

Parents Maths Workshop

Addition: Reception to Year 6



Outcomes for workshop

- Understand the importance of maths in every day life
- Be able to support your child in addition throughout their schooling
- Experience the concrete apparatus and pictorial representations that are used
- Have practical ideas for using maths at home
- Answering any questions

The only way to learn mathematics
is to do mathematics.

Paul Halmos



What maths have I used today?

Sound familiar?



Can I risk another 5 minutes in bed when I've got so much to do before taking the children to school/going off to work?

Reading the gauge-
understanding
fractions



Have I got enough petrol in the car to get me to school and back?

And, have I got enough money to pay for the petrol?!!!

Reception



**SAY IT
MAKE IT
WRITE IT**
for maths

2 + 5 = 7
2 + 3 = 5
6 + 3 = 9

say it
 $3 + 4$

make it

write it
7

YOU CLEVER MONKEY

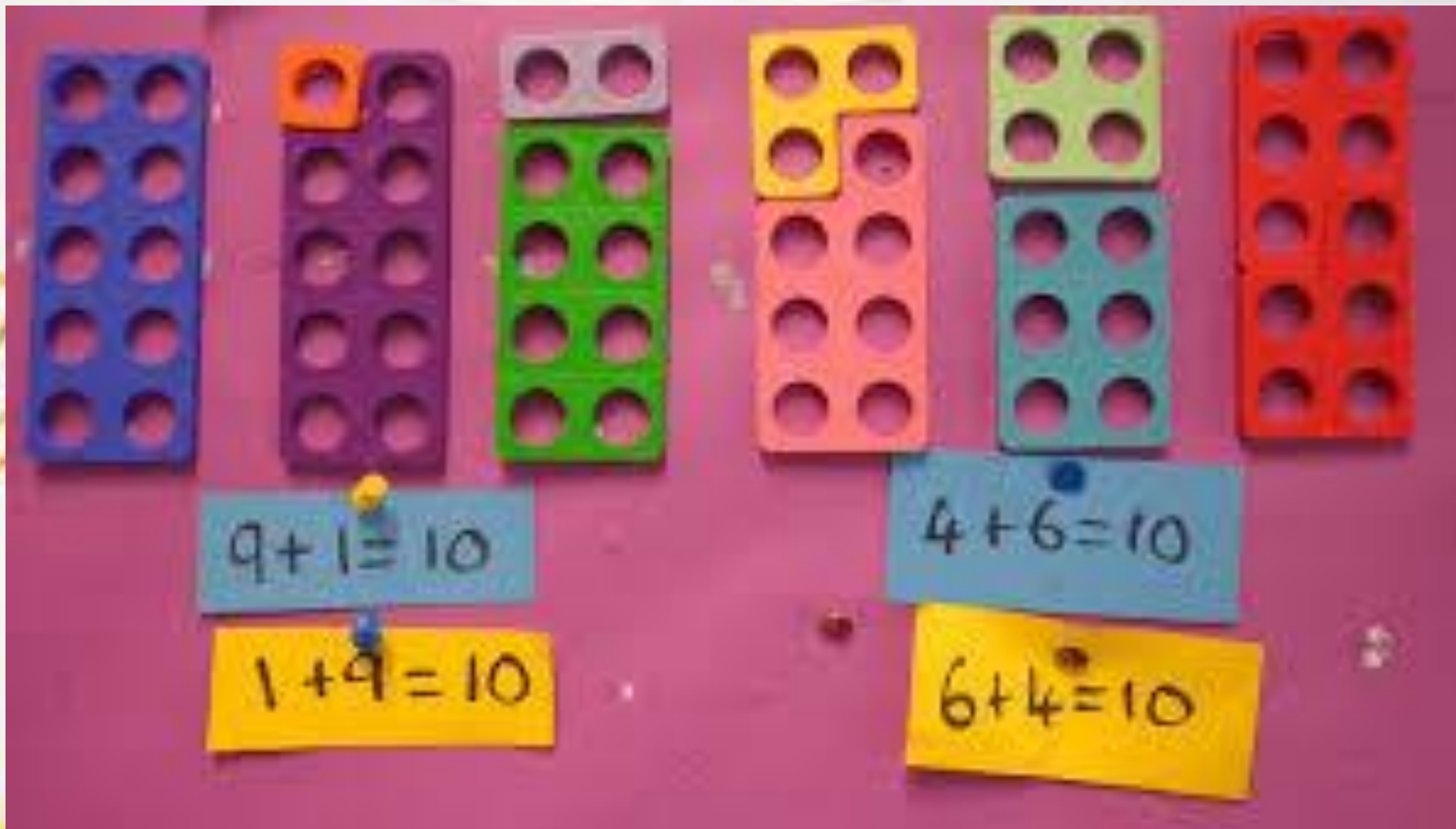
Year 1

National Curriculum States

Represent and use number bonds and related subtraction facts within 20

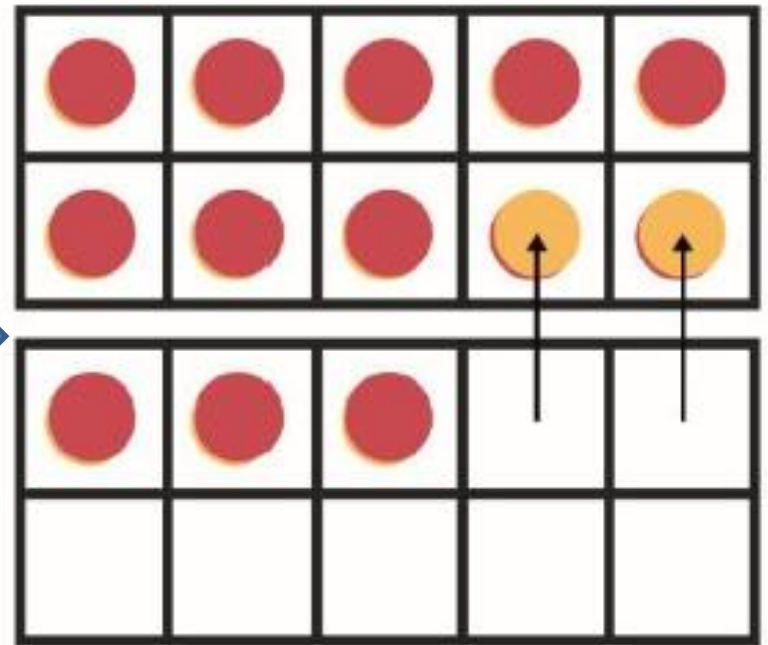
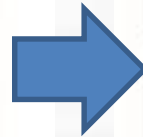
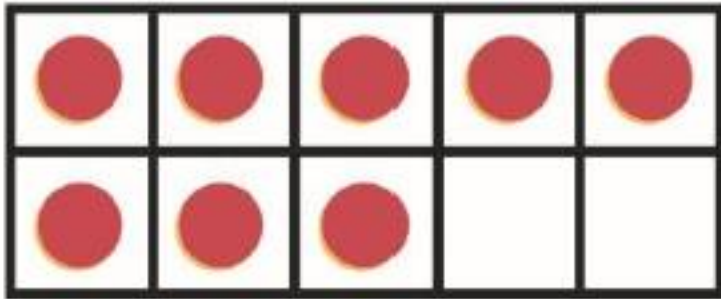
Add and subtract one digit and two digit numbers to 20, including zero

Mental addition



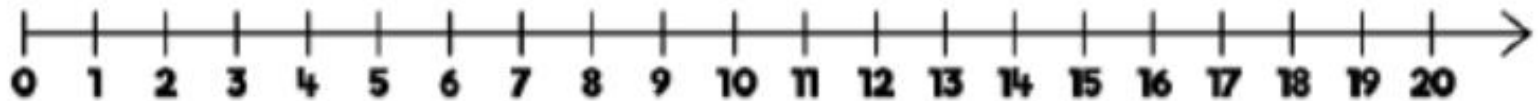
Calculating and recording

$$8 + 5 =$$

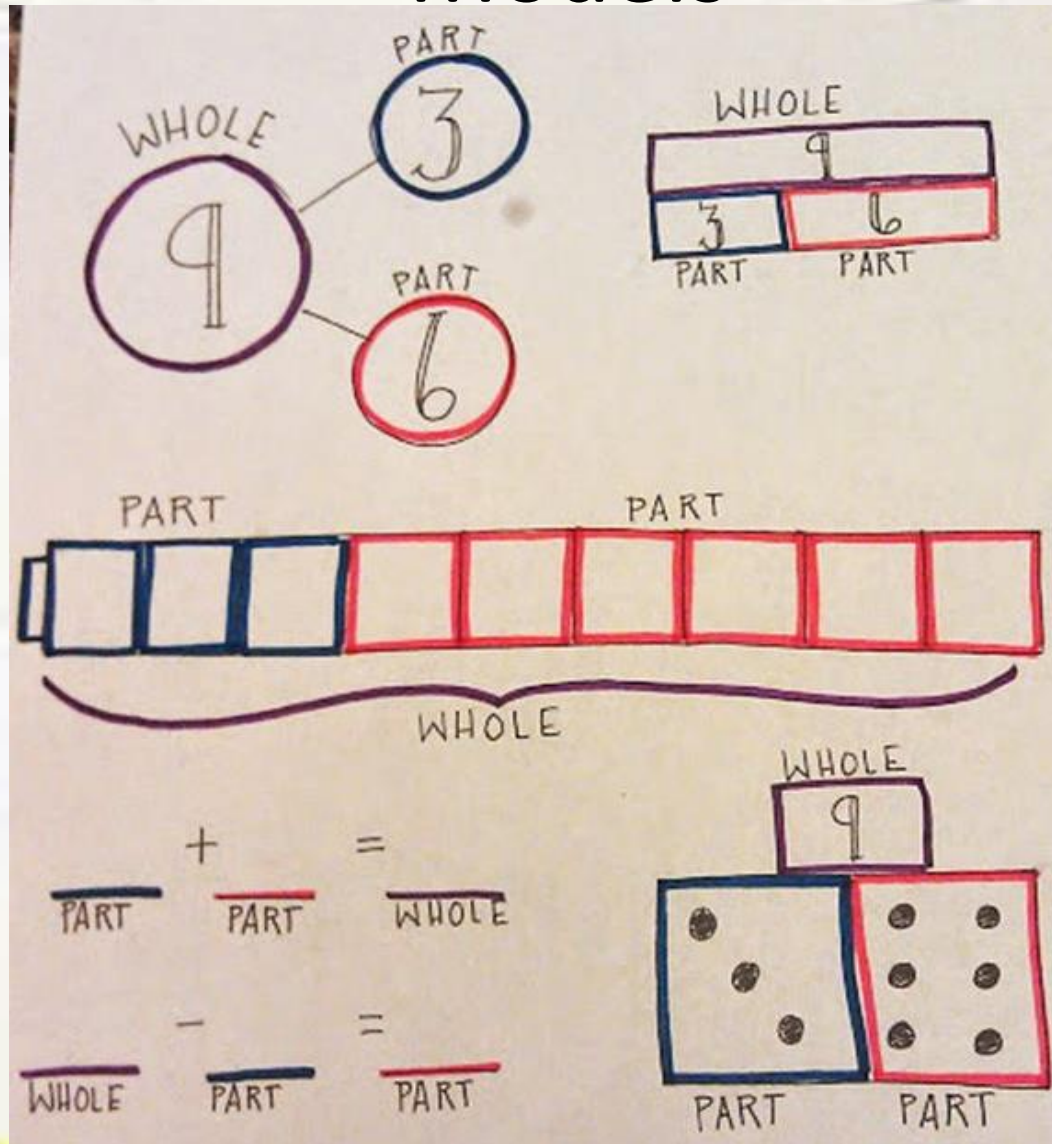


Number line (Counting on)

- Mo starts at 9 and counts on 6 $9 + 6 = \square$
Show his calculation on the number line.



Recording using Part:Part:Whole Models

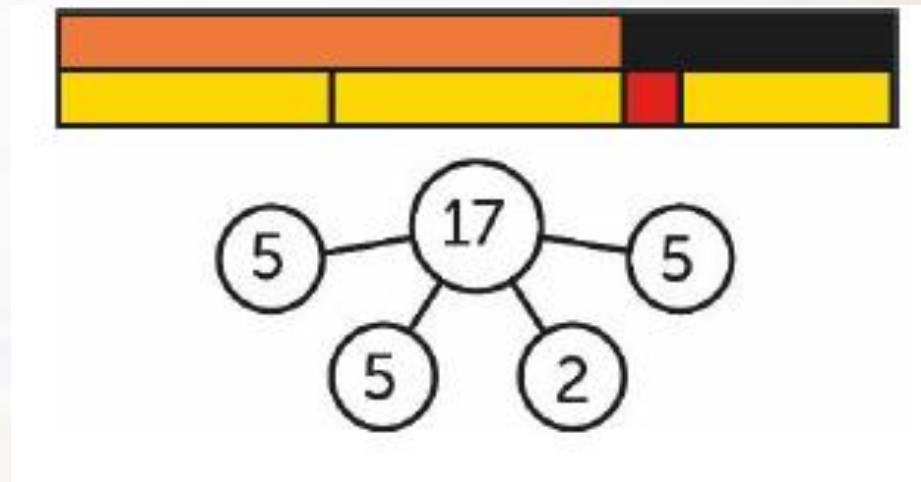
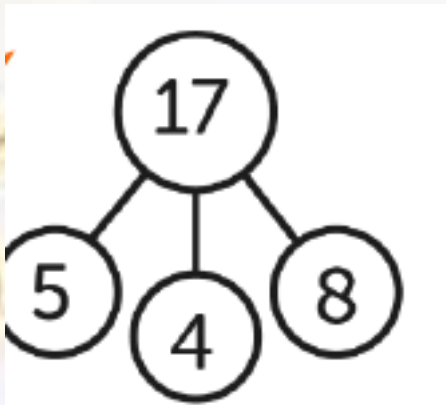
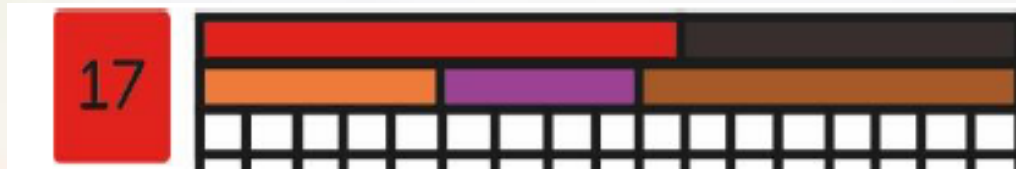


Year 2

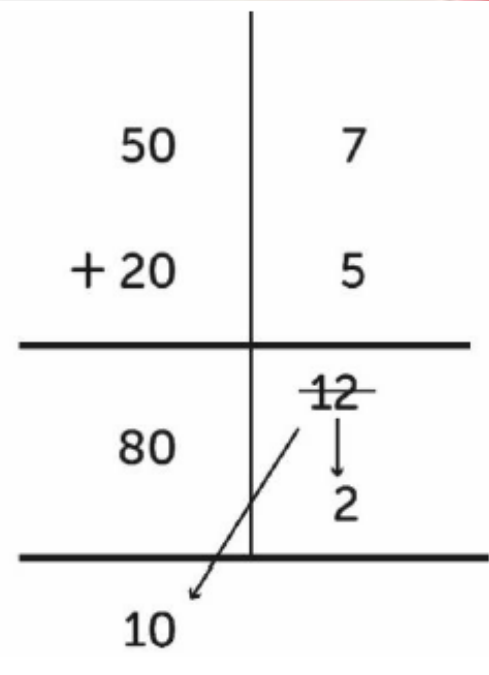
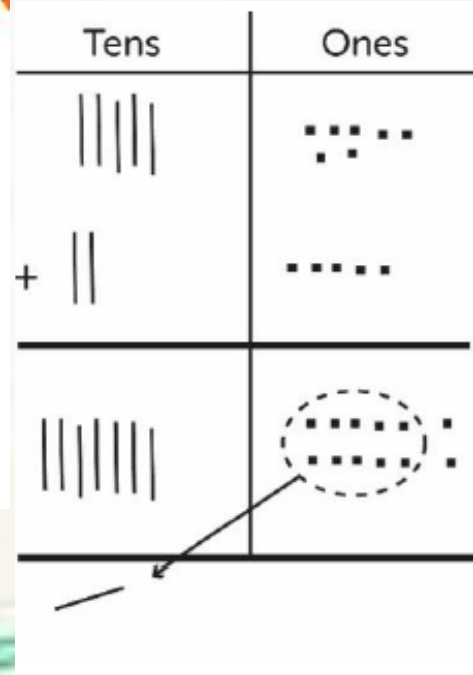
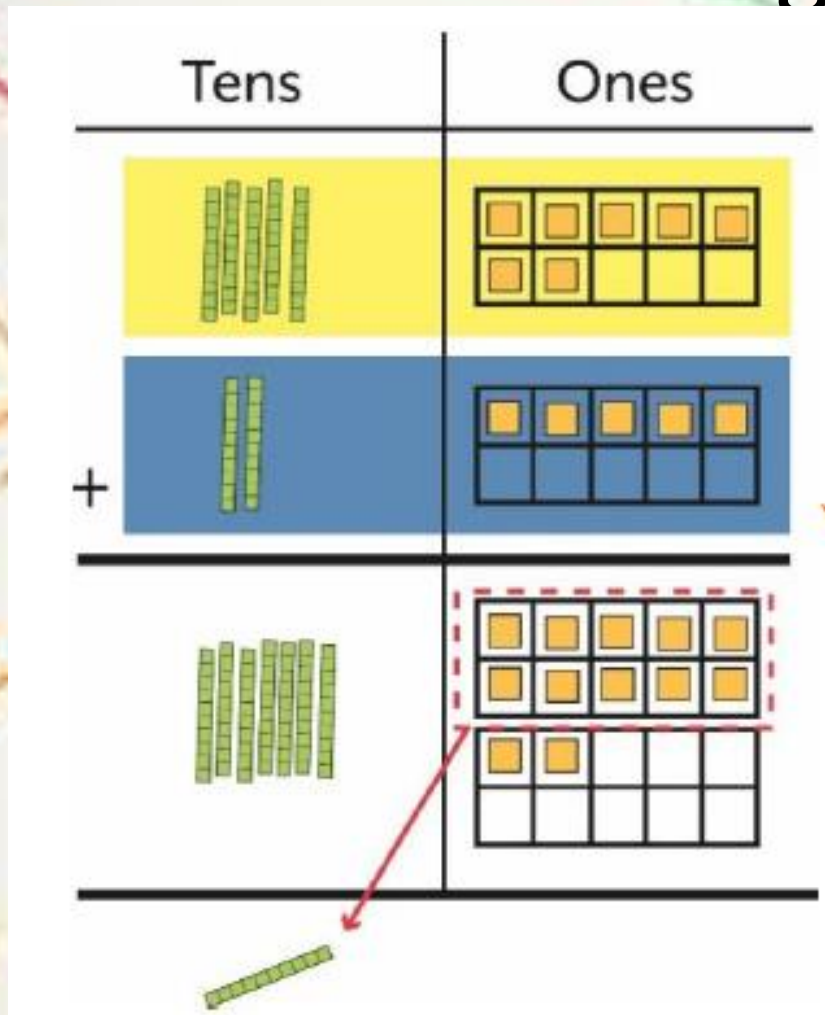
National Curriculum States

Apply increasing knowledge of mental and written methods in addition and subtraction using concrete objects and pictorial representations

Mental addition recording using Part:Part:Whole



Calculating and recording



Year 3

National Curriculum States


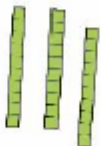



Add and subtract numbers mentally, including:

- a three-digit number and ones
- a three-digit number and tens
- a three-digit number and hundreds

Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction

Column addition

- $436 + 8$

Hundreds	Tens	Ones
		
		

$$\begin{array}{r}
 + \quad 4 \quad 3 \quad 6 \\
 \quad 8 \\
 \hline
 4 \quad 4 \quad 4 \\
 \hline
 \end{array}$$

$$436 \approx 440$$







$$8 \approx 10$$

$$436 + 8 \approx 450$$

6 ones and 8 ones make 14 ones.
14 is one ten and 4 ones.

I regrouped 10 ones for 1 ten.

Children are also expected to solve questions like this

Hundreds	Tens	Ones
		
		

Record this calculation in a formal written layout and solve it.

Getting ready for problem solving!

$$342 + 278 = 620$$

620	
342	278

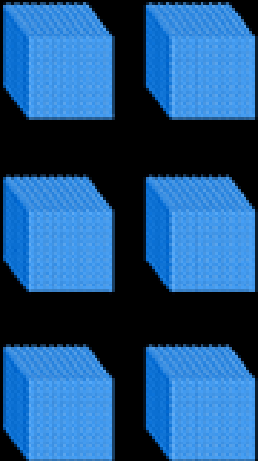

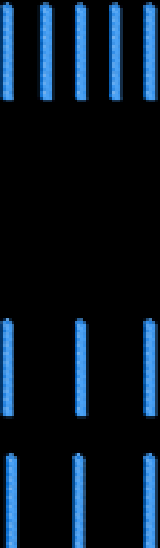

$$\begin{array}{r} + \quad 3 \quad 4 \quad 2 \\ \quad 2 \quad 7 \quad 8 \\ \hline \quad 6 \quad 2 \quad 0 \\ \hline \end{array}$$

Year 4

National Curriculum States

Add and subtract numbers up to 4 digits using formal written methods of columnar addition and subtraction where appropriate

Column Method

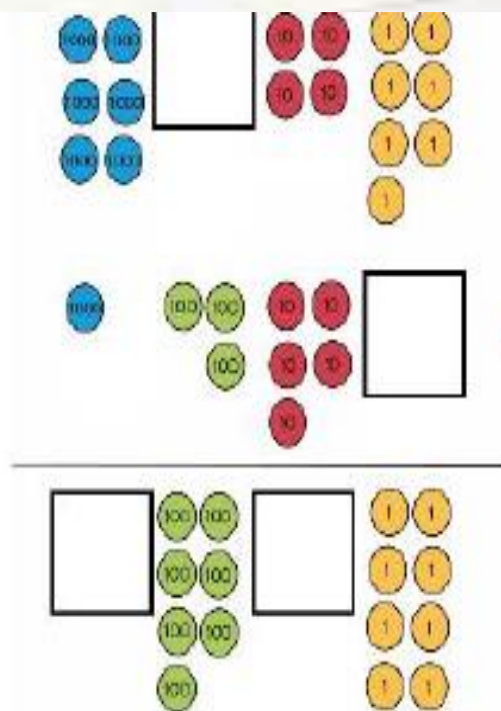
Thousands	Hundreds	Tens	Ones
			

$$\begin{array}{r} 4,655 \\ + 2,769 \\ \hline \end{array}$$

7,424

Finding missing numbers

6	<input type="text"/>	4	7
1	3	5	<input type="text"/>
<hr/>			
<input type="text"/>	7	<input type="text"/>	8
<hr/>			



How can we find the missing numbers?

Year 5

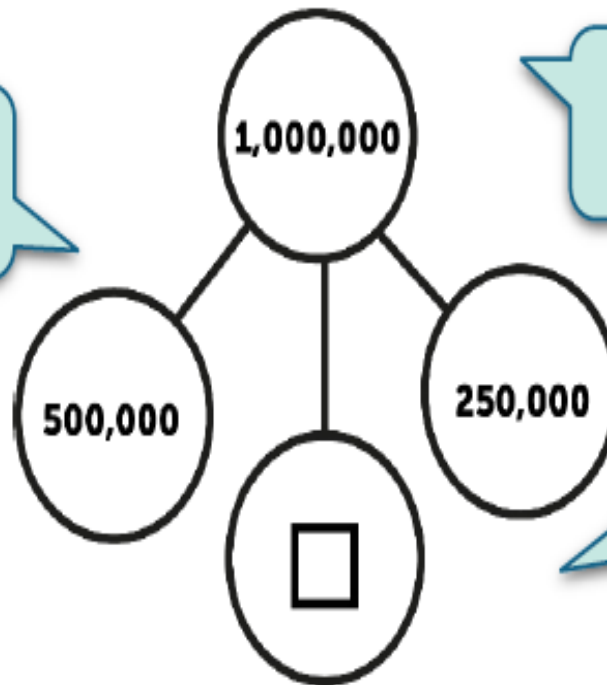
National Curriculum States

Add and subtract whole numbers with more than 4 digits, using formal written methods

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Year of the million

Can you regroup
1,000,000 into 4 groups?



What is the
missing number?

How else can you
regroup 1 million?

$23,469 + 369 = 60,369$

Column addition has been used to work out the answer to this calculation.

How can you tell this answer can't be correct?

What do you think this person might have done when they worked it out?

Tm	M	Hb	Tb	Th	U
Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds
10 000 000	1 000 000	100 000	10 000	1 000	100

$$23,469 + 369 = 60,369$$

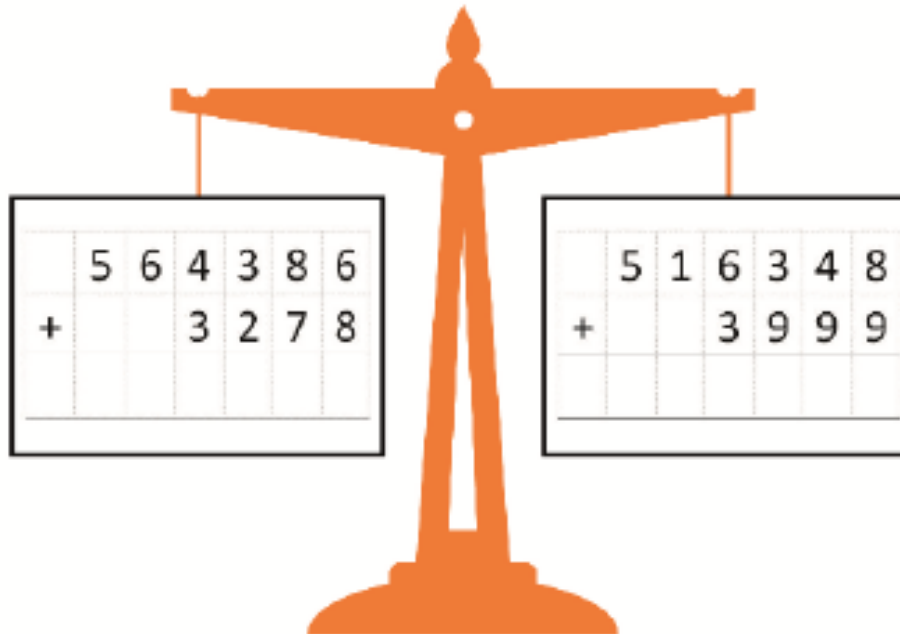
Column addition has been used to work out the answer to this calculation.

How can you tell this answer can't be correct?

What do you think this person might have done when they worked it out?

Tn	M	th	Tth	Th	H	T	O	t	h	th
Ten Billions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
10 000 000	1 000 000	100 000	10 000	1 000	100	10	1	0.1 $\frac{1}{10}$	0.01 $\frac{1}{100}$	0.001 $\frac{1}{1000}$

Problem solving and reasoning



Will this scale tilt or balance?

Estimate then check.

Year 6

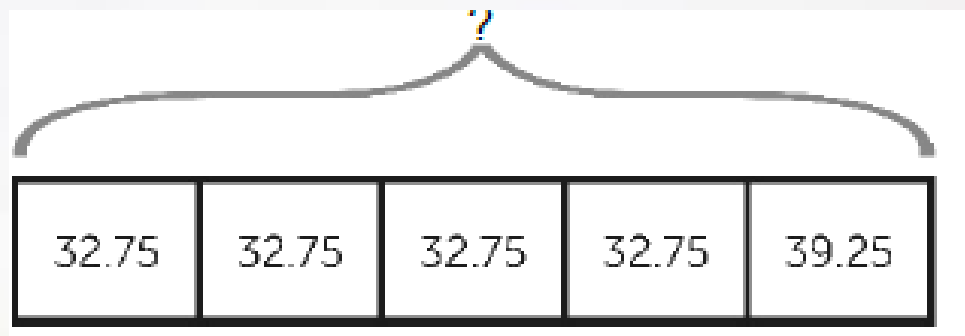
National Curriculum States

Perform mental calculations, including with mixed operations and large numbers

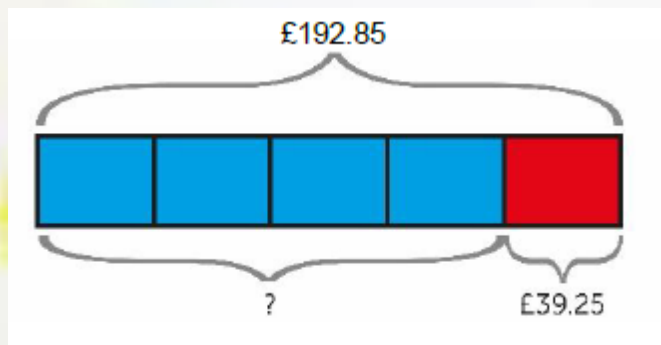
Solve problems involving addition, subtraction, multiplication and division

Problem solving using addition

Five friends went to a water park. Four bought day entry tickets for £32.75 each. The fifth person purchased a bonus package ticket that cost £39.25. In total, how much did it cost for the five friends to go to the water park?



Prices for the day entry tickets increase the following week. If the five friends go next week and buy the same types of tickets, their entry would cost £192.85 in total. How much are the day tickets increasing by?



First you subtract £39.25 from the new total ($£192.85 - £39.25$) then divide this by 4 to find the cost of 1 day entry ticket ($£153.60 \div 4 = £38.40$). Finally, find the difference between the old and new ticket prices ($£38.40 - £32.75 = £5.65$).

Working backwards

- Jack is 35 years younger than Karen. Frank is half of Jack's age. Jennifer is 17 years older than Frank. If Jennifer is 35 years old, how old is Karen?

How would you solve this?

Jack is 35 years younger than Karen. Frank is half of Jack's age. Jennifer is 17 years older than Frank. If Jennifer is 35 years old, how old is Karen?

Jennifer = 35 years old

Frank = $35 - 17 = 18$ years old

Jack is $18 \times 2 = 36$ years old

Karen = $35 + 36 = 71$ years old

Practical ways to support at home

- Count your steps to school in different times table patterns
- Counting money, working out totals and finding change when shopping
- Point out patterns, especially numbers
- Encourage cooking. Work out half, double, etc of ingredients
- Get children to calculate costs of items in sales when they have a percentage or fraction off of the original price
- Ask your child to explain their homework using mathematical vocabulary
- Games on TOPMARKS
 - <https://www.topmarks.co.uk/maths-games>



Any questions?



Play with numbers and then

