18.1.21 Multiplication and Division

Learning Objective:
We are learning to divide 2 and 3 digit numbers by a single digit.

I will be successful if:

- I can try different methods and reason about my preferred method.
- I can use times tables facts to help solve calculations.
- I can carry over any remaining digits.

Key Vocabulary

division
sharing
equal groups
remaining
exchange
partition
digit

Flashback 4

Year 5 | Week 3 | Day 1

1) Work out 175 m × 18

2) Calculate 17 × 8

3) How do you know that 73 does not divide by 3 exactly?

4) Add together 27 and 1,094

White Rose Maths

Challenge

5) Find all the common factors of 10, 25 and 75.

6) Find all the common factors of 6, 42 and 84.

7) Find all the common factors of 28, 36 and 64.

8) Find all the common factors of 27, 54 and 90.

Flashback 4

Year 5 | Week 3 | Day 1

1) Work out 175 m × 18 3,150 m

2) Calculate 17 × 8 136

3) How do you know that 73 does not divide by 3 exactly?
e.g. Because 60 does and 13 doesn't

4) Add together 27 and 1,094 1,121

White Rose Maths

Challenge

5) 1 and 5

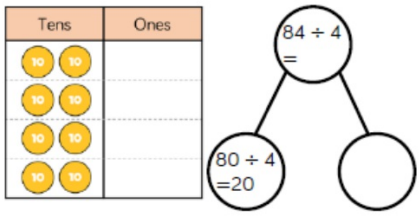
6) 1, 2, 3 and 6

7) 1, 2 and 4

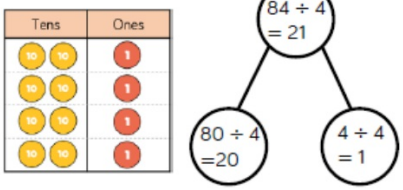
8) 1, 3 and 9

Jack is dividing 84 by 4 using place value counters.

First, he divides the tens.



Then, he divides the ones.

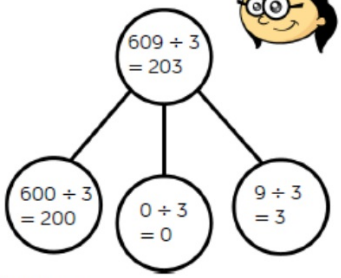


Use Jack's method to calculate:

69 ÷ 3 88 ÷ 4 96 ÷ 3

Annie is dividing 609 by 3 using place value counters.

Hundreds	Tens	Ones
100 100		1 1 1
100 100		1 1 1
100 100		1 1 1



Use Annie's method to calculate the divisions.

906 ÷ 3 884 ÷ 4 884 ÷ 8 489 ÷ 2

Do we need to partition 609 into 3 parts or could it just be partitioned in to 2 parts?

Discussion

What is the same and what's different when we are dividing a 3 digit number by a 1 digit number and a 2 digit number by a 1 digit number?

The other way that we can solve division calculation is using the bustop (short division) method.

$224 \div 4 =$

$$
\begin{array}{r}
056 \\
4\overline{)224} \\
\end{array}
$$

Step 1: 2 ÷ 4 = 0 so carry the 2 across

Step 2: 22 ÷ 4 = 5 with 2 left over

Step 3: 24 ÷ 4 = 6

Try and solve these calculations using the bustop method.

$3\overline{)654}$

$5\overline{)280}$

$8\overline{)336}$

$6\overline{)246}$

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Division of 2 and 3 digit numbers

Have a go at the calculations below. You can use either the part whole method or the bustop method - whichever you find easier.

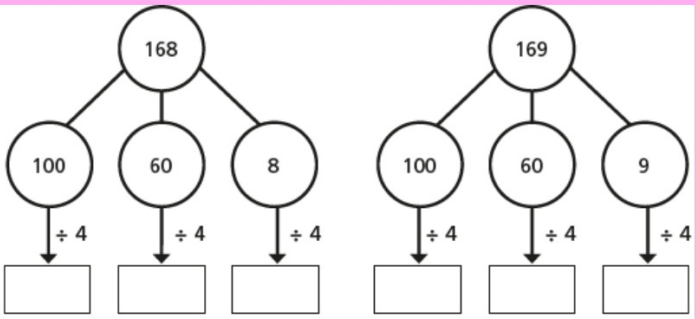
1) $3\overline{)81}$ 2) $4\overline{)72}$ 3) $6\overline{)174}$ 4) $4\overline{)272}$

5) $8\overline{)344}$ 6) $7\overline{)434}$ 7) $6\overline{)294}$ 8) $3\overline{)744}$

9) Grandma Jones had £378 which she shared equally between her 7 grandchildren. How much money did each grandchild receive?

10) 1134 train passengers are given tickets to sit in 9 different carriages. How many passengers are in each carriage if they are divided equally?

Reasoning challenges



168 ÷ 4 = ☐ 169 ÷ 4 = ☐

What is the same and what is different about the calculations?

Talk about it with a partner.

Eva has a piece of ribbon.

The ribbon measures 839 cm long.

How much ribbon would be left over if she cuts it into:

a) 4 equal pieces ☐

b) 6 equal pieces ☐

c) 8 equal pieces ☐

Can Eva cut the ribbon into equal pieces with no ribbon left over? ____

Explain your answer.

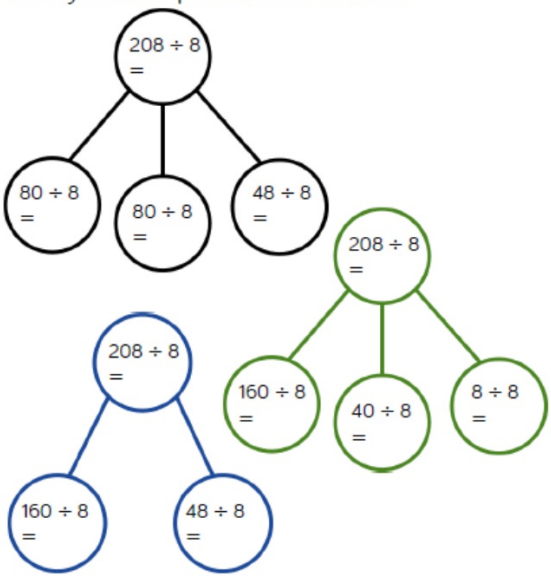
37 sweets are shared between 4 friends. How many sweets are left over?

Four children attempt to solve this problem.

- Alex says it's 1
- Mo says it's 9
- Eva says it's 9 r 1
- Jack says it's 8 r 5

Can you explain who is correct and the mistakes other people have made?

Dexter is calculating 208 ÷ 8 using part-whole models.
Can you complete each model?



How many part-whole models can you make to calculate 132 ÷ 4?