Maths Lesson Year 3
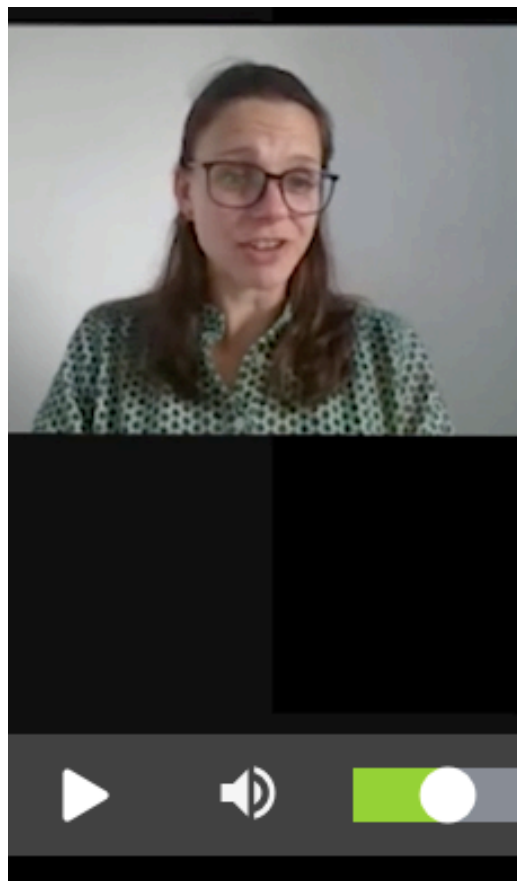
12.2.21

Can I solve addition and subtraction word problems?

This is Miss Brinkworth.

She is going to remind you how to do column addition in a video.

Click on this video link to watch her lesson.
Pause the lesson whenever you need to.

https://classroom.thenational.academy/lessons/solving-addition-and-subtraction-word-problems-6mw3ct?step=2&activity=video

The activities from her lesson are on the following slides:

If you can't work the video, just do the slides without it.

You can use online dienes using the website shown, draw them or make some using cut up bits of paper/straws/counters/money etc.

🔥 These warm up activities are on the video. 🔥

Warm up
Answer these questions mentally
Think about what strategies you are using

12 - 9 =	7 - 5 =	8 - 4 =	34 - 22 =
14 - 8 =	12 - 9 =	6 + 7 =	5 + 4 =
11 - 8 =	16 - 7 =	11 - 5 =	9 + 3 =

Warm up
One has been answered correctly and one has not.
Challenge - spot what mistake has been made

```
      7 7 7
   +  1 4 6
      9 2 3
```

```
      9 7 8
   -  4 6 9
      5 1 1
```

Warm up

Answer these questions mentally
Think about what strategies you are using

Answers!

12 - 9 = 3	7 - 5 = 2	8 - 4 = 4	34 - 22 = 12
14 - 8 = 6	12 - 9 = 3	6 + 7 = 13	5 + 4 = 9
11 - 8 = 3	16 - 7 = 9	11 - 5 = 6	9 + 3 = 12

Warm up

One has been answered correctly and one has not.
Challenge - spot what mistake has been made

This answer was correct

$$
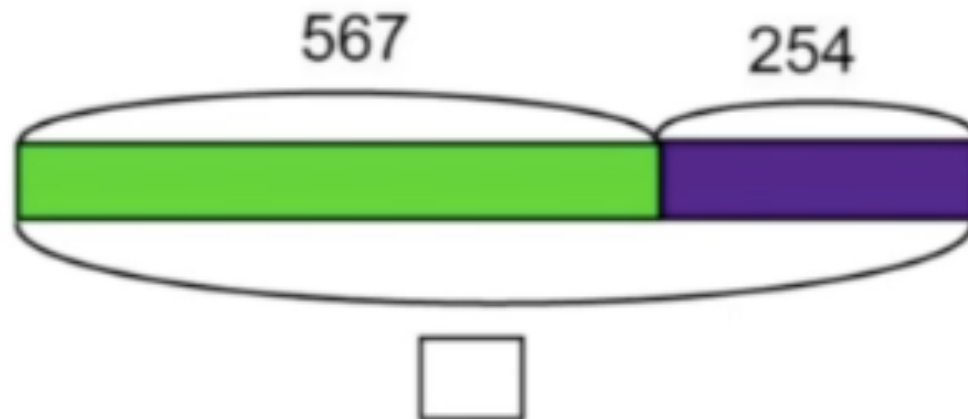\begin{array}{r}
7\,7\,7 \\
+\ 1\,4\,6 \\
\hline
9\,2\,3
\end{array}
$$

This calculation needed regrouping.

$$
\begin{array}{r}
^{6}\ ^{1} \\
9\,7\,8 \\
-\ 4\,6\,9 \\
\hline
5\,1\,1
\end{array}
$$

509

Now try answering this word problem.

A 1-hour traffic survey on the M8 motorway between Edinburgh and Glasgow counted **567** cars and **254** lorries. How many vehicles were counted altogether?

567   254

Think about:

What calculation is needed?

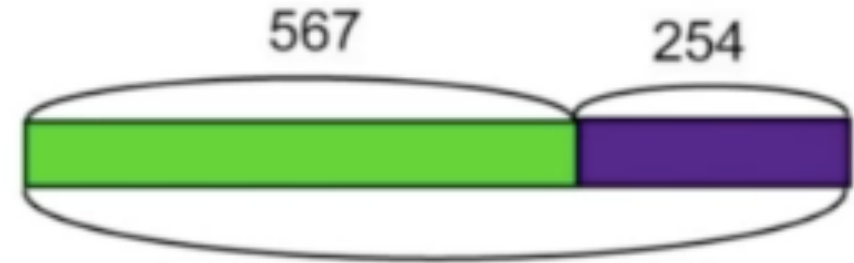Will the answer be bigger or smaller than the numbers in the problem?

Answer on the next slide:

Answer:

A 1-hour traffic survey on the M8 motorway between Edinburgh and Glasgow counted 567 cars and 254 lorries. How many vehicles were counted altogether?

567 + 254 =

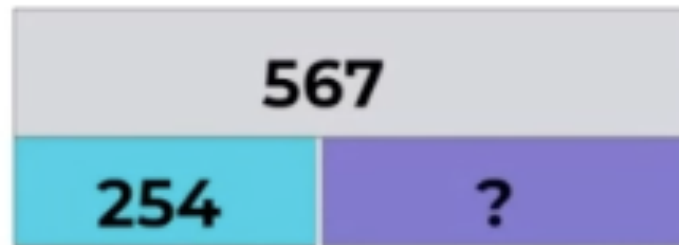|				
	5	6	7	
+	<u>2</u>	<u>5</u>	<u>4</u>	
	8	2	1	
	1	1		

Estimate-
570 + 250 = 820

Now try this one:

A 1-hour traffic survey on the M8 motorway between Edinburgh and Glasgow counted 567 cars and 254 lorries. How many more cars were there than lorries?

567	
254	?

Think about:

What calculation is needed?

Will the answer be bigger or smaller than the numbers in the problem?

Answer on the next slide:

Answer:

A 1-hour traffic survey on the M8 motorway between Edinburgh and Glasgow counted 567 cars and 254 lorries. How many more cars were there than lorries?

567	
254	?

Estimate -

570 - 260 = 310

$$
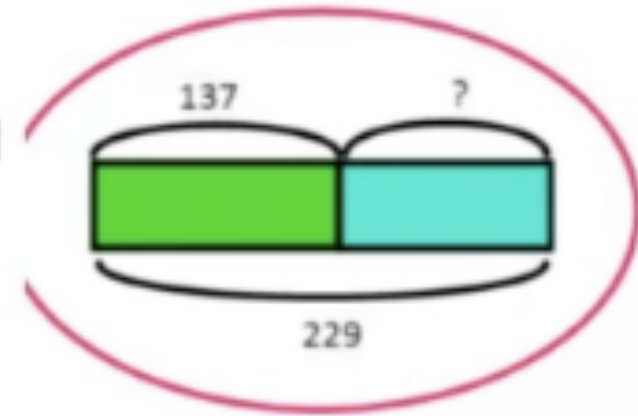\begin{array}{r}
  5\ 6\ 7 \\
- 2\ 5\ 4 \\
\hline
  3\ 1\ 3 \\
\end{array}
$$

Now try this one:

Abdi's family used **137** litres of petrol to drive to Edinburgh and back.
They used some more petrol to drive to France and back for a camping holiday.
They used **229** litres altogether, so how much did they use on their camping holiday?

Think about:

What calculation is needed?

Answer on the next slide:

Will the answer be bigger or smaller than the numbers in the problem?

Answer:

Abdi's family used **137** litres of petrol to drive to Edinburgh and back.
They used some more petrol to drive to France and back for a camping holiday.
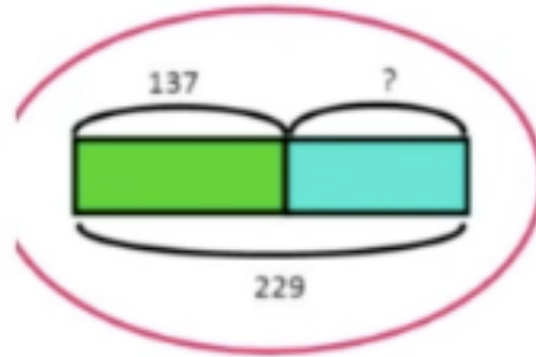They used **229** litres altogether, so how much did they use on their camping holiday?

Estimate-
230 - 140 = 90

$$\begin{array}{r} {}^{1}\;\;\;\;\;\;\\ \cancel{2}\,{}^{1}2\;\;9 \\ -\;\;1\;\;3\;\;7 \\ \hline 0\;\;9\;\;2 \end{array}$$

Now try this one:

356 pupils were in the library on Monday. 34 fewer pupils were at the library on Tuesday than Monday. How many pupils were in the library on Tuesday?

356	
34	?

Think about:

What calculation is needed?

Will the answer be bigger or smaller than the numbers in the problem?

Answer on the next slide:

Answer:

356 pupils were in the library on Monday. 34 fewer pupils were at the library on Tuesday than Monday. How many pupils were in the library on Tuesday?

Estimate -

360 - 30 = 330

356

34   ?

	3	5	6	
-		3	4	
	3	2	2	

How to answer word problems -

1) Create a <u>bar model</u> to show known and unknowns
2) Round to <u>estimate</u>
3) Complete using <u>best method</u> (written method might not always be needed)
4) <u>Check</u> answer against estimate and original word problem - Does it look reasonable?

You can use dienes to help you if you want to.

Task: Now do these word problems.
Use either dienes or do a written calculation.

Part A - Follow our SC to answer these

1. At the school fair the raffle raised £168. The cake stall raised £176. How much did both stalls raise altogether?
2. 368 pupils visited Edinburgh Zoo on Saturday. 277 more visited the Zoo on Sunday than Saturday. How many children went to the Zoo on Sunday?
3. A Primary School has 276 pupils. The secondary school next door has 648 more pupils than the primary school. How many pupils were there at the secondary school?

Think:

How am I going to set out my work?

Calculations should look like this:

	5	2	7
+	2	6	9

Answers on the next slide – no peeking!
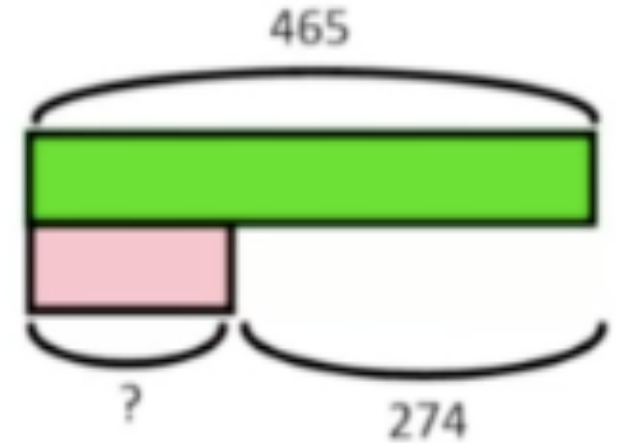
Answers:

Part A - Follow our SC to answer these

1. At the school fair the raffle raised £168. The cake stall raised £176. How much did both stalls raise altogether? 168 + 176 = 344

2. 368 pupils visited Edinburgh Zoo on Saturday. 277 more visited the Zoo on Sunday than Saturday. How many children went to the Zoo on Sunday?   368 + 277 = 645

3. A Primary School has 276 pupils. The secondary school next door has 648 more pupils than the primary school. How many pupils were there at the secondary school?
   276 + 648 = 924

How did you do?

Now try this:

Part B

1) Make up your own word problem using this bar model

Think about

Will your problem need an addition calculation or a subtraction calculation?

Easier:

1. Lucy has 12 sweets and gives 5 sweets away to James. How many sweets does she have left?

2. Anna buys a banana for 21p and an apple for 7p. How much does she spend all together?

3. Gary is 14, his sister Jane is 6 years younger. How old is Jane?

4. Chocolate bars used to cost 26p. The cost has been cut by 5p. How much does chocolate now cost?

5. Joshua has 23p. After he buys a comic he has 12p left. How much was the comic?

6. Cathy has 17p, and Sally has 5p less. How much does Sally have?

7. There are 28 people on the bus. At the next stop, 6 people get off. How many people are left on the bus?

8. Tanya had a ribbon that was 17cm long. She cut off 4cm. How long is her ribbon?

9. Crisps cost 20p and drinks cost 15p. What is the difference in price?

10. Polly has 6p less than Gary, who has 18p. How much does Polly have?

Extra Sheets

Choose the level that is right for you.

Harder:

1. Lucy has 98 sweets and James has 45. How many more does Lucy have than James?

2. Anna buys a banana for 81p and an apple for 67p. How much does she spend all together?

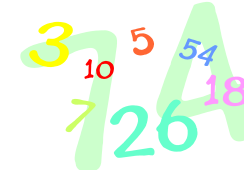She then buys a 15p sweet. How much has she spent now?

3. Jane is 16 years younger than Gary, who is 84. How old is Jane?

4. Polly has 19p less than Gary, who has £2.15. How much does Polly have?

5. Two numbers have a total of 88. Their difference is 18. What are the numbers?

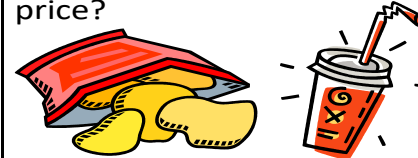6. My mum is 39 and my dad is 46. What is the difference in their ages?

7. There are 58 people on the bus. At the next stop, 17 people get off. How many people are left on the bus?

8. Tanya has a ribbon that is 79cm long. She cut off 54cm. How long is her ribbon now?

9. Crisps cost 74p and drinks cost 39p. What is the difference in price?

10. Chocolate bars used to cost 86p. The cost has been cut by 37p. How much does chocolate now cost?

How did you do?
We love seeing your work everyone.

Remember to post your work on Class Dojo!