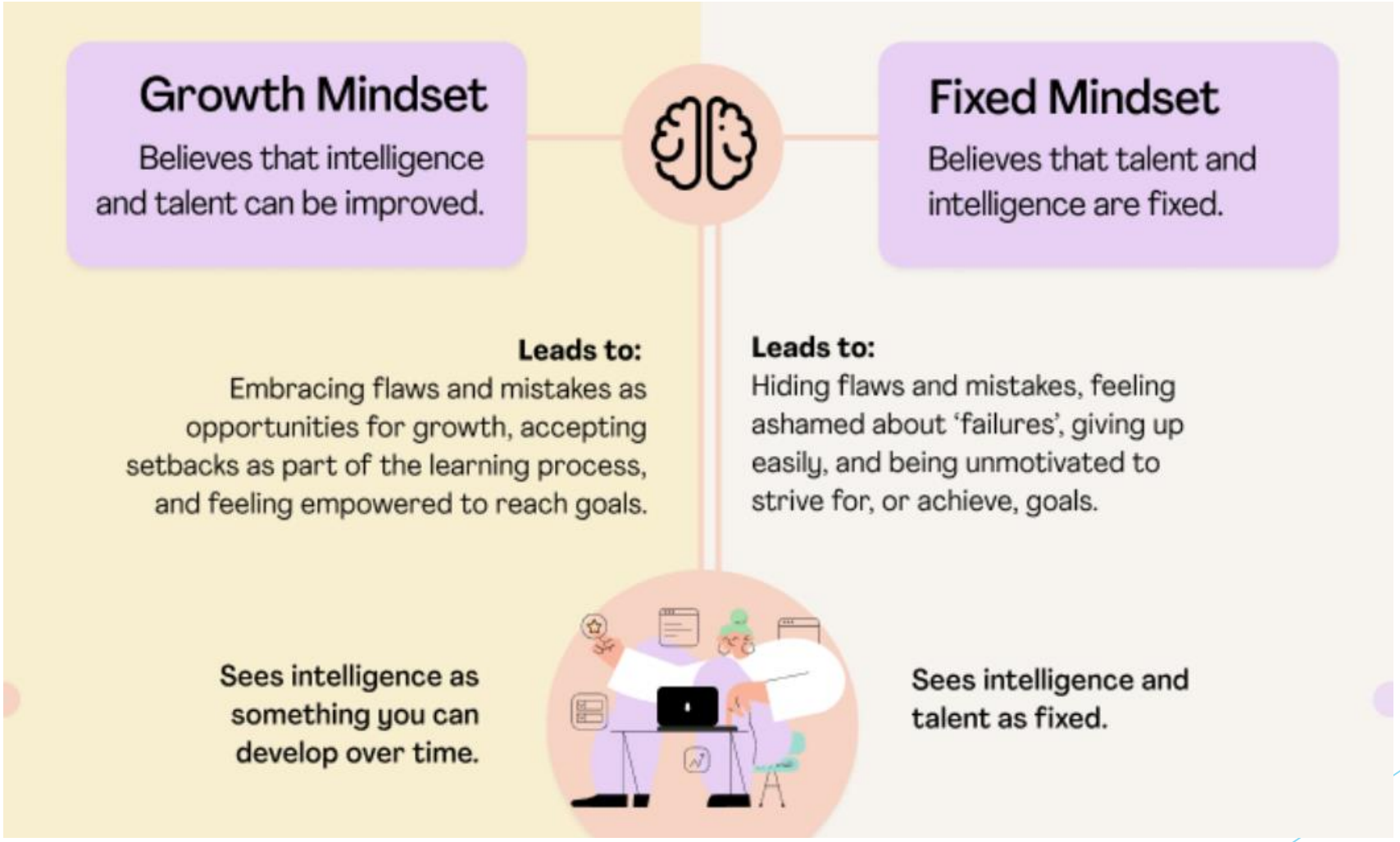
WELCOME
to the Year 1 & 2
Calculation Workshop

Aims:

- To highlight the importance of Growth Mindset in learning
- To share how calculations are taught in Yr1 & 2
- To share expectations for recall facts for Y1 & Y2 pupils
- To share a range of approaches for supporting children with learning recall facts at home

Growth Mindset!



- Everyone can achieve in Maths.
- Hard work, effort and commitment all contribute towards success.
- Children's belief in their potential is heavily influenced by perceptions of the adults around them.

How can we help?

DEVELOPING A GROWTH MINDSET

INSTEAD OF.....	TRY THINKING....
I'm not good at this	What am I missing?
I give up	I'll use a different strategy
It's good enough	Is this really my best work?
I can't make this any better	I can always improve
This is too hard	This may take some time
I made a mistake	Mistakes help me to learn
I just can't do this	I am going to train my brain
I'll never be that smart	I will learn how to do this
Plan A didn't work	There's always Plan B
My friend can do it	I will learn from them

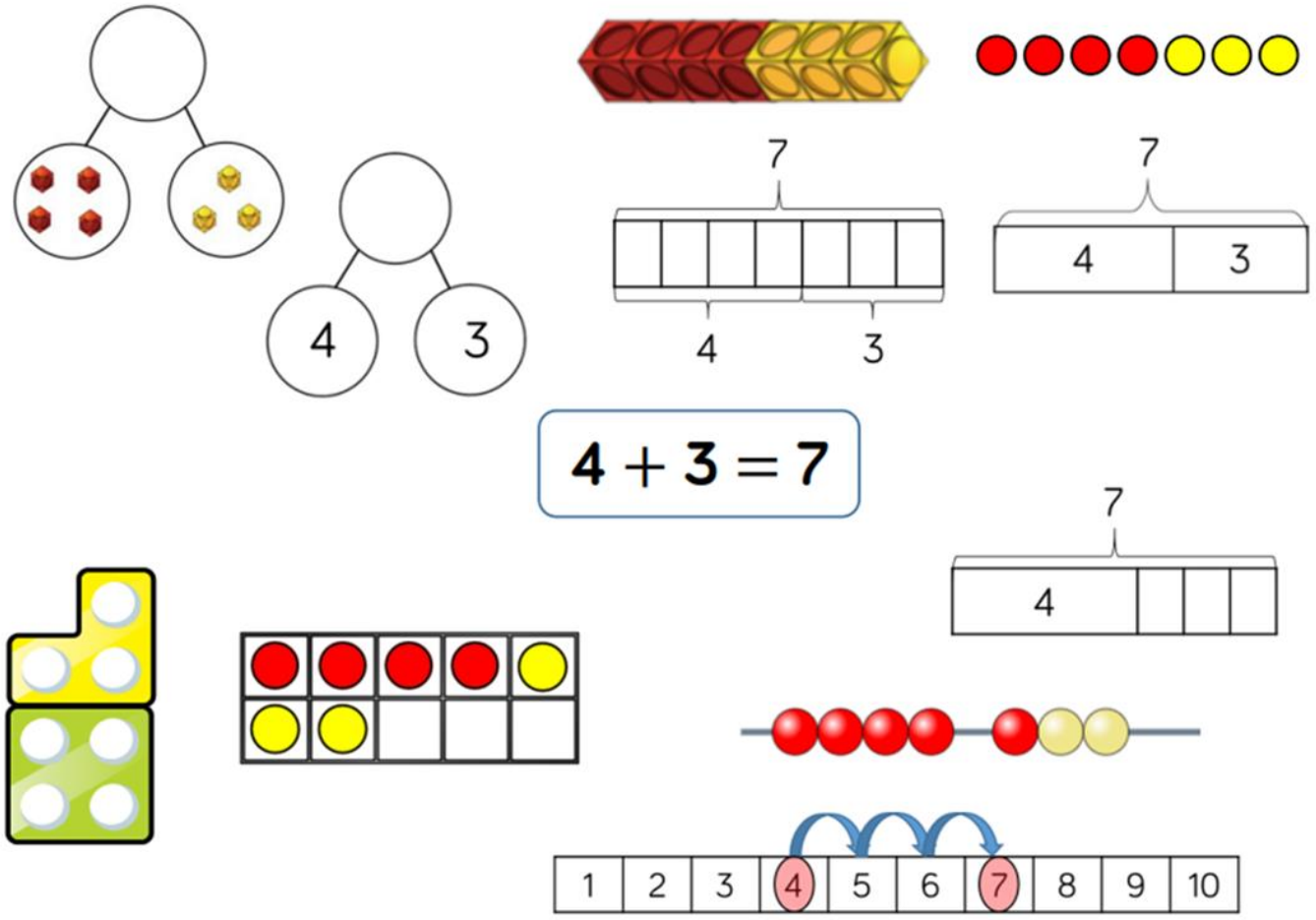
We are not covering the whole Maths curriculum in this presentation!

The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources.

- Place Value
- Addition and subtraction
- Multiplication and division
- Measurement
- Geometry – properties and shapes, position and direction

- Fluency
- Reasoning
- Problem solving

Year 1 Addition

Skill: Add 1-digit numbers within 10	Year: 1
	When adding numbers to 10, children can explore both aggregation and augmentation. The part-whole model, discrete and continuous bar model, number shapes and ten frame support aggregation. The combination bar model, ten frame, bead string and number track all support augmentation.

Recall facts – Number bonds

0 + 2 = 2
2 + 0 = 2
1 + 1 = 2

0 + 3 = 3
1 + 2 = 3
2 + 1 = 3
3 + 0 = 3

0 + 4 = 4
1 + 3 = 4
2 + 2 = 4
3 + 1 = 4
4 + 0 = 4

0 + 5 = 5
1 + 4 = 5
2 + 3 = 5
3 + 2 = 5
4 + 1 = 5
5 + 0 = 5

0 + 6 = 6
1 + 5 = 6
2 + 4 = 6
3 + 3 = 6
4 + 2 = 6
5 + 1 = 6
6 + 0 = 6

Recall Facts – Number bonds

0 + 7 = 7	0 + 8 = 8	0 + 9 = 9	0 + 10 = 10
1 + 6 = 7	1 + 7 = 8	1 + 8 = 9	1 + 9 = 10
2 + 5 = 7	2 + 6 = 8	2 + 7 = 9	2 + 8 = 10
3 + 4 = 7	3 + 5 = 8	3 + 6 = 9	3 + 7 = 10
4 + 3 = 7	4 + 4 = 8	4 + 5 = 9	4 + 6 = 10
5 + 2 = 7	5 + 3 = 8	5 + 4 = 9	5 + 5 = 10
6 + 1 = 7	6 + 2 = 8	6 + 3 = 9	6 + 4 = 10
7 + 0 = 7	7 + 1 = 8	7 + 2 = 9	7 + 3 = 10
	8 + 0 = 8	8 + 1 = 9	8 + 2 = 10
		9 + 0 = 9	9 + 1 = 10
			10 + 0 = 10

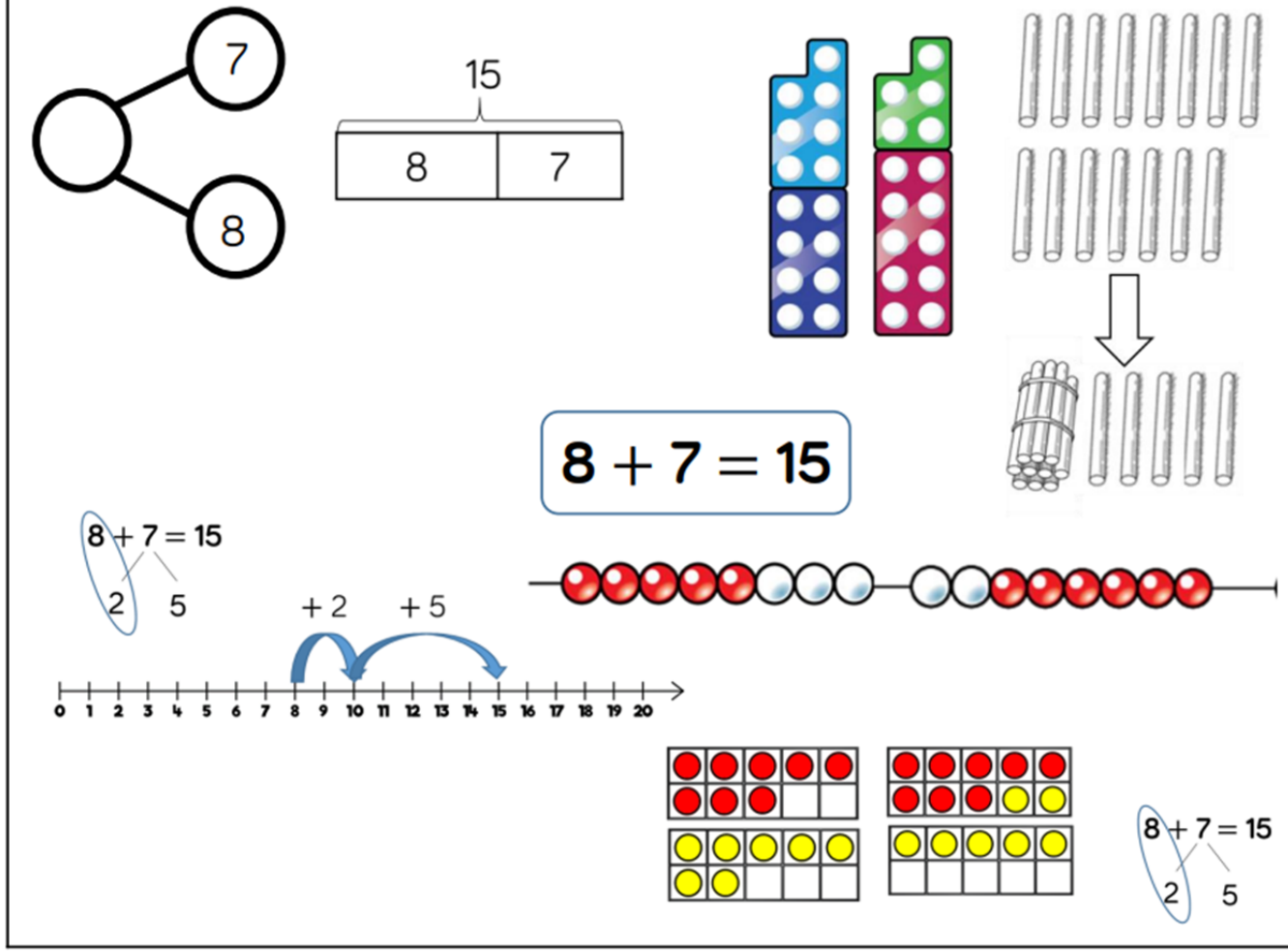
Making Connections

5 + 2 = 7

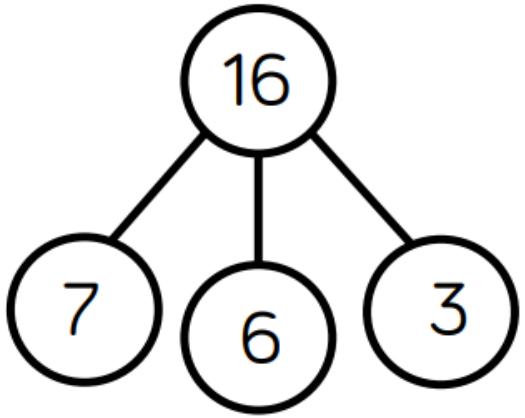
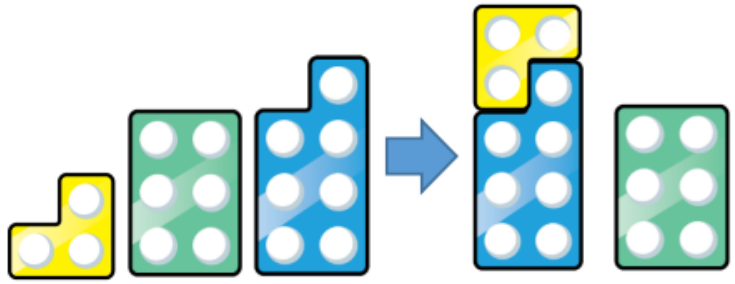
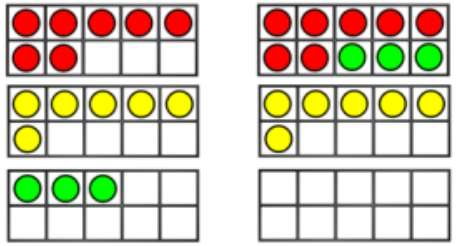
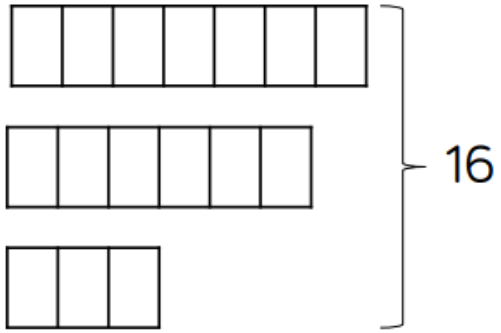
15 + 2 = 17

What do you notice?

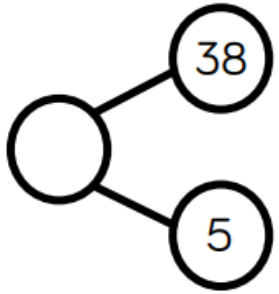
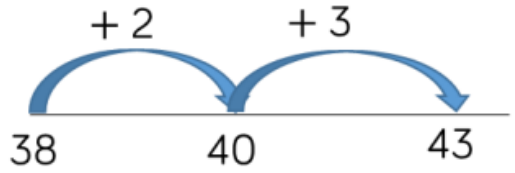
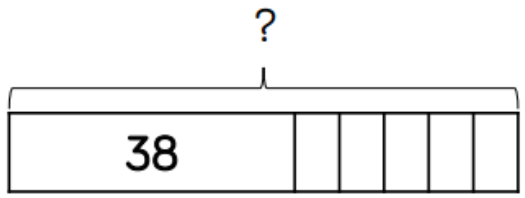
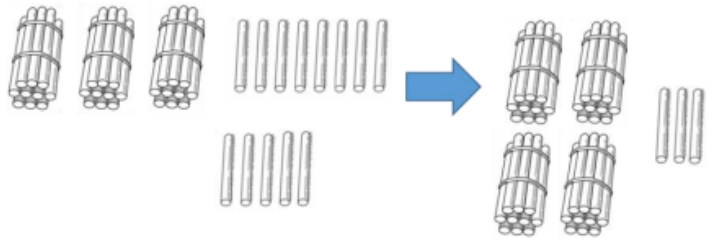
Year 1/2 Addition

Skill: Add 1 and 2-digit numbers to 20	Year: 1/2
	When adding one-digit numbers that cross 10, it is important to highlight the importance of ten ones equalling one ten. In Year 1, this is only done just by counting on. From Year 2, use different manipulatives can be used to represent this exchange alongside number lines to support children in understanding how to partition their jumps.

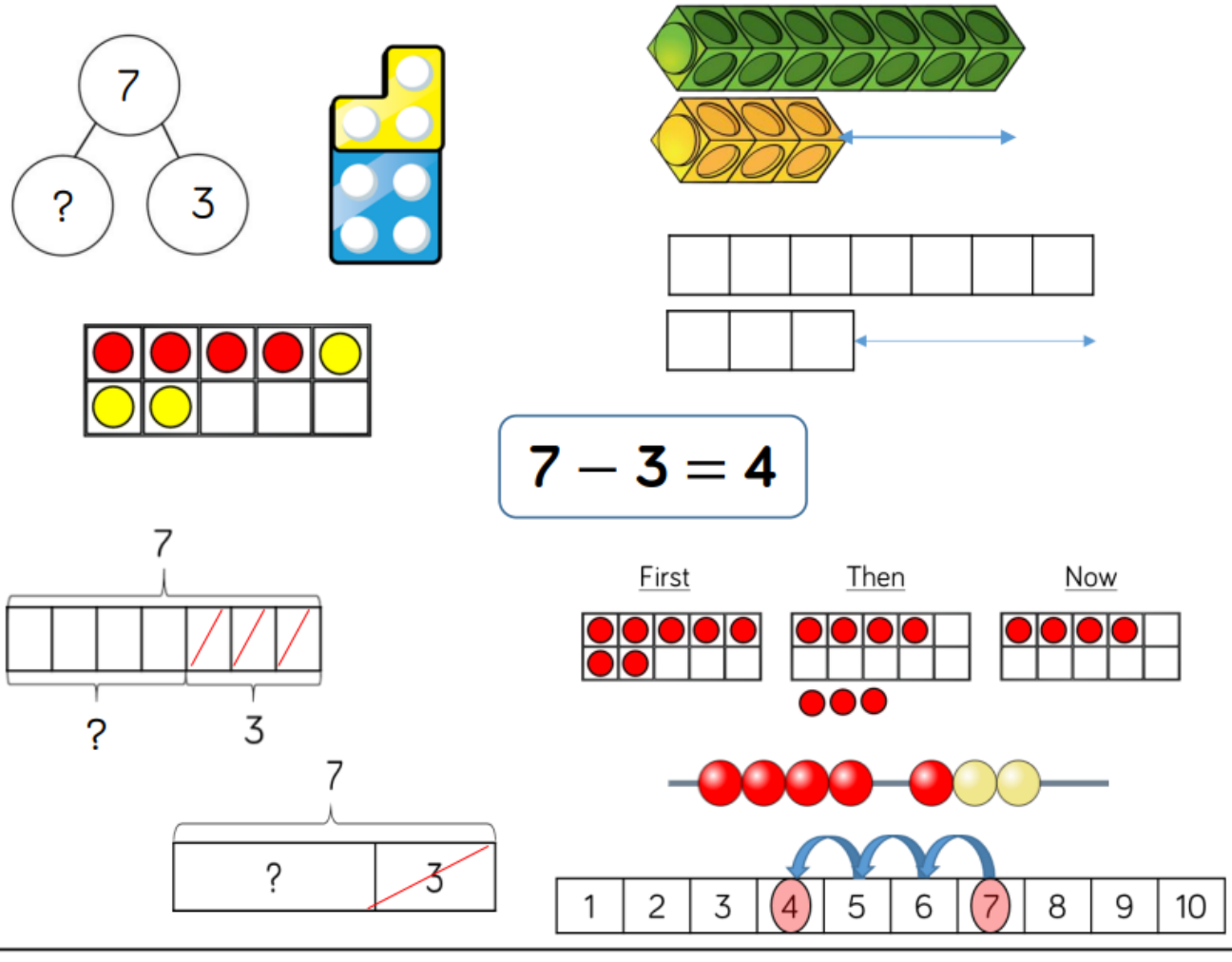
Year 2 Addition

Skill: Add three 1-digit numbers	Year: 2
  $7 + 6 + 3 = 16$  $7 + 6 + 3 = 16$ 10 	When adding three 1-digit numbers, children should be encouraged to look for number bonds to 10 or doubles to add the numbers more efficiently. This supports children in their understanding of commutativity. Manipulatives that highlight number bonds to 10 are effective when adding three 1-digit numbers.

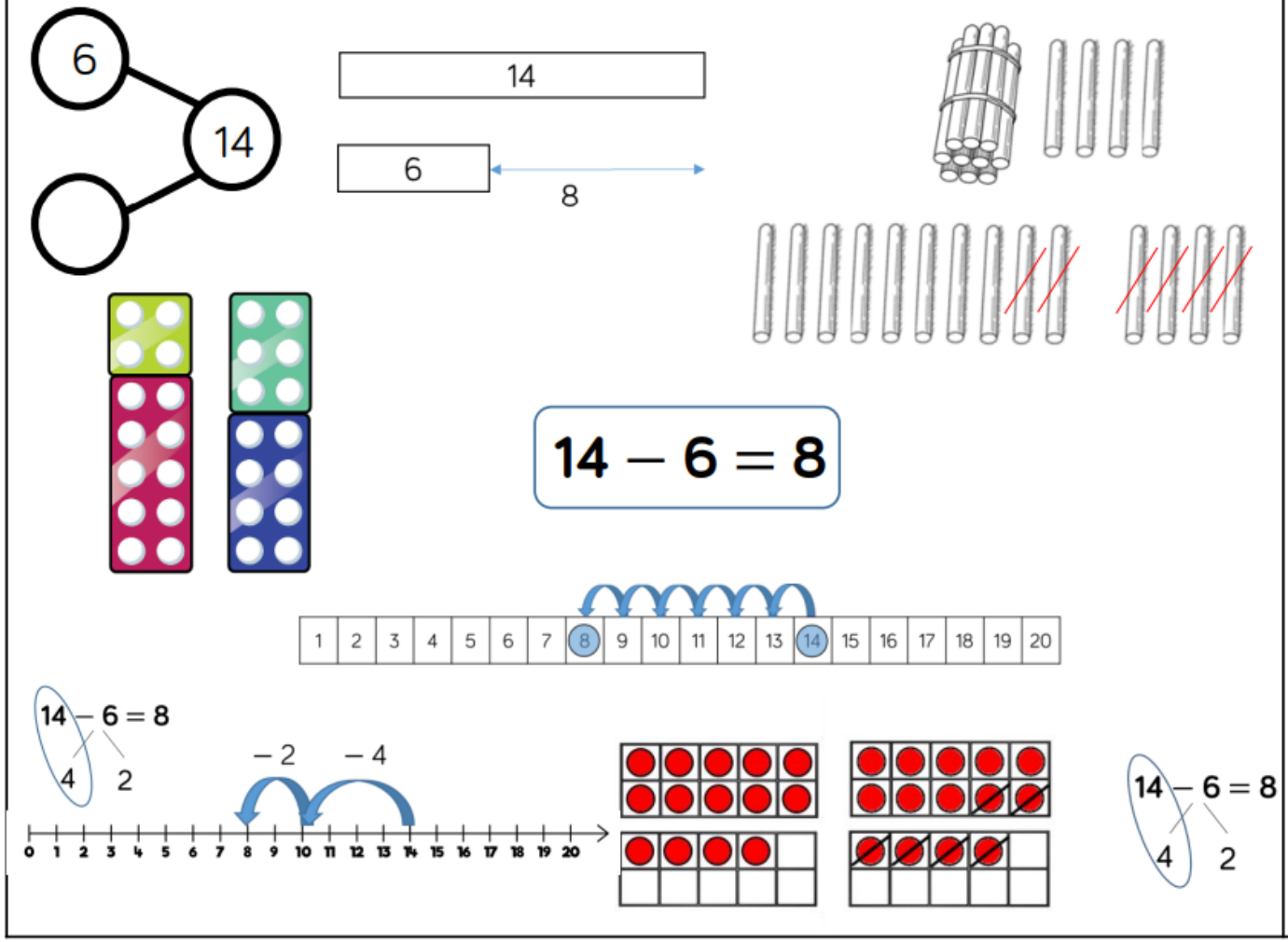
Year 2/3 Addition

Skill: Add 1-digit and 2-digit numbers to 100	Year: 2/3
    **38 + 5 = 43**  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	When adding single digits to a two-digit number, children should be encouraged to count on from the larger number. They should also apply their knowledge of number bonds to add more efficiently e.g. 8 + 5 = 13 so 38 + 5 = 43. Hundred squares and straws can support children to find the number bond to 10.

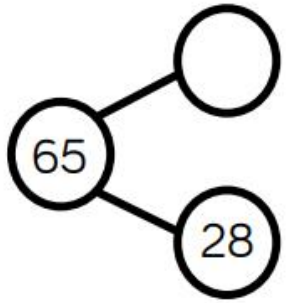
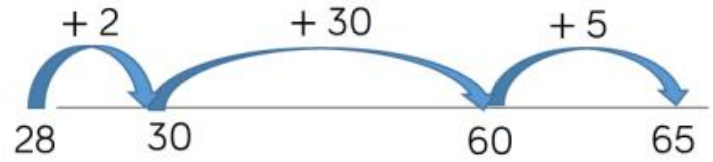
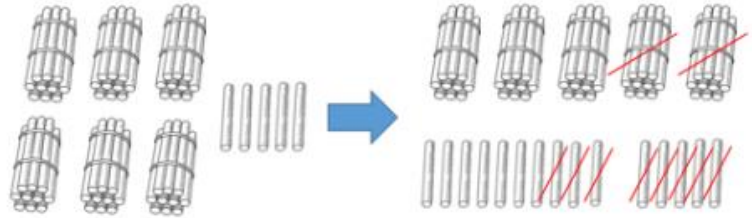
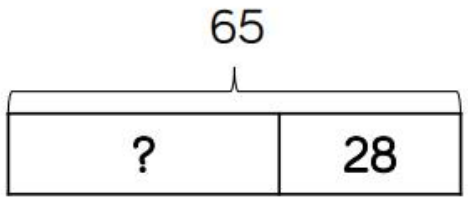
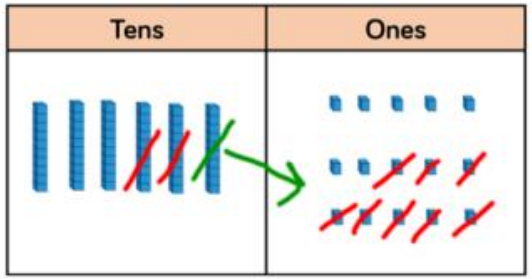
Year 1 Subtraction

Skill: Subtract 1-digit numbers within 10	Year: 1
	Part-whole models, bar models, ten frames and number shapes support partitioning. Ten frames, number tracks, single bar models and bead strings support reduction. Cubes and bar models with two bars can support finding the difference.

Year 1/2 Subtraction

Skill: Subtract 1 and 2-digit numbers to 20	Year: 1/2
	In Year 1, subtracting one-digit numbers that cross 10, is done by counting back, using objects, number tracks and number lines. From Year 2, children should be encouraged to find the number bond to 10 when partitioning the subtracted number. Ten frames, number shapes and number lines are particularly useful for this.

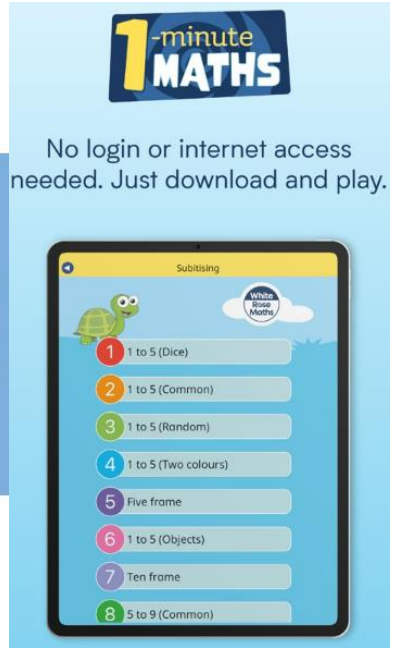
Year 2/3 Subtraction

Skill: Subtract 1 and 2-digit numbers to 100	Year: 2/3
    $65 - 28 = 37$ 	Children can also use a blank number line to count back to find the difference. Encourage them to jump to multiples of 10 to become more efficient.

Recall Facts

Shut the box

21s, Blackjack, Pontoon



1-Minute Maths

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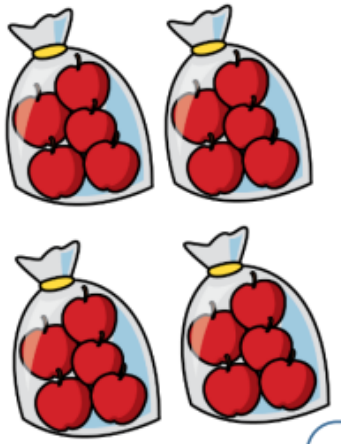
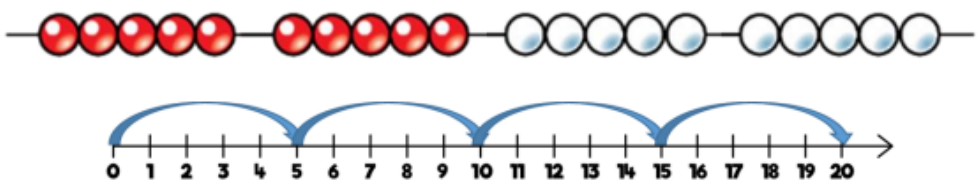
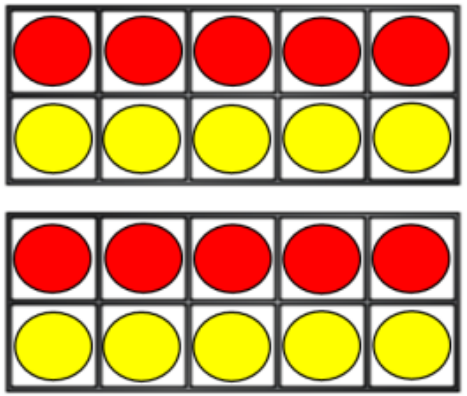
Hit the Button Maths (£2.99)

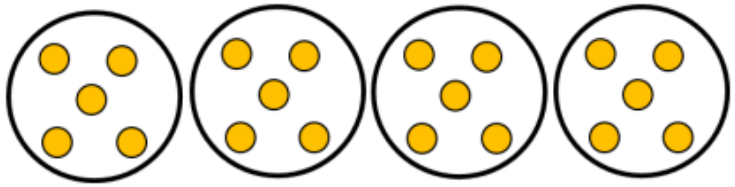
Year 1 & 2 Multiplication

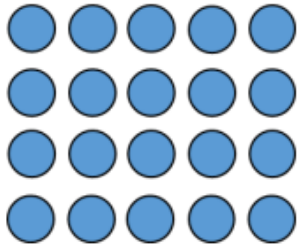




One bag holds 5 apples.
How many apples do 4 bags hold?







$5 + 5 + 5 + 5 = 20$

$4 \times 5 = 20$

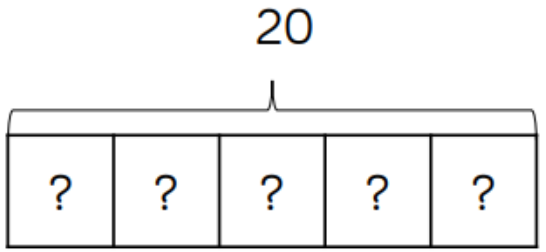
$5 \times 4 = 20$

Children represent multiplication as repeated addition in many different ways.

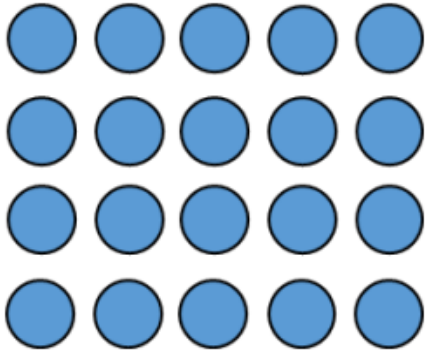
In Year 1, children use concrete and pictorial representations to solve problems. They are not expected to record multiplication formally.

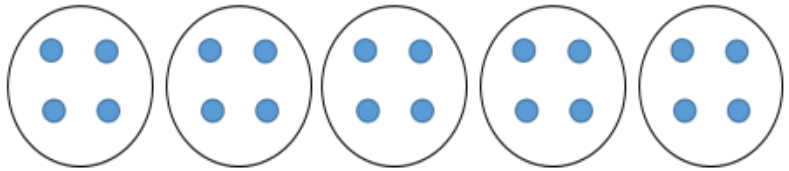
In Year 2, children are introduced to the multiplication symbol.

Year 1 & 2 Division by sharing



There are 20 apples altogether.
They are shared equally between 5 bags.
How many apples are in each bag?





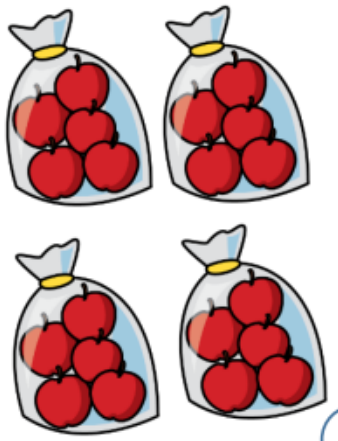
$20 \div 5 = 4$

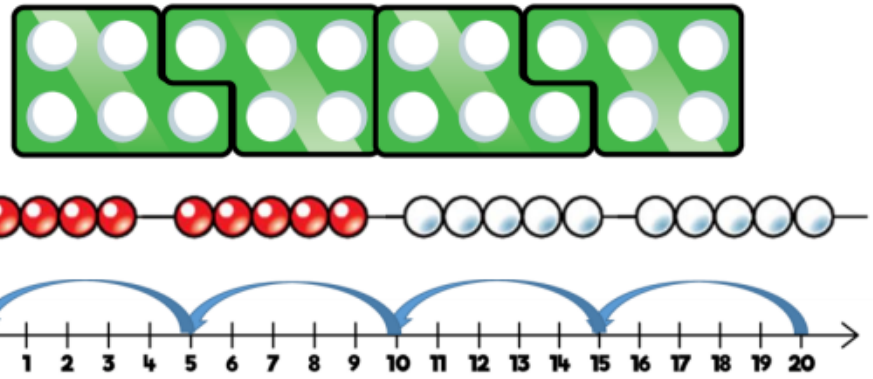
Children solve problems by sharing amounts into equal groups.

In Year 1, children use concrete and pictorial representations to solve problems. They are not expected to record division formally.

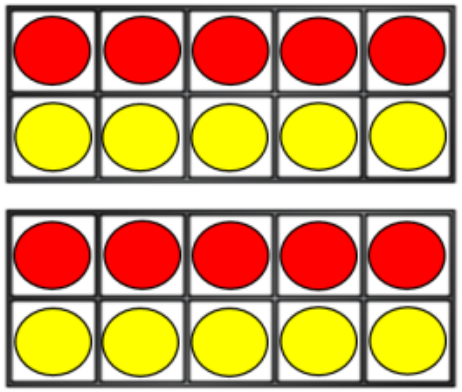
In Year 2, children are introduced to the division symbol.

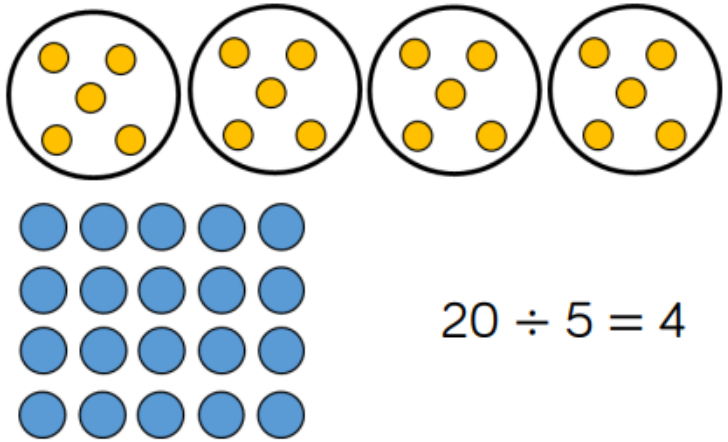
Year 1 & 2 Division by grouping





There are 20 apples altogether.
They are put in bags of 5.
How many bags are there?

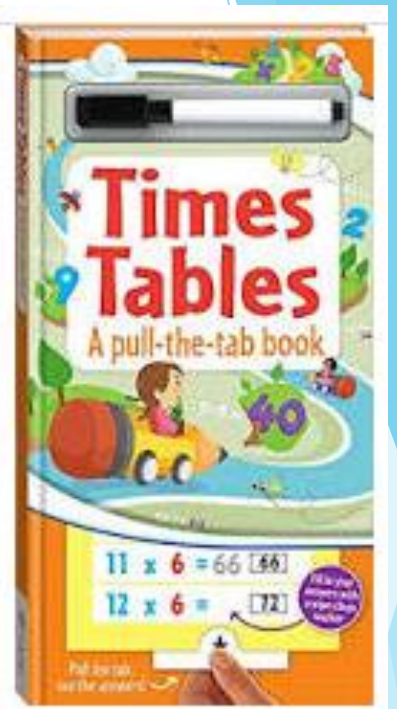




$20 \div 5 = 4$

Children solve problems by grouping and counting the number of groups. Grouping encourages children to count in multiples and links to repeated subtraction on a number line. They can use concrete representations in fixed groups such as number shapes which helps to show the link between multiplication and division.

Recall – Times Tables Facts



White Rose Maths

1-Minute Maths

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Topmarks

Hit the Button

Hit the Button Maths (£2.99)

Any Questions?