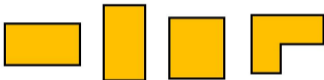
In today's lesson the children are using their addition and subtraction skills to solve measuring problems.

Flashback 4

Year 2 | Week 6 | Day 4



- 1) Which shape is the odd one out?



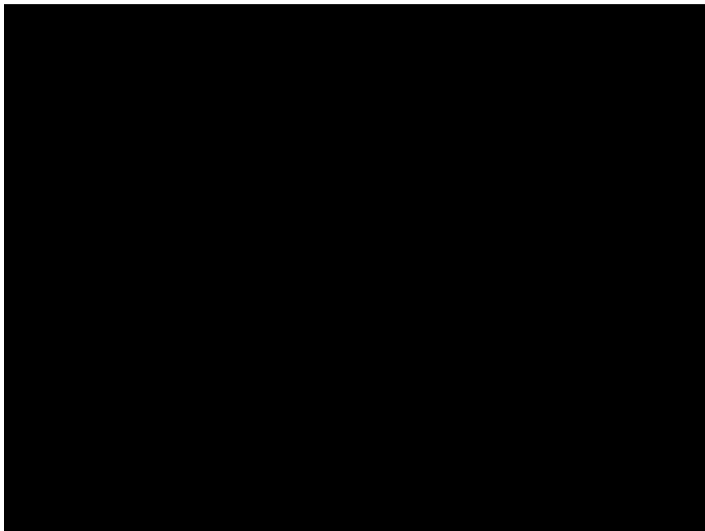
- 2) Which shape has 5 sides?

- 3) Is 38 odd or even?

- 4) Write the number made in Base 10



Start by watching this teaching video:

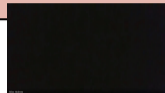


Ben has swum twice as far as Ava.
How far has he swum?



How far does each child have to swim to reach the end of the pool?

Click to hear Miss Holmes read out the questions with some support. Pause this video at any time whilst you figure out the answers. Feel free to use any physical resources or jot down some workings out!

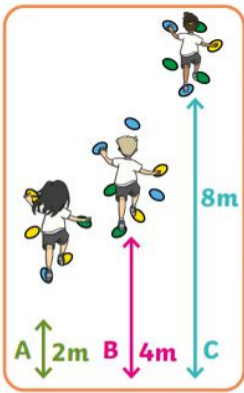


12m	
10m	

12m	
5m	

Can you spot the useful information?
What do you need to do to find the answer?

Can you draw a bar model to help you work out what to do?



How many metres will A climb to catch up with C?

How many metres have they climbed altogether?

Can you write your own question?

Click to hear Miss Holmes read out the questions with some support. Pause this video at any time whilst you figure out the answers. Feel free to use any physical resources or jot down some workings out!

How far has A climbed? What are the key words? What can you do to find the answer? Can you use a bar model to help? How far has C climbed? How much higher is C than B? How far have they climbed altogether?



Click to hear Miss Holmes read out the questions with some support. Pause this video at any time whilst you figure out the answers. Feel free to use any physical resources or jot down some workings out!

How far would each girl have run if they were all 2 metres apart?

What about if they were all 5 metres apart?

What information is important?

What number patterns/facts do we know that will help us?

What is two less/more than 70?

What is five less/more than 70?

How far would each girl have run if there were a 10 metre difference between them? What is ten less/more than 70?



I rolled my orange marble 65 centimetres.



My red marble rolled 4cm less than the orange.



My purple marble rolled 12cm more than the orange.

$$65\text{cm} - 4\text{cm} = \underline{\hspace{2cm}}$$

$$65\text{cm} + 12\text{cm} = \underline{\hspace{2cm}}$$

How many centimetres did each marble roll?

Which marble rolled the closest to 50cm?

Can you prove it?

Click to hear Miss Holmes read out the questions with some support. Pause this video at any time whilst you figure out the answers. Feel free to use any physical resources or jot down some workings out!

How far did the orange marble roll? How can you work out how far the red marble went? Which keywords can help? How can we work out how far the purple marble rolled? Which keywords can help? Which number is closest to 50cm? How do you know? Convince me.

If you would like a super challenge take a
look at the next 2 slides!

OR

Skip to the worksheet!



Mia

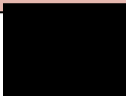
Kris

Beth

Kris jumped twice as high as Mia. How high did Mia jump?

Beth jumped 3 times higher than Mia. How high did Beth jump?

Click to hear Miss Holmes read out the questions with some support. Pause this video at any time whilst you figure out the answers. Feel free to use any physical resources or jot down some workings out!



Can you spot the useful information? What is the height of Kris' jump? What height is 20cm twice as high as? What can you do to find the answer? Have you found the key words? What is the height of Mia's jump? How can you find three lots of ten? What would this look like as a number sentence? What can you do to find the answer?

My skipping rope is 2m long.
How many metres of rope
would make 10 skipping ropes?



How many skipping
ropes can I make from 10
metres of rope?

What about 12 metres?

Click to hear Miss Holmes read out the questions with some support. Pause this video at any time whilst you figure out the answers. Feel free to use any physical resources or jot down some workings out!

How many skipping ropes could be made from 10m of rope? How could you work this out? What if you had 12m? What pattern can you see? Can you use this to find more possibilities?

Now you can complete the worksheet for more practise.

Four operations with lengths

- 1 Eva has a toy car and a toy truck.

The toy car is 12 cm long.

The toy truck is 7 cm longer than the toy car.

- a) How long is the toy truck?

 cm

- b) What is the total length of both toys together?


 cm


- 2 Mo measures his pencil at the start of Year 2, halfway through Year 2 and at the end of Year 2

A



B



C



- a) Which picture (A, B or C) shows the pencil at the start of Year 2?

Picture _____

How do you know?

- b) What is the difference between the longest and shortest length?

 cm

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- 3 Jack, Teddy and Aisha buy cards for Dora's birthday.



- Teddy's card is 12 cm high.
- Jack's card is half the height of Teddy's card.
- Aisha's card is 3 cm taller than Teddy's card.

- a) What is the height of Jack's card?

 cm

- b) What is the height of Aisha's card?

 cm

- c) What is the difference in height between Jack's card and Aisha's card?

 cm


- 4 Kim is 87 cm tall and Huan is 78 cm tall. Kim is taller than Brett.

Huan is shorter than Brett.

Circle all the heights that Brett could be.

80 cm 87 cm 78 cm 85 cm

- 5 The Year 2 classroom is 13 m long.

The Year 3 classroom is 8 m longer than the Year 2 classroom.

- a) How long is the Year 3 classroom?

 m

- b) The Year 4 classroom is 3 m shorter than the Year 2 and Year 3 classrooms together.

How long is the Year 4 classroom?

 m

The toy sheep is 15 cm longer than the toy ladybird.



12 cm long



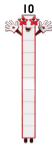
37 cm long

False

$$37 - 15 = 25 \text{ cm}$$

The toy sheep is 25 cm longer than the toy ladybird.

Lesson 5 - Mental Maths



Lesson 5 - To calculate division facts ($\div 2 \div 5 \div 10$)

Focus:

To calculate multiplication facts ($2 \times 5 \times 10 \times$)



Teaching Point:

Counting in 2s, 5s and 3s is a precursor to learning times tables.

There are differentiated challenges. Please choose the one that suits your child best or your child may choose to work through them from the mildest to the hottest!



- 1) Which shape comes next in the pattern?



- 2) How many vertices does a triangle have?
- 3) What is $15 \div 5$?
- 4) Which 2-digit number has 5 tens and 3 ones?

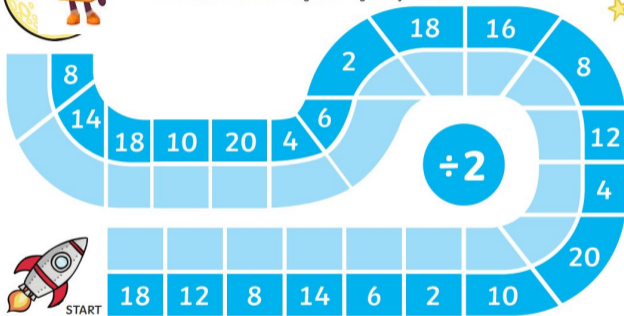


Dividing by 2 Space Race

How fast can you divide by 2?

Divide the numbers on the track by 2 and write your answers as you go.

Use a timer to see how long it takes you to finish the race!





There are ____ shoes altogether.

We put 2 in each box.

There are ____ groups.

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

Ring each pair of flip-flops.



$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

There are ____ flip-flops in total.

Each pair has _____ flip-flops.

There are ____ pairs of flip-flops.



Adult Prompt Questions:

How many shoes are there?

How many will go in each box/group?

How many boxes/groups are there?

How could we write this grouping as a calculation?

Which multiplication fact is linked to this division?

How many are in a pair?

Can you ring each pair of flip-flops?

How many flip-flops are there?

How many pairs have you made?

Which calculations can we write to represent the flip-flops?



Divide by 2



Are these statements true or false? Explain why.

$$10 \div 2 > 8 \text{ divided by } 2$$

$$20 \text{ split up into groups of } 2 = 20 \div 2$$

$$12 \text{ shared between } 2 < 2 \div 2$$

$$24 \text{ divided by } 2 > 12 \div 2$$

$$10 \text{ shared between } 2 = 5 \div 2$$

$$8 \div 2 =$$



$$> 6 \div 2$$



MEDIUM

Adult Prompt Questions:

What do the symbols $<$, $>$ and $=$ mean?

What does the \div symbol mean?

What do we need to do before we can decide whether the statements are true or false?

How will you solve the division calculation?

What could you use to help you?

Do you think this statement is true or false?





Solve these problems.

Two children sit at each table.
How many tables do I need for
20 children?



John has 18p in 2p coins. How
many 2p coins does he have?



I put 2 sausages on each plate.
I have 12 sausages. How many
plates do I need?



How many groups of 2 can I make with 14?

How many 2s are there in 16?

Make up some of your own problems like this for
a friend to solve.



Adult Prompt Questions:

How will you solve the problem?

What do you need to do?

Can you write a calculation using the division symbol?

What could you use to help you find the answer?

Can you write a problem like this?



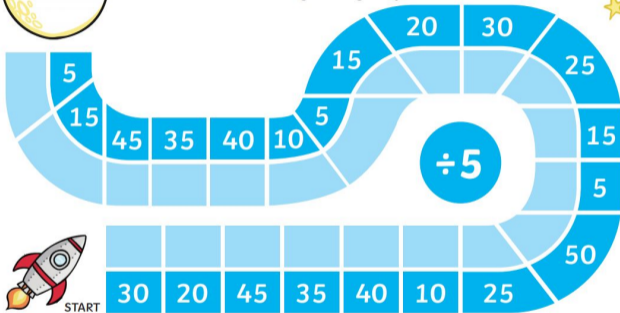


Dividing by 5 Space Race

How fast can you divide by 5?

Divide the numbers on the track by 5 and write your answers as you go.

Use a timer to see how long it takes you to finish the race!





Circle Alice's coins to make groups of 5.

The value of each group is ____p.

There are ____ groups.

$$15p = ___ \times ___p$$

$$15p \div ___ = ___p$$

How many bags of sweets can Alice buy?



Aman buys 30 marshmallows. He shares them between 5 bags.

How many marshmallows will be in each bag?
Show how you know.



$$30 \div ___ = ___ \quad 5 \times ___ = ___$$



Adult Prompt Questions:

How many coins are there in total?

How many groups have you made?

How many are in each group?

How could we write it as a multiplication?

Is $15p = 3 \times 5p$ the same as $3 \times 5p = 15p$? Why?

What division calculation can you write?

What symbol will you use?

How can we share these marshmallows between the five bags?

Why do they need to be shared equally?

Can you write a division calculation?

What is the related multiplication fact from the five times table?



I have 50p that I am going to share between 5 friends. How much will each person get?



I have 50p, made up from 5p coins. How many 5p coins do I have?

Are these questions the same or different?

Explain your ideas.

Write a calculation for each one.



MEDIUM

5



Adult Prompt Questions:

Is Aman sharing or grouping?

How do you know?

Could you represent what Aman has done in a drawing?

Can you use your five times table to help you work out how much each child will get?

Can you write a division calculation?

Is Jin sharing or grouping?

How do you know?

Can you use a number line to represent Jin's coins?

Can you write a division calculation?



Use the digits 1 to 9 to find different ways to complete this statement. You can use each digit more than once.



$$\square 5 \div 5 = \square$$



How many different ways can you find?

For each one, write the matching multiplication calculation.



Adult Prompt Questions:

What does the = symbol mean?

What digit could we choose to go in the tens column first?

What digit would have to go in the multiplication calculation to make it equal to the division calculation?

Is there more than one possible answer?

What could we try next?

Why does it help to be systematic, following the pattern of the numbers?

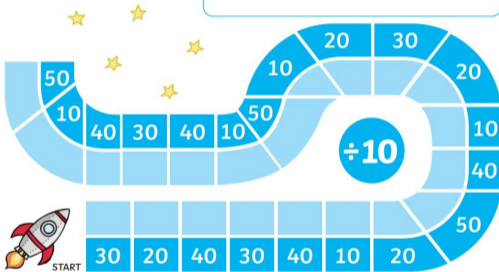
Can we be sure we have found all the answers?

Could I write $55 \div 5 = 11$? Why not?

Dividing by 10 Space Race

How fast can you divide by 10?
Divide the numbers on the track by
10 and write your answers as you go.
Use a timer to see how long it takes
you to finish the race!

Can you explain your method for dividing by 10?



Dividing by 10



Cupcakes come in boxes of 10.



How many boxes can be filled? $\underline{\quad} \div \underline{\quad} = \underline{\quad}$

Share the tennis balls between 10 people.



Complete these sentences about the balls:

There are $\underline{\quad}$ people.

Each person gets $\underline{\quad}$ balls.

There are $\underline{\quad}$ tens in 30.

3 tens \div 1 ten = $\underline{\quad}$

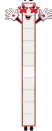
$\underline{\quad} = 30 \div 10$

$\underline{\quad} \times \underline{\quad} = 30$

MILD



10



Adult Prompt Questions:

How many cakes are in each row?

How many cakes are there in total?

Do you need to count in ones or is there a quicker way?

How many groups of 10 can you make?

What division calculation can we write?

How many tennis balls are there?

Can you circle them in groups so that all ten people will have an equal number of balls?

How many will each person get?

What is missing from each of these sentences?

Dividing by 10



True or false? Explain your answers.

$$40 \div 10 = 40 \div 4$$

If you divide a number by 10, the answer is always odd.

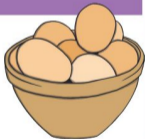
$$90 \div 10 > 60 \div 10$$

If you divide 60 by 10, the answer is even.

To halve a number, you divide it by 10.

$$10 \div 10 < 100 \div 10$$

If there are 60 eggs and you group them into boxes of 10, there will be none left over.



MEDIUM

Adult Prompt Questions:

How will you find out if this statement is true or false?

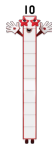
Do you need to do a calculation?

Do you need to do more than one calculation to be sure?

Is this always true/false?

Can you use a drawing or equipment to help you decide?

What do the symbols $<$ and $>$ mean?



Dividing by 10



Mr Smith shares 30 books between 10 tables.

How many will be on each table?

$$__ \div __ = __$$



Write or draw two of your own sharing stories to match these calculations:

$$60 \div 10$$

$$20 \div 10$$

I want 80 pencils. How many packs do I need?



$$__ \div __ = __$$



Write or draw two of your own grouping stories to match these calculations:

$$70 \div 10$$

$$40 \div 10$$



Adult Prompt Questions:

Is this a sharing or grouping problem?

How do you know?

What's the difference?

Are the calculations written differently?

How many books/pencils are there in total?

How many groups have you made?

How many in each group?

What calculation can you write?

Can you make up your own division story?

Will it be a sharing story or a grouping story?

Can you draw a picture, an array or a bar model to represent your story?

Can you represent your calculation using equipment?

Which is more efficient: grouping or sharing? Why?

