

LO: I can divide 4-digit numbers by 1-digit numbers, including remainders.

- 1 a) Circle the groups of 3 to help complete the sentences and calculation.

The first step has been done for you.

Th	H	T	O
1,000 1,000 1,000	100 100 100 100 100 100 100 100 100	10 10 10	1 1 1 1 1 1 1 1

	1	3	1	2	r2
3	3	9	3	8	

There is  group of 3 thousands.

There are  groups of 3 hundreds.

There is  group of 3 tens.

There are  groups of 3 ones.

There are  ones left over.

$3,938 \div 3 =$   $\text{ remainder }$

- b) Use place value counters to work out  $8,407 \div 4$

Th	H	T	O

	2	1	0	1	r3
4	8	4	0	7	

$8,407 \div 4 =$   $\text{ remainder }$

- 2 a) Complete the divisions.

Use place value counters to help you.

	2	1	3	1	r2
3	7	5	9	5	

	2	1	1	6	r3
4	8	5	6	7	

	1	3	1	2	r2
5	6	5	6	2	

	1	3	1	1	r2
3	3	9	3	5	

- b) Write  $<$ ,  $>$  or  $=$  to complete the statements.

$7,595 \div 3$   $8,567 \div 4$

$6,562 \div 5$   $3,935 \div 3$

3 Write the calculations in the correct column of the table.

$5,066 \div 4$	$9,513 \div 4$	$1,234 \div 4$
$6,562 \div 4$	$6,563 \div 4$	$9,515 \div 4$

Remainder of 1	Remainder of 2	Remainder of 3	Remainder of 4
$9,513 \div 4$	$5,066 \div 4$	$6,563 \div 4$	
	$6,562 \div 4$	$9,515 \div 4$	
	$1,234 \div 4$		

Are any columns empty?

Because 4 is the divisor, the remainders must always be less than 4.

4

$7,816$	$7,861$	$6,781$	$1,786$
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I know that if I divide these numbers by 5 the remainder will be 1



Is Eva correct? Yes

How do you know?

Each of the numbers is 1 more than a multiple of 5. I know this because all numbers that end in 5 or 0 are multiples of 5.

5 There are 459 children in a school.

They are sitting at tables in groups of 7



We will need 65 tables.

Do you agree with Mo? No

Explain your answer.

There are 65 full tables of 7, but if he only has 65 tables, only 455 children will be able to sit down. Mo needs another table for the other 4 children, so he needs 66 tables.

6 Bags of crisps are put into multipacks of 6

The multipacks are then packed into boxes of 8

Yesterday, 6,500 bags of crisps were packed.

How many boxes of crisps were packed?

Remember... you would only send out full multipacks/boxes to be sold, so you needed to ignore the remainder each time here.

135 boxes are packed.

7

2	3	4	5

□ □ □ ÷ □

a) How many ways can you complete the calculation using all the digit cards so that there is a remainder of 1?

There are multiple examples! Check your own answer by completing an inverse operation and adding on your remainder. E.g  $435 \div 2 = 217r1$  so  $217 \times 2 = 434 + 1 = 435$

b) What do you notice?

Did you notice things such as 'odd numbers divided by 2 always have a remainder of 1'?

8

Dora is thinking of a number between 500 and 600

When she divides it by a 1-digit number it has a remainder of 4

What could Dora's number be?

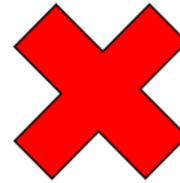
Again, there are lots of answers! Check your own calculation by doing the inverse operation and then adding your remaining 4! E.g  $509 \div 5 = 101r4$  so  $101 \times 5 = 505 + 4 = 509$

There are 349 people at a wedding.  
They are sitting at tables in groups of 8

How many tables are needed?

$$\begin{array}{r} 043r5 \\ 8 \overline{) 33429} \end{array}$$

44 tables are needed so that all of the guests can sit down!



$$5,627 \div 5 = 1,126$$



Use your knowledge of the 5 times table to explain why Terrance is incorrect. Can you use the word 'multiple' in your answer as well as referring to division being the inverse of multiplication?

This calculation tells us that 5627 can be split into **5 groups of 1126**.

We know that multiples of 5 end in 5 or 0. So if we did the inverse of division and read this calculation backwards, as a multiplication question it would say  $1126 \times 5 = 5627$  or **5 groups of 1126 = 5627**. We would know that this isn't correct, because 5627 does not end in 5 or 0! So, when I refer back to division, I know that if the dividend does not end in 5 or 0, it cannot be split equally into 5 groups.

Here, the dividend is 5627. To be able to split this into 5 groups, it would need to end in 5 or 0. This ends in 7. So I know that the nearest multiple of 5 must have been 5625, which tells me I will have remainder 2.

$$5627 \div 5 = 1125r2$$

$$1125 \times 5 = 5625 + 2 = 5627$$