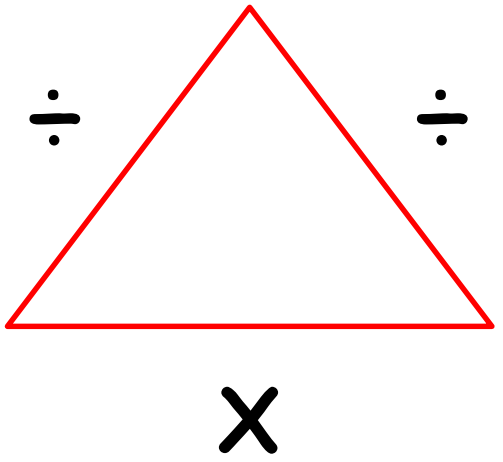
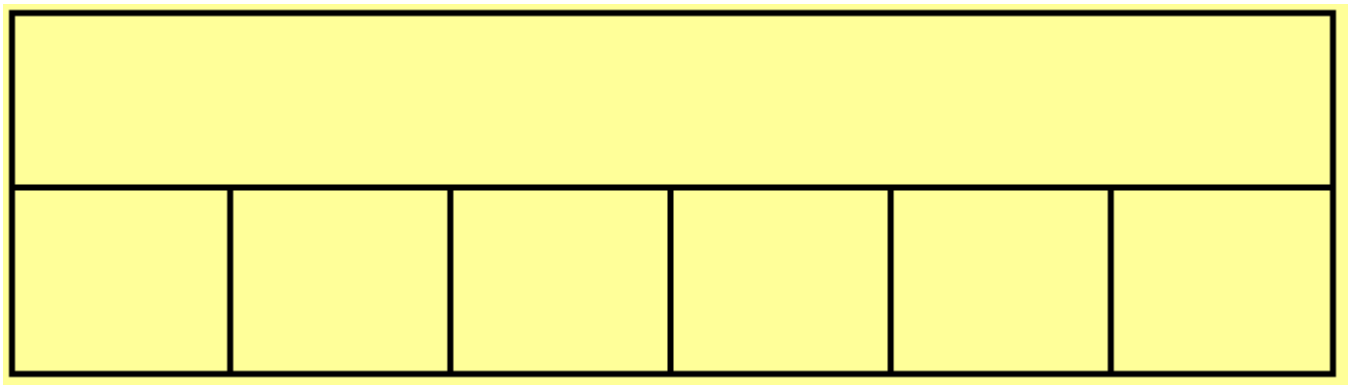
Division- the bus stop method

Starter in your book:

How would you find the missing value? Explain.

$\square \div 6 = 34$

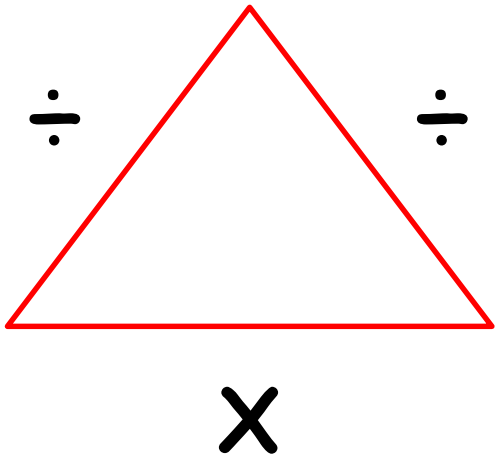


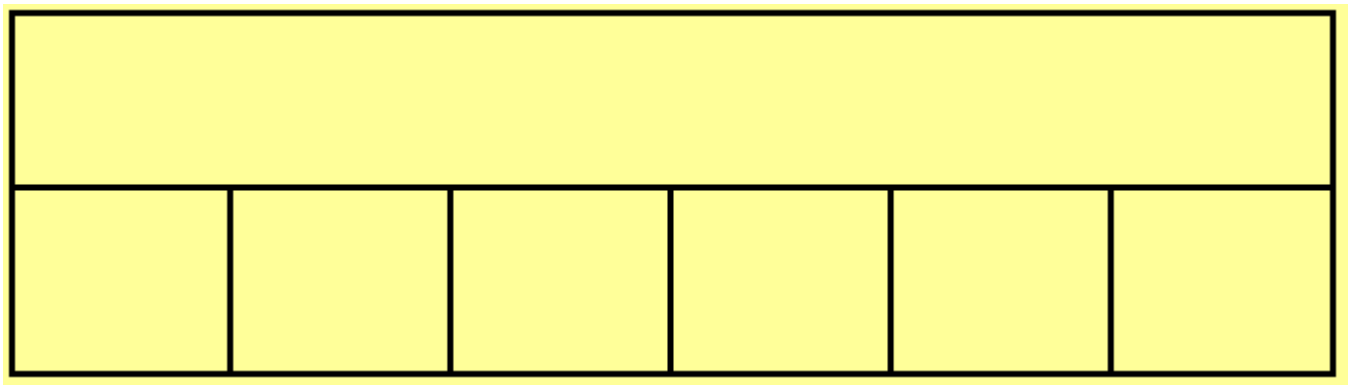


Starter continued in your book:

How would you find the missing value? Explain.

$\square \div 6 = 47$





RECAP

Dividend ÷ divisor = quotient

$$147 \div 3 =$$

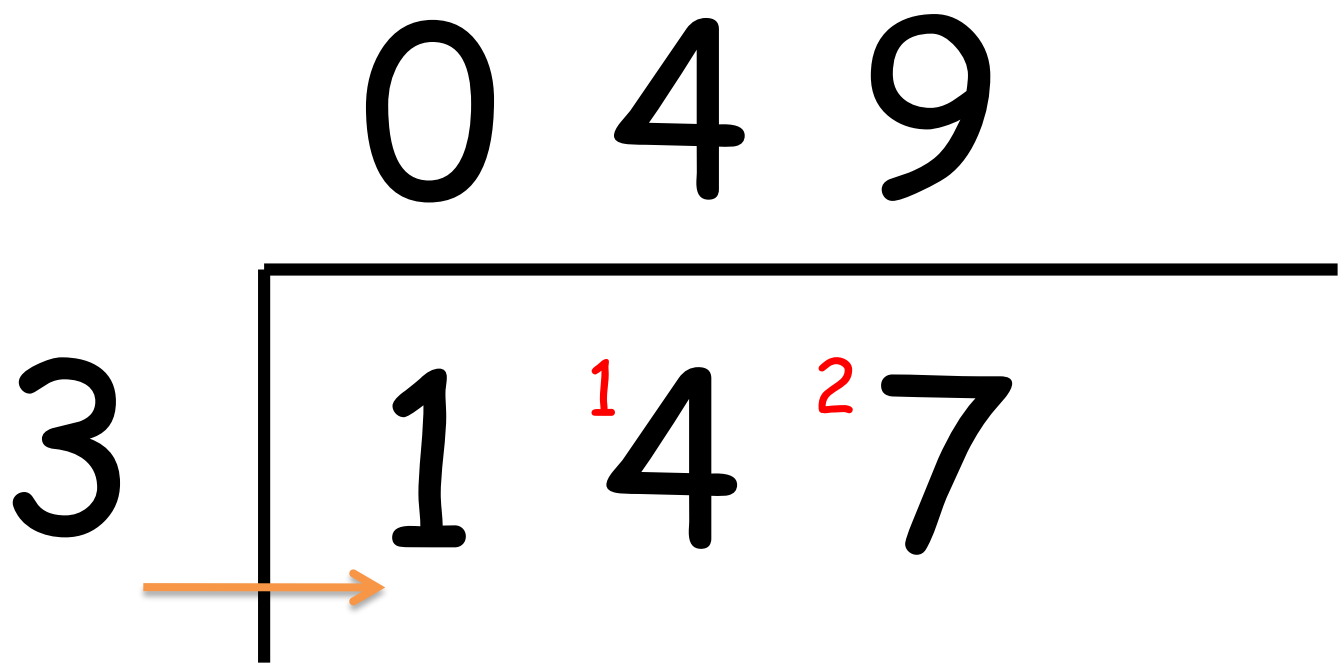
Quotient (the result of a division)

Step 1- Draw the Bus Stop

Step 2- Put the **divisor** (number you are dividing by) on the outside.

Step 3- Put the **dividend** (number you want to divide) inside.

Now we're ready…



Step 1- How many 3s go into 1? **0 remainder 1 regrouped to tens**

Step 2- How many 3s go into 14? **4 as 3 X 4=12; we have 14-12= remainder 2 regrouped to ones**

Step 3- How many 3s go into 27? **9 as 3 X 9=2 7**

Now solve this in your book. Remember to write all the steps!

$$5 \overline{)\,455}$$

Step 1- How many 5s go into 4?

Step 2- How many 5s go into …….?

Step 3- How many 5s go into …….?

Self-Assessment using different colour and a small tick.

455÷5=91

$$\begin{array}{r} 091 \\ 5\overline{)\,4^{4}55} \end{array}$$

Step 1- How many 5s go into 4? **0 remainder 4 regrouped to tens**

Step 2- How many 5s go into 45? **9 as 5 X 9 =45**

Step 3- How many 5s go into 5? **5 as 5 X 1 =5**

Now solve this in your book. Remember to write all the steps!

812÷4=

$$4 \overline{)812}$$

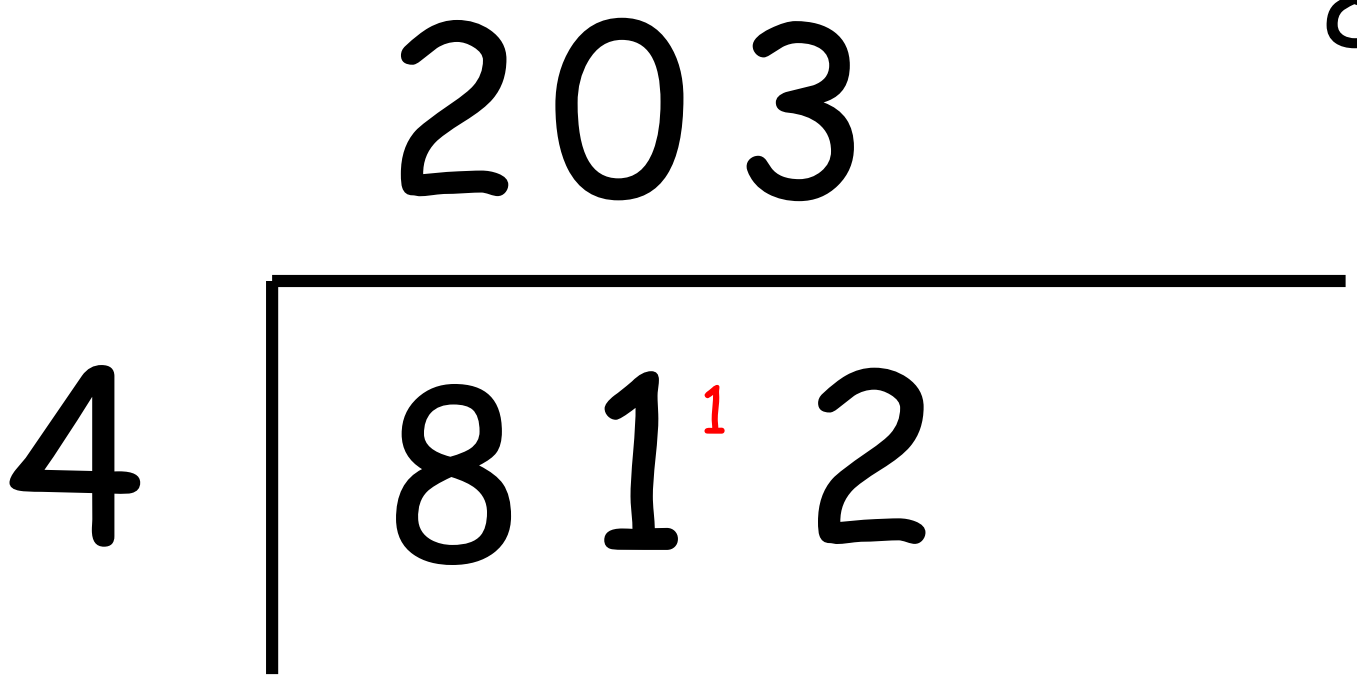
Step 1-……?

Step 2-……?

Step 3-……?

Self-Assessment using different colour and a small tick.

812÷4=203



Step 1- How many 4s go into 8?

Step 2- How many 4s go into 1? **0 remainder 1 regrouped to ones**

Step 3- How many 4s go into 12? **3 as 4 X 3 =12**

Try another in your book. Remember to write all the steps!

$$9\overline{)639}$$

Step 1-……?

Step 2-……?

Step 3-……?

Self-Assessment using different colour and a small tick.

639÷9=71

$$\begin{array}{r} 071 \\ 9\overline{)\,6^{6}39} \end{array}$$

Step 1- How many 9s go into 6? 0 remainder 6 regrouped to tens

Step 2- How many 9s go into 63? **7 as 9 X 7=63**

Step 3- How many 9s go into 9? **1 as 9 X 1 =9**

Now solve these in your book using the short division method (bus top method)

1) 285 ÷ 5=
2) 201 ÷ 3=
3) 504÷7=
4) 294÷7=
5) 335÷5=
6) 329÷7=
7) 522÷6=
8) 712÷8=

Self-Assessment using different colour and a small tick.

1)

285 ÷ 5=57

$$\begin{array}{r} 057 \\ 5\overline{)\,2^{2}8^{3}5} \end{array}$$

Step 1: 2÷5=0 r 2;2 regrouped to tens

Step 2: 28÷5=5 r 3; 5 X 5= 25 so 28 -25=3 remainder regrouped to ones

Step 3: 35÷5=7

Self-Assessment using different colour and a small tick.

2)

$$\begin{array}{r} 067 \\ 3\overline{)\,2^{2}0^{2}1} \end{array}$$

2) 201 ÷ 3=67

Step 1: 2÷3=0 r 2;2 regrouped to tens

Step 2: 20÷3=6 r 2; 3 X 6= 18 so 20 -18=2 remainder regrouped to ones

Step 3: 21÷3=7

Self-Assessment using different colour and a small tick.

3)

$$\begin{array}{r} 072 \\ 7\overline{)5^{5}0^{1}4} \end{array}$$

3) 504÷7=72

Step 1: 5÷7=0 r 5;5 regrouped to tens

Step 2: 50÷7=7 r 1; 7 X 7= 49 so 50 -49=1 remainder regrouped to ones

Step 3: 14÷7=2

Self-Assessment using different colour and a small tick.

4)

$$\begin{array}{r} 042 \\ 7\overline{)2^{2}9^{1}4} \end{array}$$

4) 294÷7=42

Step 1: 2÷7=0 r 2;2 regrouped to tens

Step 2: 29÷7=4 r 1; 7 X 4= 28 so 29 -28=1 remainder regrouped to ones

Step 3: 14÷7=2

Self-Assessment using different colour and a small tick.

5)

$$\begin{array}{r} 067 \\ 5\overline{)\,{}^{3}3^{3}5} \end{array}$$

5) 335÷5=67

Step 1: 3÷5=0 r 3;3 regrouped to tens

Step 2: 33÷5=6 r 3; 5 X 6= 30 so 33 - 30=3 remainder regrouped to ones

Step 3: 35÷5=7

Self-Assessment using different colour and a small tick.

6)

$$\begin{array}{r} 047 \\ 7\overline{)3^{3}2^{4}9} \end{array}$$

6) 329÷7=47

Step 1: 3÷7=0 r 3;3 regrouped to tens

Step 2: 32÷7=4 r 4; 4 X 7= 28 so 32 - 28=4 remainder regrouped to ones

Step 3: 49÷7=7

Self-Assessment using different colour and a small tick.

7)

$$\begin{array}{r} 087 \\ 6\overline{)\,5^{5}2^{4}2} \end{array}$$

7) 522÷6=87

Step 1: 5÷6=0 r 5;5 regrouped to tens

Step 2: 52÷6=8 r 4; 8 X 6= 48 so 52 - 48=4 remainder regrouped to ones

Step 3: 42÷6=7

Self-Assessment using different colour and a small tick.

8)

$$\begin{array}{r} 089 \\ 8\overline{)\,{}^{7}7{}^{7}12} \end{array}$$

8) 712÷8=89

Step 1: 7÷8=0 r 7;7 regrouped to tens

Step 2: 71÷8=8 r 4; 8 X 8= 64 so 71 - 64=7 remainder regrouped to ones

Step 3: 72÷8=9

Challenge:

Find the missing values using the bus stop method.

1) $3 \overline{)8\square}$ = 27

2) $4 \overline{)\square 6}$ = 24

3) $6 \overline{)9\square}$ = 16

4) $5 \overline{)\square 5}$ = 17

Something new that I have learned is...

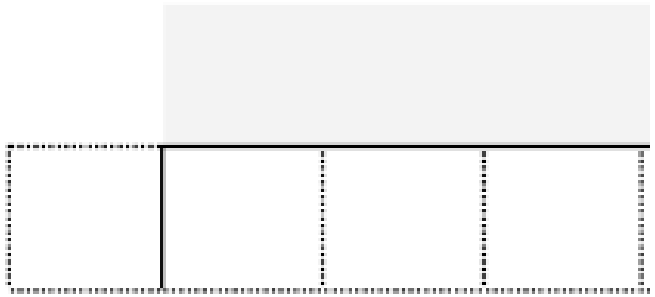
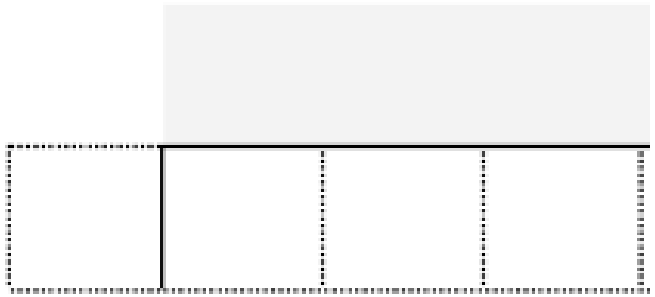
Something that I have improved on today is...

HOT CHALLENGE (optional☺)

Mastery 2: Megan and Scott are playing a game. They have rolled dice to get 4 digits each.

They must put their 4 digits into the calculations below so that they make a 3-digit number being divided by a 1-digit number. To win the game, they must be the closest one to make 100.
They can order their digits in any way they want.

Who would win the game? Explain why and use examples to convince me!

Megan				Scott			
							
2	5	6	7	8	1	3	9

→ Explain your reasoning: how did you solve this problem?
→ Were there any orders that you didn't need to try out? Why?

RECAP

What methods have you used to **divide in Year 4**?

- Using known division and multiplication facts e.g. 36 ÷ 6 = 6

- Partitioning e.g. 84 ÷ 6 = (60 ÷ 6) + (24 ÷ 6)

- Short division (bus stop method) e.g. 648 ÷ 6 = 108

You will be using these methods today to solve division word problems☺

Can you choose efficient methods to solve division problems?

Copy these in your book.

Known Facts	Partitioning	Bus Stop

360 ÷ 6

468 ÷ 6

98 ÷ 7

36 ÷ 4

448 ÷ 7

49 ÷ 7

92 ÷ 4

125 ÷ 5

The **RUCSAC** Method for solving maths word problems

R	Read the question carefully	Find the important information – underline it!
U	Understand the question	What do you have to find out? Draw a 'picture' of the question, if it helps.
C	Choose the correct method of calculation	+ – x ÷ What method is best for you to use?
S	Solve the problem	Show every step and keep your working out neat.
A	Answer the question	Read the question again – have you answered it? Make the answer clear.
C	Check your answer	Does it make sense? Find a way to check – estimate or use the inverse.

Let's try together:

1. Mr Briggs has bought one hundred and thirty eight blue star books. These need to be shared equally between all of the Year 4 and 5 classes. How many books does each class get?

Known Facts	Partitioning	Bus Stop (Short Division)

$138 \div 2 = 69$

$$\begin{array}{r} 069 \\ 2\overline{)\,1^{1}3^{1}8} \end{array}$$

Check:

$$\begin{array}{r} 69 \\ \times\ \ 2 \\ \hline 138 \\ 1 \end{array}$$

Answer: Each class will get 69 books.

Now do these in your book:

The RUCSAC Method for solving maths word problems

R	Read the question carefully	Find the important information – underline it!
U	Understand the question	What do you have to find out? Draw a 'picture' of the question, if it helps.
C	Choose the correct method of calculation	+ − × ÷ What method is best for you to use?
S	Solve the problem	Show every step and keep your working out neat.
A	Answer the question	Read the question again – have you answered it? Make the answer clear.
C	Check your answer	Does it make sense? Find a way to check – estimate or use the inverse.

2. Toby and three friends are playing a card game. They share out twenty eight cards between them. How many do they get each?

Known Facts	Partitioning	Bus Stop (Short Division)

3. Eight hundred and sixty four apples are picked on a farm. Three hundred and forty eight apples are sent away to make apple juice. The rest are packaged into boxes of six. How many boxes will be used?

Known Facts	Partitioning	Bus Stop (Short Division)

4. Aimee read thirty five pages of her book in five days. Toby read thirty six pages of his book in six days. Who read the most pages per day?

Known Facts	Partitioning	Bus Stop (Short Division)

The RUCSAC Method for solving maths word problems

R	Read the question carefully	Find the important information – underline it!
U	Understand the question	What do you have to find out? Draw a 'picture' of the question, if it helps.
C	Choose the correct method of calculation	+ – × ÷ What method is best for you to use?
S	Solve the problem	Show every step and keep your working out neat.
A	Answer the question	Read the question again – have you answered it? Make the answer clear.
C	Check your answer	Does it make sense? Find a way to check – estimate or use the inverse.

5. There are forty-three girls and thirty-five boys in Year 4. Mr Narborough mixes them up and puts them into groups of six. How many groups are there altogether?

Known Facts	Partitioning	Bus Stop (Short Division)

6. Mr Bradley was given seven hundred and twenty one pounds when baby Freddie was born. He spent three hundred and fifty seven pounds on decorating the nursery. He then split the rest of the money into 7 bank accounts. How much does he put in each account?

Known Facts	Partitioning	Bus Stop (Short Division)

Self-Assessment using different colour and a small tick.

Word problem answers:

2. 28 ÷ 4= 7 Answer: Each child gets 7 cards.

3. 1)864- 348= 516

2) 516 ÷ 6= 86 Answer: 86 boxes will be used to pack the apples.

4. Aimee 35 ÷5=7

Toby 36 ÷6 =6 Answer: Aimee read most pages per day.

5. 1) 43+35= 78

2) 78 ÷6= 13 Answer: There are 13 groups altogether.

6. 1) £721-£357=£364

2) £ 364 ÷7=£52 Answer: £52 were put into each bank account in seven banks.

HOT Challenge (optional☺)

GAME:

- ✓ Alison places the 5 down first.
- ✓ Charlie puts down the 8 to make 58, which is a multiple of 2.
- ✓ Alison puts down the 2 to make 582, which is a multiple of 3.
- → Charlie now needs to make a multiple of 4.
  Can Charlie make a move? Explain your reasoning fully.
- → Alison will then need to make a multiple of 5.
  Will Alison be able to make a move? Explain your reasoning fully.

5	8	2

4	1	7	0	6	3	9