

Year 4 maths – Summer 2 Week 6 beginning: 06.07.20

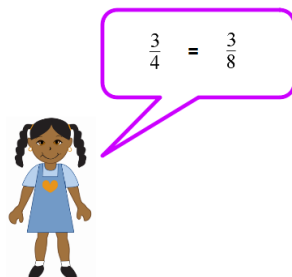
Theme	Fractions Lesson 1 of 2 Finding Equivalent Fractions	Fractions Lesson 2 of 2 Simplifying Fractions	Formal Methods Lesson 1 of 5 Addition and Subtraction	Formal Methods Lesson 2 of 5 Multiplication	Formal Methods Lesson 3 of 5 Multiplication
Factual fluency (to aid fluency)	Practise the 7 times table here – Step 1B In Sequence	Practise the 9 times table here.	Practise the 12 times table here (select 12 times table Y4)	Complete Level 4, Multiplication, Mixed Tables to x12.	Practise times tables up to 12.
<p>Problem/activity of the day</p> <p>Remember, just like in class, you can still show the depth of your knowledge LINK</p>	<p>(Lesson 1 resources below) MAKING LINKS: In Year 4 we have learnt that a fraction is a number that is used to represent equal parts of a whole number. Equivalent fractions are fractions which have the same value even though they look different. You can make links to our previous learning here.</p> <p>THINK: (support below) A Year 4 class are investigating equivalent fractions. Melanie says: I know that $\frac{3}{4}$ is equivalent to $\frac{3}{8}$ because the numerators are the same. Is Melanie correct?</p> <p><i>If you have online parent access, this lesson is based on textbook 4A, chapter 6, lesson 4.</i></p> <p>SEE: (model below)</p> <p>You can see how to solve this problem here.</p> <p>DO: Answer the questions below.</p>	<p>(Lesson 2 resources below) MAKING LINKS: Yesterday we reminded ourselves about fractions and how to find equivalent fractions. Today, we are going to use our knowledge of equivalent fractions to simplify fractions.</p> <p>THINK: (support below) My friend says that $\frac{18}{30}$ is a larger fraction than $\frac{3}{5}$ because the numbers are larger. Is he correct? Is it true that $\frac{18}{30}$ is larger than $\frac{3}{5}$? Is it possible that they could be equivalent fractions?</p> <p>SEE: (model below)</p> <p>You can see how to solve this problem here.</p> <p>DO: Answer the questions below.</p>	<p>(Lesson 3 resources below) MAKING LINKS: We learnt how to use a formal written method for addition and subtraction using four digit numbers earlier in Year 4. Today, we are going to remind ourselves how to accurately add and subtract using a formal written method.</p> <p>THINK (support below): Lucy and Jack were saving money to go on holiday. Lucy saved £4256 and Jack saved £1987. How much did they save altogether?</p> <p>Lucy and Jack decided to go to Florida. The holiday cost £4552. How much money did they have left over after they paid for their holiday?</p> <p><i>If you have online parent access, this lesson is based on textbook 4A, chapter 2, lessons 4 and 12.</i></p> <p>SEE: (model below) Click here and scroll down to the Year 4 addition and subtraction videos to remind yourself how to use these operations successfully.</p> <p>DO: Answer the questions below.</p>	<p>(Lesson 4 resources below) MAKING LINKS: We have been working hard to learn out times tables facts to 12 and we challenged ourselves to compete in a times table tournament across the Q1E trust. Today we are going to remind ourselves how to multiply using a formal written method.</p> <p>THINK (support below): New Town Primary School has 7 classes. Each class has 29 children. How many children attend New Town Primary School?</p> <p><i>If you have online parent access, this lesson is based on textbook 4A, chapter 4, lesson 6.</i></p> <p>SEE: (model below) Click here and select Learning Support videos from the Home Learning tab at the top. Scroll down to remind yourself how to use the expanded method for multiplication.</p> <p>DO: Use the expanded method for multiplication to calculate the answers to the questions.</p>	<p>(Lesson 5 resources below) MAKING LINKS: Yesterday, we learnt how to multiply two digit numbers by one digit using a variety of methods. Today, we are going to multiply three digit numbers by one digit using the expanded method for multiplication.</p> <p>THINK: (support below) The music teacher at New Town Primary School wants to buy new musical instruments to use in her music lessons. She decides to buy 5 violins. What is the total cost?</p> <p><i>If you have online parent access, this lesson is based on textbook 4A, chapter 4, lesson 9.</i></p> <p>SEE: (model below) You can remind yourself how to use the expanded method for multiplication here.</p> <p>DO: Answer the questions below.</p>
Methods, tips, clues & checks	Day 1 resources and answers (below)	Day 2 resources and answers (below)	Day 3 resources and answers (below)	Day 4 resources and answers (below)	Day 5 resources and answers (below)

See below for resources to support you to THINK-SEE-DO

Day 1 Resources

THINK: If you have online parent access, this lesson is based on textbook 4A, chapter 6, lesson 4.

A Year 4 class are investigating equivalent fractions. Melanie says: "I know that $\frac{3}{4}$ is the same as $\frac{3}{8}$ because the numerators are the same." Is Melanie correct?



DO:

Use multiplication or division facts to find these equivalent fractions:

a. $\frac{2}{4} = \frac{\square}{12} = \frac{1}{\square}$

f. $\frac{1}{7} = \frac{\square}{21} = \frac{2}{\square}$

b. $\frac{3}{4} = \frac{\square}{16} = \frac{15}{\square}$

g. $\frac{3}{7} = \frac{\square}{28} = \frac{9}{\square}$

c. $\frac{1}{6} = \frac{\square}{12} = \frac{4}{\square}$

h. $\frac{6}{7} = \frac{\square}{49} = \frac{30}{\square}$

d. $\frac{2}{6} = \frac{\square}{3} = \frac{3}{\square}$

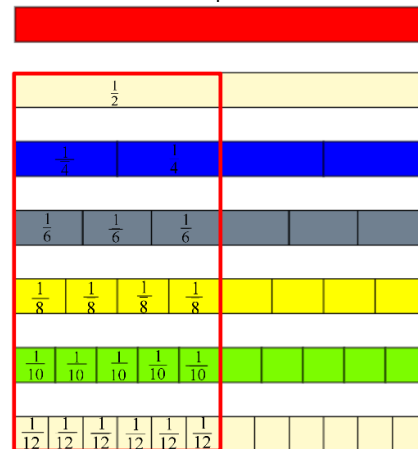
e. $\frac{5}{6} = \frac{\square}{18} = \frac{25}{\square}$

Top Tip:
Look at the first fraction in the sequence. Use multiplication or division to find the answers to the second fraction in the sequence. When you have found the answers to the second fraction, go back to the first fraction again. What do you need to multiply or divide by to find the answers in the third fraction?

SEE: MAKING LINKS VIDEO HERE

Watch this video to help you SEE how to solve today's problem.

Equivalent fractions are fractions that have different numerators and denominators but have the **same value**. They take up the same amount of space of the whole but the numbers look different.

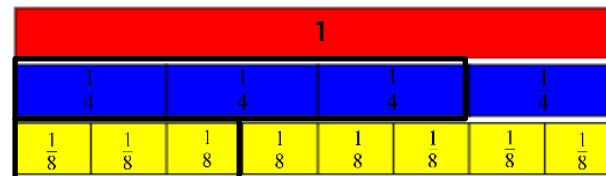


Use this interactive [fractions wall](#) to help you find equivalent fractions.

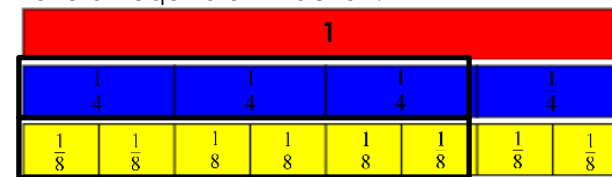
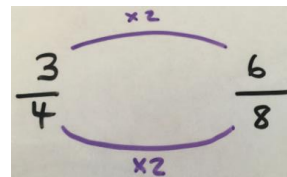
We can make equivalent fractions by multiplying or dividing the numerator and the denominator by the **same amount**.

$\frac{3}{4}$ and $\frac{3}{8}$ are **not** equivalent just because they have the same numerators!

This model shows Melanie's fractions:



We can see that $\frac{3}{4}$ and $\frac{3}{8}$ are not equivalent, because these fractions do not have the same value. We can see that three eighths have a smaller value than three quarters. If I multiplied the numerator and the denominator of $\frac{3}{4}$ by 2, I would make an equivalent fraction:



SEE continued on the next page.

Day 1 Resources SEE Continued:

How can I find these equivalent fractions?

A handwritten equation showing the conversion of the fraction 1/4 to an equivalent fraction with a denominator of 8, and then to another equivalent fraction with a denominator of 3. The first fraction is 1/4. It is equal to a fraction with a denominator of 8 and a numerator in a blue square. This is equal to a fraction with a numerator of 3 and a denominator in a blue square.

Look at $\frac{1}{4}$. How can I find an equivalent fraction? I can see that the denominator is 4. If I look at the next fraction in the sequence, I can see that the denominator is 8. What do I need to multiply 4 by to get 8?

$$4 \times ? = 8$$
$$4 \times 2 = 8$$

A handwritten equation showing the conversion of 1/4 to an equivalent fraction with a denominator of 8, and then to another equivalent fraction with a denominator of 3. Two orange curved arrows labeled 'x2' indicate the multiplication of both the numerator and denominator of the first fraction by 2 to get the second fraction.

Remember! If we multiply the denominator by 2, we **MUST** do the same to the numerator.

A handwritten equation showing the conversion of 1/4 to an equivalent fraction with a denominator of 8, and then to another equivalent fraction with a denominator of 3. Two orange curved arrows labeled 'x2' indicate the multiplication of both the numerator and denominator of the first fraction by 2 to get the second fraction. The numerator of the second fraction is written as '2' in a blue square.

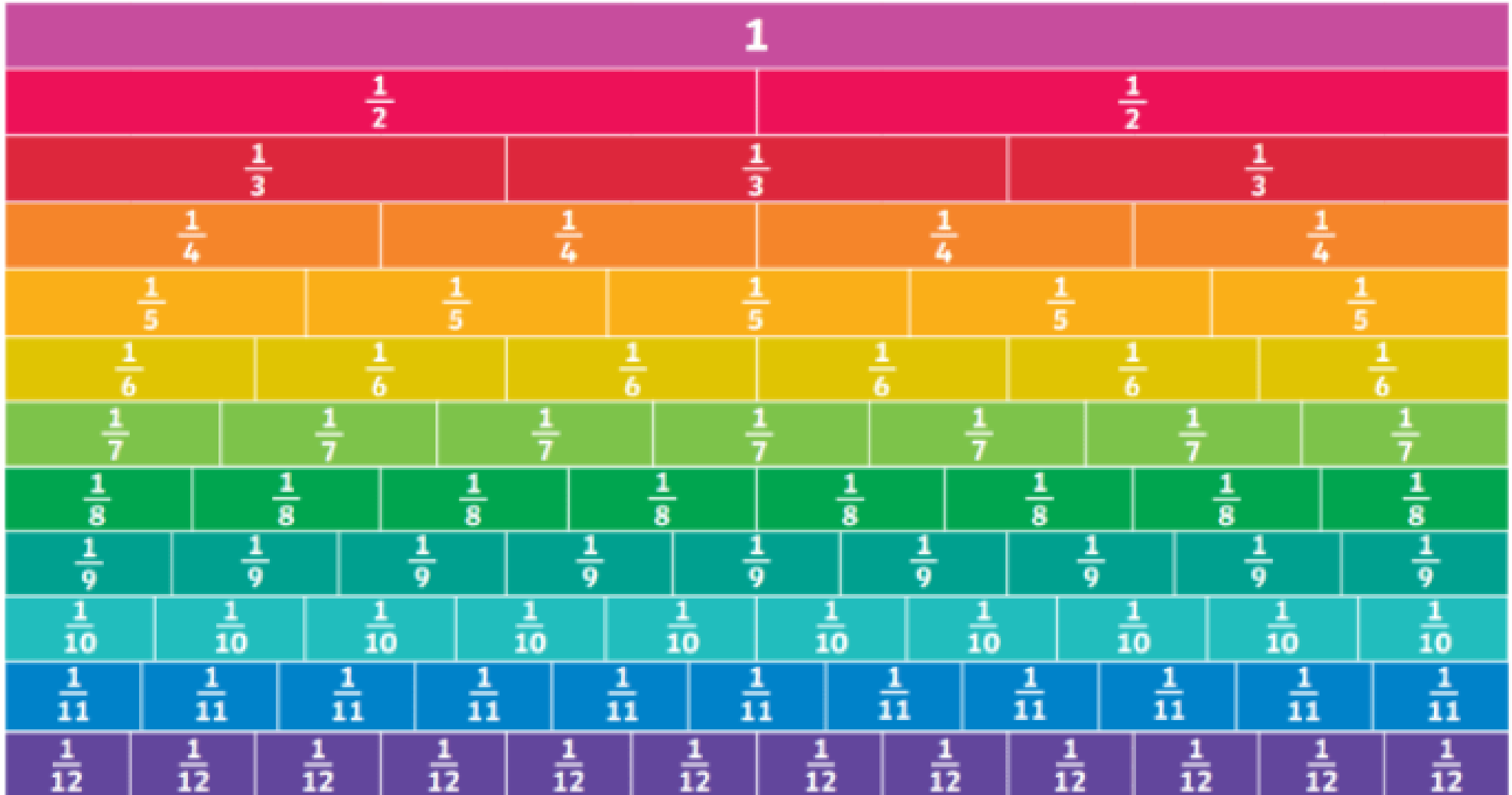
A handwritten equation showing the conversion of 1/4 to an equivalent fraction with a denominator of 8, and then to another equivalent fraction with a denominator of 3. Two green curved arrows labeled 'x3' indicate the multiplication of both the numerator and denominator of the first fraction by 3 to get the second fraction.

Look at the numerators in this example. I can see that the numerator in the first fraction is 1 and the numerator in the third fraction is 3. I know that I need to multiply 1 by 3. I also know that what I do to the numerator, I **MUST** do to the denominator, and therefore, I need to multiply the denominator in the first fraction (4) by 3.

$$4 \times 3 = 12$$

A handwritten equation showing the conversion of 1/4 to an equivalent fraction with a denominator of 8, and then to another equivalent fraction with a denominator of 12. Two green curved arrows labeled 'x3' indicate the multiplication of both the numerator and denominator of the first fraction by 3 to get the second fraction. The numerator of the second fraction is written as '2' in a blue square, and the denominator is written as '12' in a blue square.

You can use this fractions wall to help you find equivalent fractions too.



THINK:

My friend says that $\frac{18}{30}$ is a larger fraction than $\frac{3}{5}$ because the numbers are larger. Is he correct? Is it true that $\frac{18}{30}$ is a larger fraction than $\frac{3}{5}$? Is it possible that they could be equivalent fractions?

DO:

Simplify these fractions using the strategy we have learnt today.

- | | |
|--------------------|--------------------|
| a. $\frac{2}{4}$ | f. $\frac{12}{36}$ |
| b. $\frac{35}{40}$ | g. $\frac{5}{35}$ |
| c. $\frac{3}{6}$ | h. $\frac{3}{30}$ |
| d. $\frac{18}{20}$ | i. $\frac{44}{48}$ |
| e. $\frac{4}{36}$ | j. $\frac{25}{60}$ |

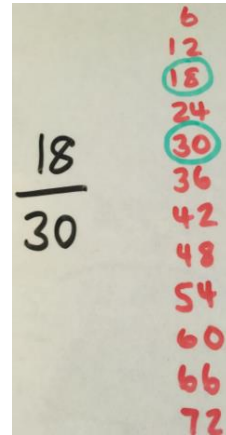
Top Tip: Use the multiplication grid below to help you identify multiples. This will help you find out which multiplication and division facts you will need to use to solve the calculations.

SEE: [VIDEO HERE](#)

It would be easy to assume that $\frac{18}{30}$ is the larger fraction because the numbers are greater than those in the fraction $\frac{3}{5}$ but to find out if my friend is correct, we need to simplify the fraction with the greater numbers so we can compare accurately.

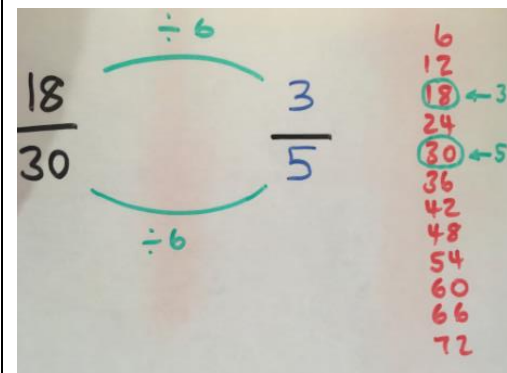
Simplifying fractions means **finding an equivalent fraction** where the numbers are as **small as possible**. In other words, we need to simplify the larger looking fraction by making the numbers in that fraction as small as possible.

Look at this fraction. What do you notice about the numbers that are in the fraction?



The numbers in this fraction both appear in the six times table!

This tells me that I need to divide **both** the numerator and the denominator by 6 to simplify the fraction. Remember – we must do the same to both the numerator and the denominator.

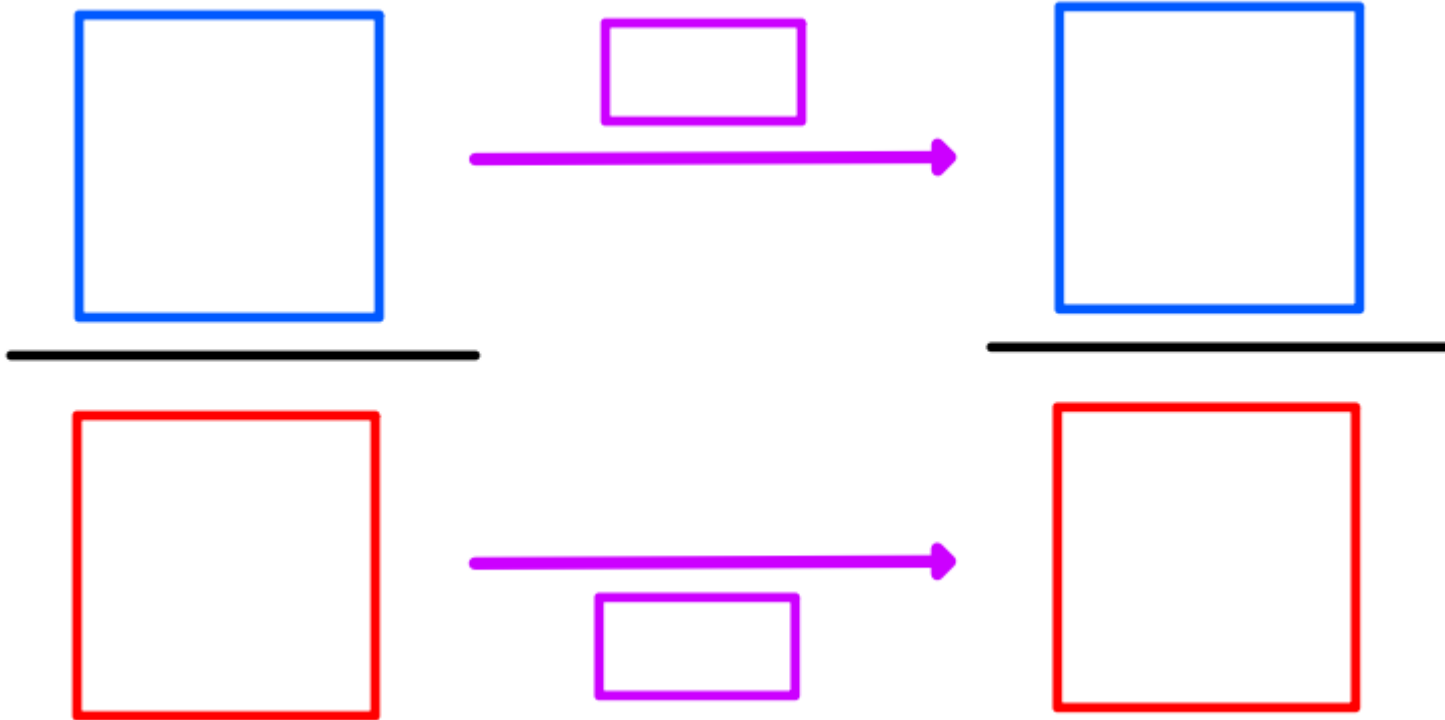


Writing multiples of 6 along the side of my calculation will help me to divide by 6 successfully. I can see that 18 is the third multiple in the six times table so my simplified numerator will be 3. I can also see that 30 is the fifth multiple in the six times table so my simplified denominator will be 5.

So I can see that my friend is not correct because these fractions are equivalent!

X	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Use this multiplication grid to find multiples to help solve today's problems.



Use this frame to multiply or divide the numerators and denominators. You could put it in a plastic wallet and use a whiteboard pen (if you have them) just like we do at school.

Day 3 Resources

THINK: If you have online parent access, this lesson is based on textbook 4A, chapter 2, lessons 4 and 12.

Lucy and Jack were saving money to go on holiday. Lucy saved £4256 and Jack saved £1987. How much did they save altogether?



Lucy and Jack decided to go to Florida. The holiday cost £4552. How much money did they have left over after they paid for their holiday?

DO:

1. Use a formal written method to solve:

- $1452 + 1769$
- $1746 + 2684$
- $2986 + 3058$
- $3745 + 1467$
- $3354 + 4857$
- $3617 - 2328$
- $5487 - 1399$
- $6842 - 3298$
- $7921 - 2348$
- $7624 - 4339$

2. Yasmin and Javinder collected football stickers. Yasmin collected 3289 stickers and Javinder collected 5796 stickers. How many stickers did they collect altogether? Show using a bar model and solve using a formal written method.

3. Callum wanted to collect the football stickers too. Yasmin and Javinder gave Callum 2500 stickers to help him out. How many stickers did Yasmin and Javinder have left over? Show using a bar model and solve using a formal written method.

Top Tip: Use the frame below to help you set out and solve the calculations accurately. Remember to always start calculating in the ones place. When subtracting, remember the greatest number must always go first in the calculation.

SEE: [VIDEOS HERE – scroll down for the Year 4 addition and subtraction videos.](#)

We can represent the first part of the problem as a bar model. This will help us to see what we need to do first:



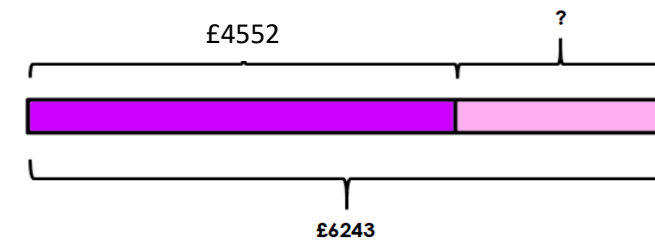
We need to add Lucy and Jack's savings together to find out how much they saved.

	T	H	T	O
	1	1	1	
+ £	4	2	5	6
£	1	9	8	7
£	6	2	4	3

Remember to rename! Make sure you clearly show the renamed digit so you don't forget to include it as part of the calculation.

Lucy and Jack saved £6243 altogether.

The holiday to Florida cost £4552. How much money did Lucy and Jack have left over after they paid for their holiday? We can represent this part of the problem with a bar model too!



We need to subtract the cost of the holiday from the total amount of savings.

	T	H	T	O
	5	11		
- £	6	2	14	3
£	4	5	5	2
	1	6	9	1

Remember to rename! Make sure you clearly show the renamed digit so you don't forget to include it as part of the calculation.

Lucy and Jack had £1691 left over.

TH H T O

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Renamed digits go here.

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Use this box to show which operation you are using.

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Use this frame to help you add and subtract accurately.

Day 4 Resources

THINK: If you have online parent access, this lesson is based on textbook 4A, chapter 4, lesson 6.

New Town Primary School has 7 classes. Each class has 29 children. How many children attend New Town Primary School?



DO:

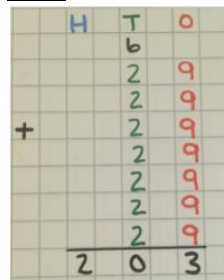
Find the total amount using the expanded method for multiplication.

- a. 28×7
- b. 59×6
- c. 74×8
- d. 92×5
- e. 43×4
- f. 87×7
- g. 36×9
- h. 47×8
- i. 29×6
- j. 74×3

Top Tip:

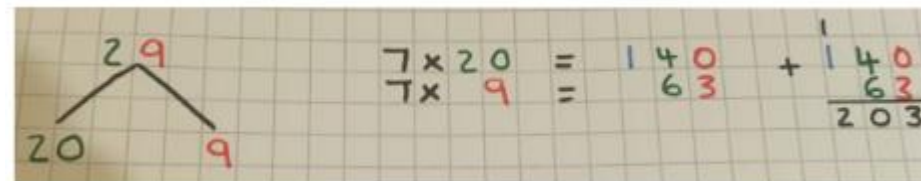
- Always multiply the ones first.
- Then multiply the tens.
- Finally, add the totals together to find the final answer.
- Use the multiplication grid from Day 1 to help you!

SEE:

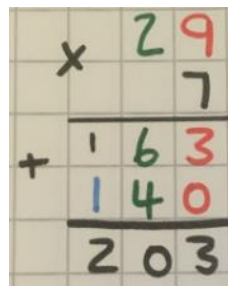

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad 9 \\ + \quad 7 \\ \hline 2 \quad 0 \quad 3 \end{array}$$

I could use repeated addition to solve today's problem. I could add 29 seven times but I'm not sure this is the most efficient method.

I could use partitioning to help me solve the problem. I have partitioned 29 into tens and ones. Then, I have multiplied the tens by 7 and the ones by 7, because there are 7 classes in the school. Now I have completed the multiplication, I add together the totals using a formal written method.


$$\begin{array}{r} 29 \\ \swarrow \quad \searrow \\ 20 \quad 9 \end{array} \quad \begin{array}{l} 7 \times 20 = 140 \\ 7 \times 9 = 63 \end{array} \quad + \quad \begin{array}{r} 140 \\ 63 \\ \hline 203 \end{array}$$

I could use a formal written method for multiplication. This is the expanded method. I think this method is the most efficient method I could use today:


$$\begin{array}{r} \times 29 \\ 7 \\ \hline + 163 \\ 140 \\ \hline 203 \end{array}$$

- Step 1: Multiply the ones ($7 \times 9 = 63$)
- Step 2: Multiply the tens ($7 \times 20 = 140$)
- Step 3: Add the totals together ($140 + 63 = 203$)

Click [here](#) and click on Learning Support videos. Scroll down the page until you reach the Column Multiplication video. This will help to remind you how to use this method.

H T O

X



+



Use this frame to help you multiply two digit by one digit numbers accurately.

Day 5 Resources

THINK: If you have online parent access, this lesson is based on textbook 4A, chapter 4, lesson 9.

The music teacher at New Town Primary School wants to buy new musical instruments to use in her music lessons. She decides to buy 5 violins. What is the total cost of 5 violins?



DO: You will need to include a thousands place in your calculations.

1. Find the total cost using the expanded method for multiplication.

- 2 cellos
- 3 clarinets
- 4 drum kits
- 5 keyboards
- 6 guitars.

2. Solve using the expanded method for multiplication.

- 246×3
- 849×4
- 687×9
- 684×6
- 263×8

Top Tip:

- Always multiply the ones first.
- Then multiply the tens.
- The multiply the hundreds.
- Finally, add the totals together to find the final answer.
- Use the multiplication grid from Day 1 to help you!

SEE: [VIDEO HERE](#) to remind yourself of the method we are using today.

If I know that 1 violin costs £168, how can I work out the total cost of 5 violins?

	H	T	O
x	1	6	8
			5
<hr/>			

Step 1

Set up your calculation like this. Remember to use the H, T and O headings to help you keep the digits in the correct place.

	H	T	O
x	1	6	8
			5
<hr/>			
		4	0

Step 2

Multiply the ones.

$$5 \times 8 = 40$$

Place the 4 in the tens place so it shows 4 tens or 40 and place the 0 in the ones place because there are 0 ones.

	H	T	O
x	1	6	8
			5
<hr/>			
		4	0
	3	0	0

Step 3

Multiply the tens.

$$5 \times 6 \text{ tens (or } 60) = 300$$

Place the 3 in the hundreds place to show that you now have 300. Remember to place the zeros in the tens and ones places as a place holder.

	H	T	O
x	1	6	8
			5
<hr/>			
		4	0
	3	0	0
	5	0	0

Step 4

Multiply the hundreds.

$$5 \times 1 \text{ hundred (or } 100) = 500$$

Place the 5 in the hundreds and don't forget your place holders.

	H	T	O
x	1	6	8
			5
<hr/>			
		4	0
+	3	0	0
	5	0	0
<hr/>			
£	8	4	0

Step 5

Add the products together to find the total cost of 5 violins.

TH H T O

X

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+

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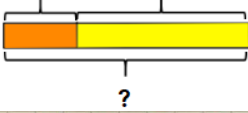

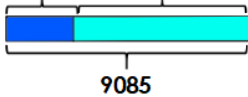

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Use this frame to help you multiply three digit numbers by a one digit number accurately.

ANSWERS:

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
<p>a. $\frac{2}{4} = \frac{6}{12} = \frac{1}{2}$</p> <p>b. $\frac{3}{4} = \frac{12}{16} = \frac{15}{20}$</p> <p>c. $\frac{1}{6} = \frac{2}{12} = \frac{4}{20}$</p> <p>d. $\frac{2}{6} = \frac{1}{3} = \frac{3}{9}$</p> <p>e. $\frac{5}{6} = \frac{15}{18} = \frac{25}{30}$</p> <p>f. $\frac{1}{7} = \frac{3}{21} = \frac{2}{14}$</p> <p>g. $\frac{3}{7} = \frac{12}{28} = \frac{9}{21}$</p> <p>h. $\frac{6}{7} = \frac{42}{49} = \frac{30}{35}$</p>	<p>a. $\frac{2}{4} = \frac{1}{2}$</p> <p>b. $\frac{35}{40} = \frac{5}{8}$</p> <p>c. $\frac{3}{6} = \frac{1}{2}$</p> <p>d. $\frac{18}{20} = \frac{9}{10}$</p> <p>e. $\frac{4}{36} = \frac{1}{9}$</p> <p>f. $\frac{12}{36} = \frac{2}{3}$</p> <p>g. $\frac{5}{35} = \frac{1}{7}$</p> <p>h. $\frac{3}{30} = \frac{1}{10}$</p> <p>i. $\frac{44}{48} = \frac{11}{12}$</p> <p>j. $\frac{25}{60} = \frac{5}{12}$</p>	<p>Question 1 a. 3221 b. 4430 c. 6044 d. 5212 e. 8211 f. 1289 g. 4088 h. 3544 i. 5573 j. 3285</p> <p>Question 2 3289 5796</p>   <p>Question 3 2500 ?</p>  	<p>a. $28 \times 7 = 196$ b. $59 \times 6 = 354$ c. $74 \times 8 = 592$ d. $92 \times 5 = 460$ e. $43 \times 4 = 172$ f. $87 \times 7 = 609$ g. $36 \times 9 = 324$ h. $47 \times 8 = 376$ i. $29 \times 6 = 174$ j. $74 \times 3 = 222$</p>	<p>Question 1 a. $2 \times \text{£}537 = \text{£}1074$ b. $3 \times \text{£}415 = \text{£}1245$ c. $4 \times \text{£}852 = \text{£}3408$ d. $5 \times \text{£}439 = \text{£}2195$ e. $6 \times \text{£}289 = \text{£}1734$</p> <p>Question 2 a. $246 \times 3 = 738$ b. $849 \times 4 = 3396$ c. $687 \times 9 = 6183$ d. $684 \times 6 = 4104$ e. $263 \times 8 = 2104$</p>