

Year 4 Maths Distance Teaching and Learning

Week beginning: 15th June 2020

Lesson 1		
Learning Intention: WALT explore division	Key Vocabulary:	What you will need: A computer, tablet or phone for the starter Maths book Pencil and ruler Video: Year 4 Maths – S2 Week 3 - lesson 1
Starter		
Log into Times Table Rock Stars and complete a gig if it is available. If not, complete a studio session.		
Main Teaching		
<p>Today's session is focusing on the inverse of our last session. We are going to be starting with our total and dividing that into the groups by sharing or grouping. Although division is trickier, most of the division calculations you are going to need to do are all inverse questions of your times tables facts up to 12 x 12 so make sure you are using those throughout today's session.</p> <p style="text-align: center;">Remember if $5 \times 7 = 35$ ➡ $35 \div 7 = 5$ and $35 \div 5 = 7$.</p> <p>Example 1:</p> <p>I have 60cm of string. I need to cut it into 5 pieces and tie each piece to a balloon. How long will each balloon's string be?</p> <p>First, we need to spot if we have our total. As we are practising division only today, we will have our total. Our total in this example is 60. We then need to spot how many groups we are dividing our total into. In this example, our total will be shared into 5 groups (the 5 pieces of string).</p> <p>Once you have decided these, you can then create your bar model.</p> <div style="text-align: center; margin: 10px 0;"> </div> <p>Then, pick out the calculation needed. This example needs us to do $60 \div 5$, which is 12. Finally, write your full sentence answer.</p> <p style="text-align: center;">Each balloon's string will be 12cm long.</p>		

Example 2:

Alvin has a bag of sweets. The bag weighs 48g. There are 8 sweets in the bag. How much does each sweet weigh?

First, we need to spot if we have our total. As we are practising division only today, we will have our total. Our total in this example is 48. We then need to spot how many groups we are dividing our total into. In this example, our total will be shared into 8 groups (the 8 sweets).

Once you have decided these, you can then create your bar model.



Then, pick out the calculation needed. This example needs us to do $48 \div 8$, which is 6. Finally, write your full sentence answer.

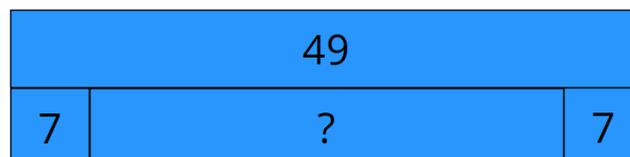
Each sweet weighs 6g.

Example 3:

A water tank was filled with 49L of water. The water was poured equally into some bottles. Each bottle contains 7L of water. How many bottles are needed?

First, we need to spot if we have our total. As we are practising division only today, we will have our total. Our total in this example is 49. We then need to spot how many groups we are dividing our total into. However, in this example, we do not know the amount of groups but we know the amount IN each group.

This time, our bar model will look a little different.



This time, we can still use the numbers we know to create or division calculation, however instead of **sharing** into groups, we will be dividing by **grouping**. 49 grouped into groups of 7 would get 7 groups. $49 \div 7 = 7$.

Finally, write your full sentence answer.

7 bottles are needed.

Independent Tasks

Please complete 1 or 2 challenges. If you are finding a challenge too tricky or too easy after 3 questions, you should switch challenges. After you have completed your challenge, check your answers against the mark scheme. If you got an answer wrong, look carefully and identify where you made a mistake.

Challenge 1

Create the bar model that matches the question, solve the problem and record your answer as a full sentence.

- 1) Julia has 5 horses. She has 35 carrots to share between them. How many will each horse get?
- 2) Paul has 27 pounds. He wants to share it between 3 charities. How much will each charity get?
- 3) Ben has 50 gel pens. He wants to give them to his 5 closest friends. How many gel pens will each friend get?
- 4) Izzie was making party bags for her party. She had 24 toys to share between 6 friends. How many toys did she put in each party bag?
- 5) A teacher was sharing counters out for her Maths lesson. She had 60 counters to share between 5 pots. How many counters did each pot get?
- 6) A warehouse was loading a lorry for a delivery. The order needed 18 tins of baked beans. Each case has 6 tins in. How many cases need to be loaded?

Challenge 2

Create the bar model that matches the question, solve the problem and record your answer as a full sentence.

- 1) Julia has 5 horses. She has 60 carrots to share between them. How many will each horse get?
- 2) Paul has 84 pounds. He wants to share it between 7 charities. How much will each charity get?
- 3) Ben has 42 gel pens. He wants to give them to his 7 closest friends. How many gel pens will each friend get?
- 4) Izzie was making party bags for her party. She had 32 toys to share between 8 friends. How many toys did she put in each party bag?
- 5) A teacher was sharing counters out for her Maths lesson. She had 108 counters and needed to put them into pots. She put 12 in each pot. How many pots were needed?
- 6) A warehouse was loading a lorry for a delivery. The order needed 64 tins of baked beans. Each case has 8 tins in. How many cases need to be loaded?

Challenge 3

Create the bar model that matches the question, solve the problem and record your answer as a full sentence.

- 1) Julia has 8 horses. She has 96 carrots to share between them. How many will each horse get?
- 2) Paul has 132 pounds. He wants to share it between 11 charities. How much will each charity get?
- 3) Ben has 72 gel pens. He wants to give them to his 8 closest friends. How many gel pens will each friend get?
- 4) Izzie was making party bags for her party. She had 63 toys to share between 9 friends. How many toys did she put in each party bag?
- 5) A teacher was sharing counters out for her Maths lesson. She had 156 counters and needed to put them into pots. She put 12 in each pot. How many pots were needed?
- 6) A warehouse was loading a lorry for a delivery. The order needed 72 tins of baked beans. Each case has 6 tins in. How many cases need to be loaded?

Challenge X

Sally had an amount of sunflower seeds, which was less than 30. She was trying to decide how to plant them in equal groups, without having any left over. Her possible options were:

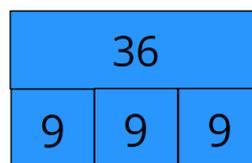
In rows of 8, 12 or 4.

- a) How many sunflower seeds did Sally have?
- b) If she chose 8, how many rows would there be?
- c) If she chose 12, how many rows would there be?
- d) If she chose 4, how many rows would there be?

Review

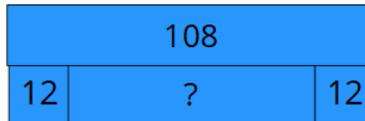
Spot the good mistake.

How many small packets are in each big packet of crisps if I had 3 big packets with a total of 36 small packets?



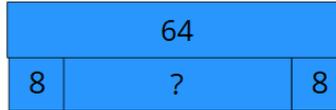
5) $108 \div 12 = 9$

She needed 9 pots.



6) $64 \div 8 = 8$

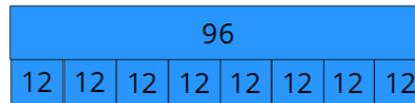
8 cases need to be loaded.



Challenge 3

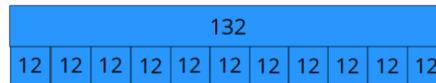
1) $96 \div 8 = 12$

Each horse gets 12 carrots.



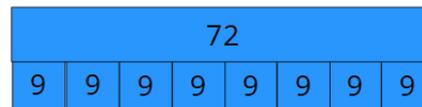
2) $132 \div 11 = 12$

Each charity gets £12.



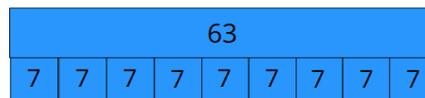
3) $72 \div 8 = 9$

Each friend gets 9 gel pens.



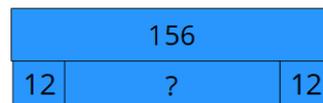
4) $63 \div 9 = 7$

She puts 7 toys in each bag.



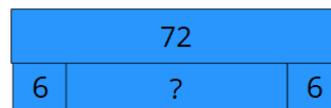
5) $156 \div 12 = 13$

She needed 13 pots.



6) $72 \div 6 = 12$

12 cases need to be loaded.



Challenge X

First, you needed to spot that the total amount had to be a multiple of 4, 8 and 12. The only possible option that is less than 30 is 24.

- a) Sally had 24 sunflower seeds.
- b) $24 \div 8 = 3$. There would be 3 rows.
- c) $24 \div 12 = 2$. There would be 2 rows.
- d) $24 \div 4 = 6$. There would be 6 rows.

Review

The bar model was drawn correctly as the total was 36 and it needed to be split into 3 bags. It was just the division calculation that was incorrect.

$12 \times 3 = 36$ therefore $36 \div 3 = 12$ not 9.

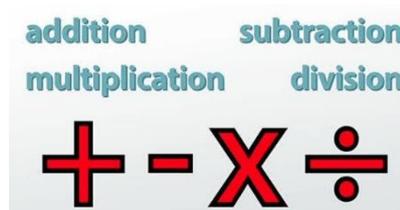
Lesson 2		
Learning Intention: WALT explore two step problems using bar models	Key Vocabulary:	What you will need: A computer, tablet or phone for the starter Maths book Pencil and ruler Video: Year 4 Maths – S2 Week 3 - lesson 2

Starter

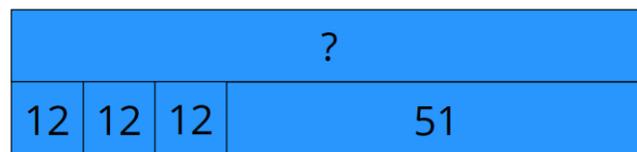
Log into Times Table Rock Stars and complete a gig if it is available. If not, complete a sound check session.

Main Teaching

Today's lesson will require you to break down a worded problem into more than one step, as well as applying a range of calculations. The calculation types you will be using are:



Your bar model will look very different to before and may look something like this:



This would represent the two step calculation of $3 \times 12 + 51 = ?$

OR

It may look something like:



This would represent the two step calculation of $27 - 3 \div 4 = ?$

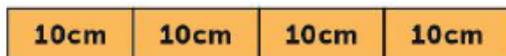
Example 1:

It takes 10cm of wire to make a paper clip. Erin makes 4 paper clips and has 54cm of wire left over. How long was the wire to start with?

First, let's see if we can find both steps in the question.

It takes 10cm of wire to make a paper clip. Erin makes 4 paper clips and has 54cm of wire left over. How long was the wire to start with?

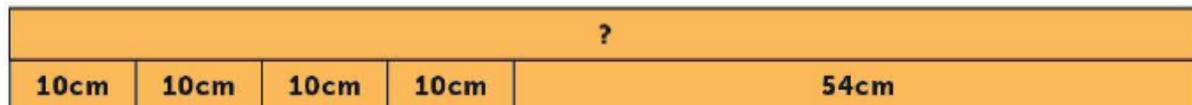
The pink section is telling us that she used 4 lots of 10cm. So step 1 is 4×10 . On a bar model, that would look like this:



Then, the green section is telling us that she still had another 54cm of wire as well as the amount she used for the paper clips. Our bar model would now look like this:



Finally, we need to work out the length of the wire to start with, which includes the 4 paper clips and the extra 54cm:



Step 1: $4 \times 10 = 40$

Step 2: $40 + 54 = 94$.



Remember to answer in a full sentence!

Erin's wire was 94cm long to start with.

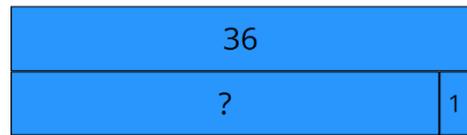
Example 2:

Mrs Pool made her grandchildren some cookies. She made a batch of 36 cookies, ate one herself and then shared the rest between her 5 grandchildren. How many did they get?

First, let's see if we can find both steps in the question.

Mrs Pool made her grandchildren some cookies. She made a batch of 36 cookies, ate one herself and then shared the rest between her 5 grandchildren. How many did they get?

The pink sections tells us our total and the first step we need to take. She has a total of 36 and then we need to take 1 away. $36 - 1 = 35$. On a bar model, that would look like this:

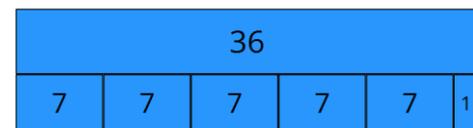


The green section tells us that she then shared what was left between her 5 grandchildren. We would then have 35 shared between 5, which is 7. On the bar model that step would look like this:



Step 1: $36 - 1 = 35$

Step 2: $35 \div 5 = 7$



Mrs Pool's grandchildren each got 7 cookies.

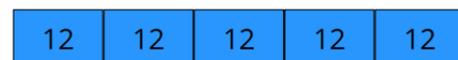
Example 3:

Riley went shopping for PlayStation games. All second-hand games were £12 but if you bought 5, you got £5 off. Riley decided to buy 5 games. How much did he pay?

First, let's see if we can find both steps in the question.

Riley went shopping for PlayStation games. All second-hand games were £12 but if you bought 5, you got £5 off. Riley decided to buy 5 games. How much did he pay?

The pink section tells us that he bought 5 games which all cost £12. We need to work out 5 lots of 12 for this step. 5×12 on a bar model would look like:



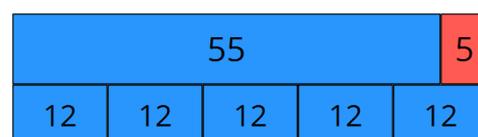
Then, the green section tells us that Riley got £5 off the total in the deal. On our bar model, this would look like:



Finally, we need to work out how much he paid.

Step 1: $5 \times 12 = 60$

Step 2: $60 - 5 = 55$



Riley paid £55 for his PlayStation games.



Independent Tasks

Please complete 1 or 2 challenges. If you are finding a challenge too tricky or too easy after 3 questions, you should switch challenges. After you have completed your challenge, check your answers against the mark scheme. If you got an answer wrong, look carefully and identify where you made a mistake.

Challenge 1

For each question below, draw the matching bar model, calculate the answer and record it in a full sentence.

- 1) John has some paint. He uses 8ml each time he dips his brush. He dipped the brush 5 times. Afterwards, he still had 40ml of paint left. How much did he start with?
- 2) Simon saved £6 a week. After 4 weeks of saving, his dad gave him a bonus of £13. How much money does he have now?
- 3) When making an apple pie, mum started by adding 3 apple slices which weighed 11g each and then added 125g of sugar. How much weight is currently in the bowl?
- 4) Neil is filling his fish tank. There is already 32L in the tank. He pours in 6 buckets of water, which hold 3 litres each. How much water is in the tank now?
- 5) For his birthday party, Ramesh got 10 packets of small Haribos, which each had 9 sweets in. He then got a free large packet of Haribos, which had 140 sweets in. How many sweets does he have altogether?
- 6) Fiona is having a party, too. She buys 2 identical cookies and 1 larger cookie. Altogether, they have a mass of 73g. The larger cookie weighs 53g. What is the mass of each identical cookie?

Challenge 2

- 1) John has some paint. He uses 12ml each time he dips his brush. He dipped the brush 5 times. Afterwards, he still had 72ml of paint left. How much did he start with?
- 2) Simon saved £11 a week. After 7 weeks of saving, his dad gave him a bonus of £33. How much money does he have now?
- 3) When making an apple pie, mum started by adding 9 apple slices which weighed 8g each and then added 143g of sugar. How much weight is currently in the bowl?
- 4) Neil is filling his fish tank. There is already some water in the tank. He pours in 6 buckets of water, which hold 6 litres each. There is now 59L in the tank. How much water was already in the tank?
- 5) For his birthday party, Ramesh got 8 packets of small Haribos. He then got a free large packet of Haribos, which had 125 sweets in. Altogether, he has 181 sweets. How many sweets were in each small bag?
- 6) Fiona is having a party, too. She buys 4 identical cookies and 1 larger cookie. Altogether, they have a mass of 132g. The larger cookie weighs 84g. What is the mass of each identical cookie?

Challenge 3

- 1) John has 144ml of paint. He uses an identical amount each time he dips his brush. He dipped the brush 8 times. Afterwards, he still had 72ml of paint left. How much did he start with?
- 2) Simon saved £15 a week. After 6 weeks of saving, he added it to his bank account, which already had £269 in. How much money does he have in total?
- 3) When making an apple pie, mum is meant to start by adding 14 apple slices, which weigh 9g each and then 4 table spoons of flour that weigh 12g. What is the total weight of the ingredients?
- 4) Neil is filling his fish tank. There is already some water in the tank. He pours in 7 buckets of water, which hold 6 litres each. There is now 98L in the tank. How much water was already in the tank?
- 5) For his birthday party, Ramesh was having a BBQ. He bought 12 packets of burgers which cost £6 each. However when he got to the till, the worker gave him £9 off. How much did he pay?
- 6) Fiona is having a party, too. She buys 6 identical cookies and 1 larger cookie. Altogether, they have a mass of 161g. The larger cookie weighs 95g. What is the mass of each identical cookie?

Challenge X

This question involves all 4 operations (calculation types). You do not need to draw a bar model for this.

Jed went shopping and brought 6 cans of coke which were £2 each; a football, which was £12, and a watch, which was on a deal of £16 off and was originally £100.

When he got home, his wife gave him $\frac{1}{9}$ of his money back. How much did he get back from his wife?

Review

A jug of water contains 650ml of squash. Claire adds 3 more equal glasses of squash to the jug. The jug now contains 1025ml of squash. How much squash did each glass contain?

5) $181 - 125 = 56$

$56 \div 8 = 7$

Each small packet had 7 sweets in.



6) $132 - 84 = 48$

$48 \div 4 = 12$

Each smaller identical cookie weighs 12g.



Challenge 3

1) $144 - 72 = 72$

$72 \div 8 = 9$

Used 9ml of paint each time.



2) $6 \times 15 = 90$

$269 + 90 = 359$

Simon now has £359.

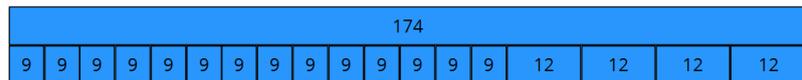


3) $14 \times 9 = 126$

$4 \times 12 = 48$

$126 + 48 = 174$

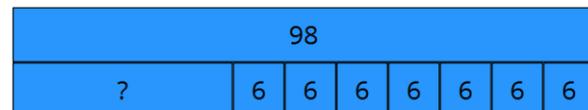
There is 174g in the bowl.



4) $7 \times 6 = 42$

$98 - 42 = 56$

There was 56L in the tank already.



5) $12 \times 6 = 72$

$72 - 9 = 63$

Ramesh paid £63.



6) $161 - 95 = 66$

$66 \div 6 = 11$

Each smaller identical cookie weighs 11g.



Challenge X

$6 \times 2 = 12$ (The cans cost £12)

$12 + 12 = 24$ (The cans and football cost £24 together)

$100 - 16 = 84$ (The watch cost £84)

Jed spent $£84 + £24 = £108$

$108 \div 9 = 12$ (so $\frac{1}{9}$ of 108 is 12)

Jed got £12 back from his wife.

Review

1025ml			
650ml	?	?	?

$$1025 - 650 = 375$$

$$375 \div 3 = 125$$

Each glass contained 125ml of squash.

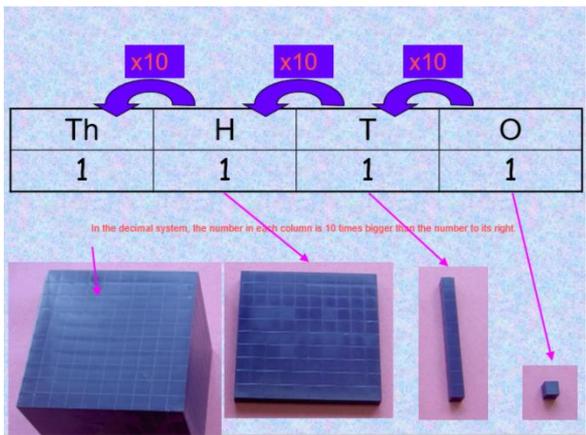
Lesson 3		
<p><u>Learning Intention:</u></p> <p><u>WALT multiply numbers by 10.</u></p>	<p><u>Key Vocabulary:</u></p> <p>Decimal – a part of a whole number</p>	<p><u>What you will need:</u></p> <p>A computer, tablet or phone for the starter Maths book Pencil and ruler Video: Year 4 Maths – S2 Week 3 - lesson 3</p>

Starter

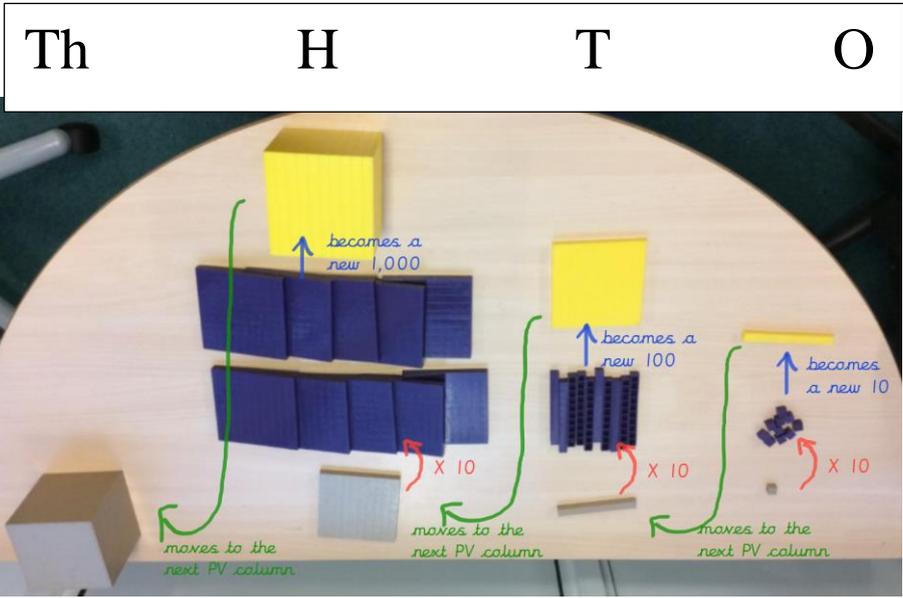
Log into Times Table Rock Stars and complete a gig if it is available. If not, complete a garage session.

Main Teaching

Today, we are going to recap multiplying numbers by 10. The two images below will help you to visualise what is happening to the numbers when we multiply them by 10.



The number in each column is ten times bigger than the one to its right.



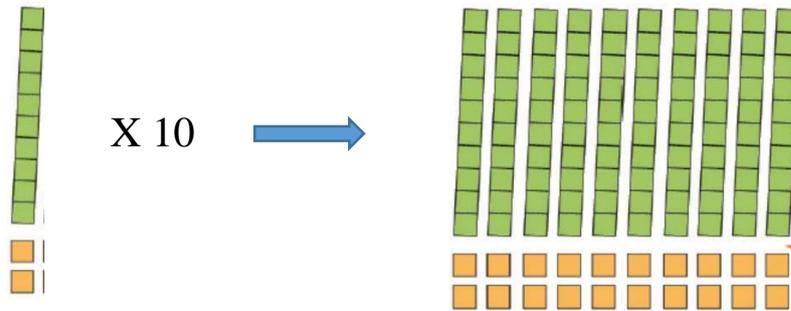
Example 1:

I have a box of pencils. There are 12 pencils in the box. How many pencils would I have in ten boxes?

Here are my 12 pencils represented with dienes.



If I multiplied the 12 pencils by 10, I would get the calculation 12×10 .



We now have ten tens and twenty ones. This means that the ten tens become a new hundred and move up a column, and the twenty ones become two tens and are moved into the tens column. To show that we have no ones after regrouping this into 1 hundred and 2 tens, we must put a placeholder in the ones column.

On a place value chart, that would look like this:

Th	H	T	U
		1	2
	1	2	0

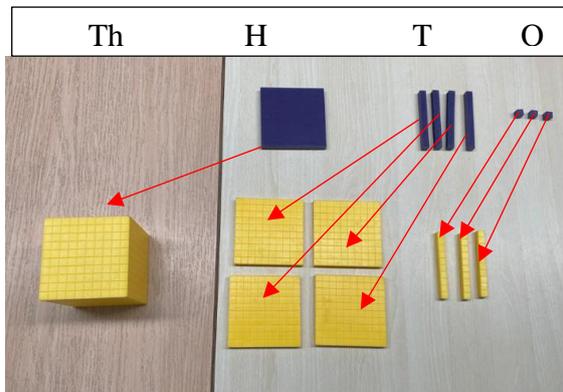
(Note: Red arrows in the original image indicate the movement of 10 tens from the T column to the H column, and 20 ones from the U column to the T column.)

Therefore, $12 \times 10 = 120$

You would have 120 pencils in ten boxes.

Example 2: 143 x 10

This is very similar to the previous example but we just have a three-digit number.



Each of my original 3 ones x 10 makes a new 10. My answer has 3 tens.

Each of my original 4 tens x 10 makes a new hundred. My answer has 4 hundreds.

My original hundred x 10 makes a new thousand. My answer has 1 thousand.

I have no ones. I must put a placeholder in the ones column.

On a place value chart, that would look like this:



$$143 \times 10 = 1,430$$

Example 3: 31.7 x 10

We can also use the same skill to multiply decimal numbers by 10. However, this is where it is important to understand what is happening to the numbers and not just the common mistake of 'adding a zero on the end'.

For this, you will need to remember that ten tenths makes a one (one whole).

Instead of showing this with dienes, we will look at the effect on each digit.

Each of my original 3 tens x 10 will become a new hundred. My answer will have 3 hundreds.

My original 1 one x 10 will become a new ten. My answer will have 1 ten.

31.7

Each of my original 7 tenths x 10 will become a new one. My answer will have 7 ones.



$$31.7 \times 10 = 317$$



Independent Tasks

Please complete 1 or 2 challenges. If you are finding a challenge too tricky or too easy after 3 questions, you should switch challenges. After you have completed your challenge, check your answers against the mark scheme. If you got an answer wrong, look carefully and identify where you made a mistake.

Challenge 1

Multiply each of the numbers below by 10 and record the answer. If you are stuck, draw yourself a place value chart and move the digits one space to the left.

- 1) 9×10
- 2) 5×10
- 3) 34×10
- 4) 57×10
- 5) 96×10
- 6) 56×10
- 7) 324×10
- 8) 657×10

Challenge 2

Multiply each of the numbers below by 10 and record the answer. If you are stuck, draw yourself a place value chart and move the digits one space to the left.

- 1) 56×10
- 2) 67×10
- 3) 82×10
- 4) 43×10
- 5) 21×10
- 6) 194×10
- 7) 638×10
- 8) 605×10

Challenge 3

Multiply each of the numbers below by 10 and record the answer. If you are stuck, draw yourself a place value chart and move the digits one space to the left.

- 1) 568×10
- 2) 937×10
- 3) 230×10
- 4) 83.5×10
- 5) 65.9×10
- 6) 585×10
- 7) 69×10
- 8) 60.7×10

Challenge X

Complete the missing numbers:

- 1) $\underline{\quad} \times 10 = 598$
- 2) $\underline{\quad} \times 10 = 1,306$

Review

Spot the good mistake:

$$13.8 \times 10 = 13.80$$



Mark Scheme – Lesson 3

Independent Tasks
Challenge 1 1) $9 \times 10 = 90$ 2) $5 \times 10 = 50$ 3) $34 \times 10 = 340$ 4) $57 \times 10 = 570$ 5) $96 \times 10 = 960$ 6) $56 \times 10 = 560$ 7) $324 \times 10 = 3,240$ 8) $657 \times 10 = 6,570$
Challenge 2 1) $56 \times 10 = 560$ 2) $67 \times 10 = 670$ 3) $82 \times 10 = 820$ 4) $43 \times 10 = 430$ 5) $21 \times 10 = 210$ 6) $194 \times 10 = 1,940$ 7) $638 \times 10 = 6,380$ 8) $605 \times 10 = 6,050$
Challenge 3 1) $568 \times 10 = 5,680$ 2) $937 \times 10 = 9,370$ 3) $230 \times 10 = 2,300$ 4) $83.5 \times 10 = 835$ 5) $65.9 \times 10 = 659$ 6) $585 \times 10 = 5,850$ 7) $69 \times 10 = 690$ 8) $60.7 \times 10 = 607$
Challenge X Complete the missing numbers: 1) $59.8 \times 10 = 598$ 2) $130 \times 10 = 1,306$
Review Spot the good mistake: $13.8 \times 10 = 13.80$ They had 'added a zero on the end' instead of moving the digits one space to the left and only using a zero as a placeholder if needed.

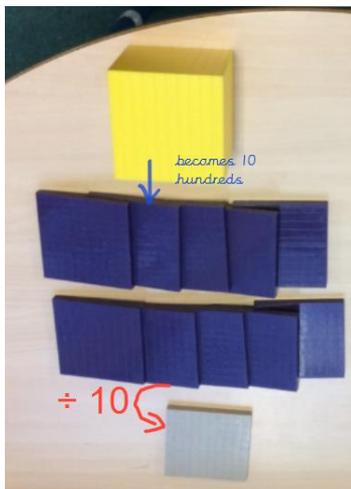
Lesson 4		
Learning Intention: WALT divide by 10	Key Vocabulary:	What you will need: A computer, tablet or phone for the starter Maths book Pencil and ruler Video: Year 4 Maths – S2 Week 3 - lesson 4

Starter

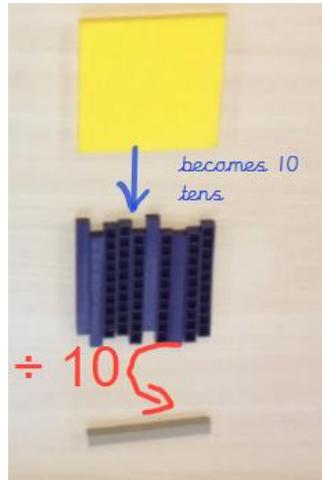
Log into Times Table Rock Stars and complete a gig if it is available. If not, complete a sound check session.

Main Teaching

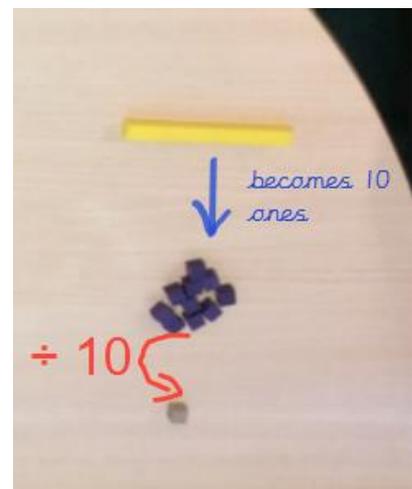
Today, we are going to reverse what we did yesterday. Last lesson, we were making numbers ten times bigger. In today's session, we are going to make numbers ten times smaller. Have a look at the images below. They show the effect on each number when being divided by 10.



When you divide 1 thousand by 10, we would be sharing it into 10 equal groups and the answer would be the amount in 1 group. Each group has one hundred in. Therefore:
 $1,000 \div 10 = 100.$



When you divide 1 hundred by 10, we would be sharing it into 10 equal groups and the answer would be the amount in 1 group. Each group has one ten in. Therefore:
 $100 \div 10 = 10.$

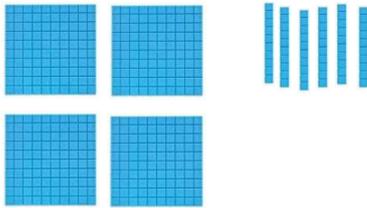


When you divide 1 ten by 10, we would be sharing it into 10 equal groups and the answer would be the amount in 1 group. Each group has one one in. Therefore:
 $10 \div 10 = 1.$

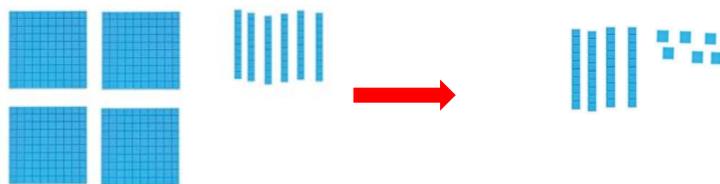
If you notice, these calculations are just the inverse of yesterday's. Therefore, the numbers and digits will move one place right on the place value chart, instead of one place left.

Example 1: $460 \div 10$

Here is 460 represented with dienes.



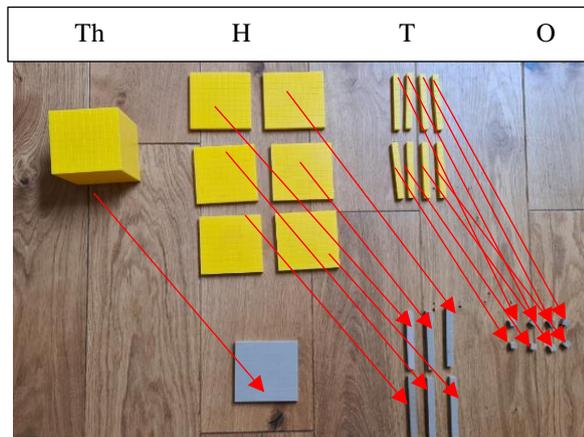
If I divided each part of this number by 10, it would make each piece of the dienes equipment ten times smaller. That would look like this:



That is because each hundred would share out into 10 equal groups and each group would have ten in. Therefore each hundred divided by 10 would equal a ten. Then, Each ten in the original number would share out into 10 equal groups and each group would have one in. Therefore each ten divided by 10 would equal 1.

$$460 \div 10 = 46$$

Example 2: $1,680 \div 10$



My original thousand $\div 10$ becomes a hundred. My answer has one hundred.

Each of my original 6 hundreds $\div 10$ become a ten. My answer has 6 tens.

Each of my original 8 tens $\div 10$ become a one. My answer has 8 ones.

On a place value chart that would look like:

Th	H	T	U	$\frac{1}{10}$	$\frac{1}{100}$
1	6	8	0		
	1	6	8	0	not needed

$$1,680 \div 10 = 168$$

Example 3: $253 \div 10$

This example becomes a little trickier because we will be creating a decimal number.

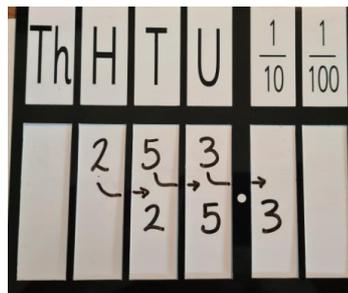
First, let's go through the steps we would be able to do without using decimals.

1. 2 hundreds divided by 10 would make 2 tens, as each hundred would become a ten, when made ten times smaller.
2. 5 tens divided by 10 would make 5 ones, as each ten would become a one, when made ten times smaller.

Now, the trickier part. Remember that one divided by 10 (shared into ten equal groups) becomes a tenth (0.1 or $\frac{1}{10}$).

3. 3 ones divided by 10 would make 3 tenths, as each one would become a tenth, when made ten times smaller.

On a place value chart, that would look like:



$$253 \div 10 = 25.3$$

Independent Tasks

Please complete 1 or 2 challenges. If you are finding a challenge too tricky or too easy after 3 questions, you should switch challenges. After you have completed your challenge, check your answers against the mark scheme. If you got an answer wrong, look carefully and identify where you made a mistake.

Challenge 1

Complete each of the calculations below. If you need to draw and use a place value grid to help, then do! Remember, when dividing by 10, the number gets ten times smaller and moves one place right on the place value chart.

1. $890 \div 10$
2. $420 \div 10$
3. $750 \div 10$
4. $390 \div 10$
5. $7,260 \div 10$
6. $2,740 \div 10$
7. $9,590 \div 10$
8. $852 \div 10$

Challenge 2

Complete each of the calculations below. If you need to draw and use a place value grid to help, then do! Remember, when dividing by 10, the number gets ten times smaller and moves one place right on the place value chart.

1. $960 \div 10$
2. $8,540 \div 10$
3. $740 \div 10$
4. $7,560 \div 10$
5. $3,540 \div 10$
6. $835 \div 10$
7. $951 \div 10$
8. $123 \div 10$

Challenge 3

Complete each of the calculations below. If you need to draw and use a place value grid to help, then do! Remember, when dividing by 10, the number gets ten times smaller and moves one place right on the place value chart.

1. $750 \div 10$
2. $8,650 \div 10$
3. $657 \div 10$
4. $6,751 \div 10$
5. $5,062 \div 10$
6. $7,888 \div 10$
7. $1,005 \div 10$
8. $6,506 \div 10$

Challenge X

Record the answers to each of these as a fraction:

For example: $346 \div 10 = 34.6 = 34\frac{6}{10}$

1. $29 \div 10$
2. $668 \div 10$
3. $16.2 \div 10$

Review

Fill in the missing numbers:

$$\square \div 10 = 7.3$$

$$\square \div 10 = 0.9$$



Mark Scheme – Lesson 4

Independent Tasks
Challenge 1
1. $890 \div 10 = 89$ 2. $420 \div 10 = 42$ 3. $750 \div 10 = 75$ 4. $390 \div 10 = 39$ 5. $7,260 \div 10 = 726$ 6. $2,740 \div 10 = 274$ 7. $9,590 \div 10 = 959$ 8. $852 \div 10 = 85.2$
Challenge 2
1. $960 \div 10 = 96$ 2. $8,540 \div 10 = 854$ 3. $740 \div 10 = 74$ 4. $7,560 \div 10 = 756$ 5. $3,540 \div 10 = 354$ 6. $835 \div 10 = 83.5$ 7. $951 \div 10 = 95.1$ 8. $123 \div 10 = 12.3$
Challenge 3
1. $750 \div 10 = 75$ 2. $8,650 \div 10 = 865$ 3. $657 \div 10 = 65.7$ 4. $6,751 \div 10 = 675.1$ 5. $5,062 \div 10 = 506.2$ 6. $7,888 \div 10 = 788.8$ 7. $1,005 \div 10 = 100.5$ 8. $6,506 \div 10 = 650.6$
Challenge X
1. $29 \div 10 = 2.9 = 2 \frac{9}{10}$ 2. $668 \div 10 = 66.8 = 66 \frac{8}{10}$ 3. $16.2 \div 10 = 1.62 = 1 \frac{62}{100}$
Review
Fill in the missing numbers: $73 \div 10 = 7.3$ $9 \div 10 = 0.9$

Lesson 5		
Learning Intention: WALT multiply and divide by 100	Key Vocabulary:	What you will need: A computer, tablet or phone for the starter Maths book Pencil and ruler Video: Year 4 Maths – S2 Week 3 - lesson 5

Starter

Log into Times Table Rock Stars and complete a gig if it is available. If not, complete a sound check session.

Main Teaching

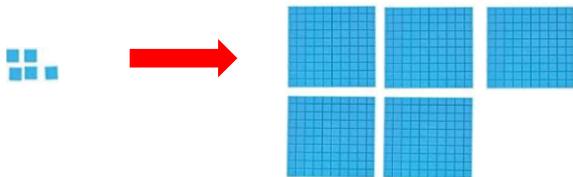
Over the last couple of days, we have multiplied and divided by 10. Today, we are going to look at both calculation types, however using 100 instead. This means that our numbers are going to be getting 100 times greater and 100 times smaller. Have a look below to see how multiplying and dividing an amount by 100 has a much larger effect on the number.

Key fact $10 \times 10 = 100$.

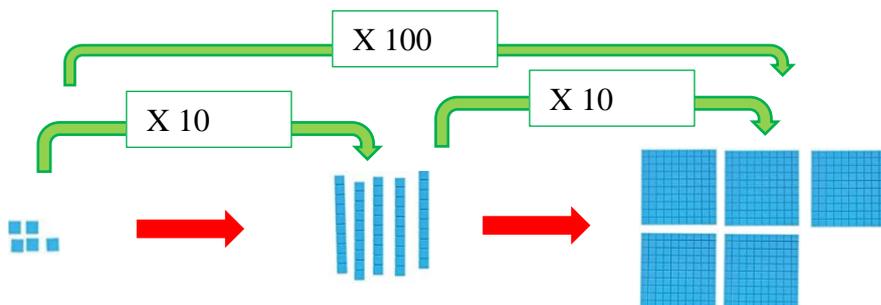
$5 \times 10 = 50$. Each one becomes a ten.



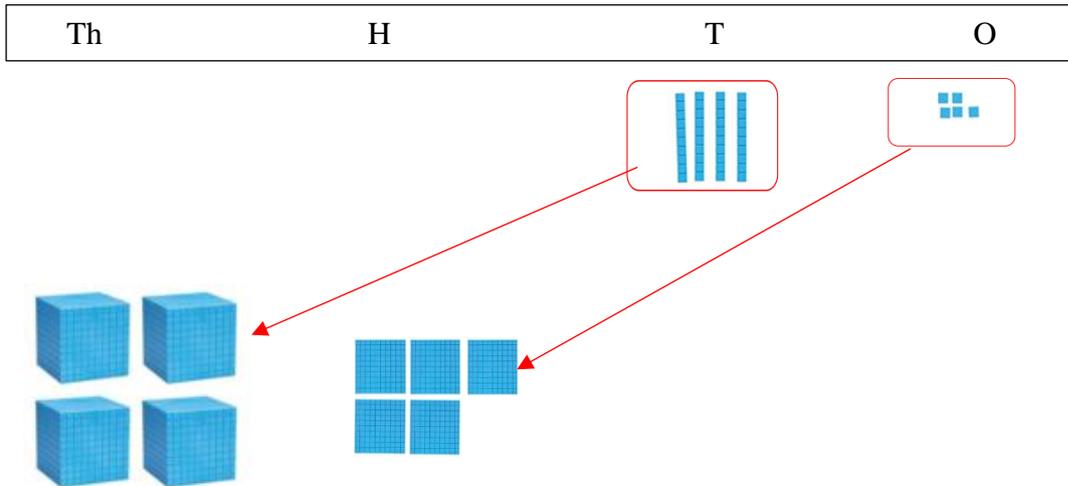
However $5 \times 100 = 500$. The number has changed a lot more. It is significantly bigger! Each one becomes a hundred!



This works because when an amount has been times by 100, it has been times by 10 and then times by 10 again (refer to the key fact above).

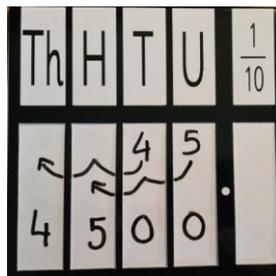


Example 1: 45 x 100



We now have 4 thousands, 5 hundreds and no tens or ones, which is 4,500.

On a place value chart with digits, this would look like:



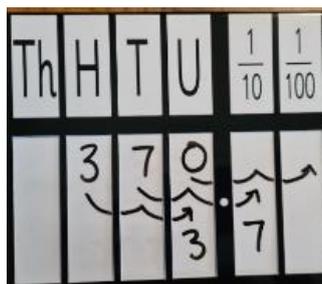
$45 \times 100 = 4,500$

Example 2: 370 ÷ 100

This time we are dividing, so our digits are getting 100 times smaller.

1. 3 hundreds divided by 100 would make 3 ones, as each hundred would become a one, when made a hundred times smaller.
2. 7 tens divided by 100 would make 7 tenths, as each ten would become a tenth, when made a hundred times smaller.
3. The 0 ones would have no effect and because the placeholder is not needed, we do not need to write the 0 in our answer.

On a place value chart, that would look like:



$370 \div 100 = 3.7$

Example 3: What is 15.3 multiplied by a hundred?

This time, we are multiplying using a decimal number and getting a hundred times bigger!

- 1 ten multiplied by 100 would make 1 thousand, as each ten would become a thousand, when made a hundred times bigger.
- 5 ones multiplied by 100 would make 5 hundreds, as each one would become a hundred, when made a hundred times bigger.
- 3 tenths multiplied by 100 would make 3 tens, as each tenth would become a ten, when made 100 times bigger.

On a place value chart, that would look like:



$$15.3 \times 100 = 1,530$$

Independent Tasks

Please complete 1 or 2 challenges. If you are finding a challenge too tricky or too easy after 3 questions, you should switch challenges. After you have completed your challenge, check your answers against the mark scheme. If you got an answer wrong, look carefully and identify where you made a mistake.

Challenge 1

Complete each of the calculations below. Look carefully at the operation in the question to check whether you are multiplying or dividing. Remember to draw a place value grid to help you if you need to.

- 1) 89×100
- 2) 56×100
- 3) $5,400 \div 100$
- 4) $9,300 \div 100$
- 5) $5,700 \div 100$
- 6) 26×100
- 7) 1.2×100
- 8) $2,360 \div 100$

Challenge 2

Complete each of the calculations below. Look carefully at the operation in the question to check whether you are multiplying or dividing. Remember to draw a place value grid to help you if you need to.

- 1) 32×100
- 2) 1.6×100
- 3) $8,560 \div 100$
- 4) $6,480 \div 100$
- 5) $4,840 \div 100$
- 6) 15.8×100
- 7) 86.3×100
- 8) $625 \div 100$

Challenge 3

Complete each of the calculations below. Look carefully at the operation in the question to check whether you are multiplying or dividing. Remember to draw a place value grid to help you if you need to.

- 1) 6.5×100
- 2) 72×100
- 3) $9,563 \div 100$
- 4) $7,060 \div 100$
- 5) $245 \div 100$
- 6) 4.32×100
- 7) 7.5×100
- 8) $803 \div 100$

Challenge X

What do you notice about

17×100 and 170×10 ?

Can you explain why?

Review

True or false?

$$17 \div 10 = 1.7$$

$$2.3 \times 100 = 23$$

$$470 \div 10 = 4.7$$



Mark Scheme – Lesson 5

Independent Tasks
Challenge 1
1) $89 \times 100 = 8,900$ 2) $56 \times 100 = 5,600$ 3) $5,400 \div 100 = 54$ 4) $9,300 \div 100 = 93$ 5) $5,700 \div 100 = 57$ 6) $26 \times 100 = 2,600$ 7) $1.2 \times 100 = 120$ 8) $2,360 \div 100 = 23.6$
Challenge 2
1) $32 \times 100 = 3,200$ 2) $1.6 \times 100 = 160$ 3) $8,560 \div 100 = 85.6$ 4) $6,480 \div 100 = 64.8$ 5) $4,840 \div 100 = 48.4$ 6) $15.8 \times 100 = 1,580$ 7) $86.3 \times 100 = 8,630$ 8) $625 \div 100 = 6.25$
Challenge 3
1) $6.5 \times 100 = 650$ 2) $72 \times 100 = 7,200$ 3) $9,563 \div 100 = 95.63$ 4) $7,060 \div 100 = 70.6$ 5) $245 \div 100 = 2.45$ 6) $4.32 \times 100 = 432$ 7) $7.5 \times 100 = 750$ 8) $803 \div 100 = 8.03$
Challenge X
17×100 and 170×10 would both get the same answer of 1,700 . This is because 17 is being made 100 times bigger and 170 is only being made 10 times bigger but was already 10 times bigger anyway!
Review
$17 \div 10 = 1.7$ This is TRUE $2.3 \times 100 = 23$ This is FALSE it should be 230 $470 \div 10 = 4.7$ This is FALSE it should be 47