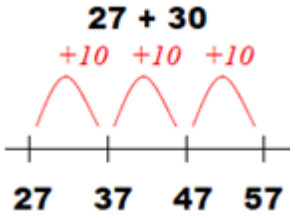
Year 2 Addition

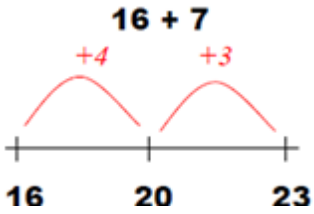
Add with 2 digit numbers

Developing mental fluency with addition and place value involving 2 digit numbers, then establish more formal methods.

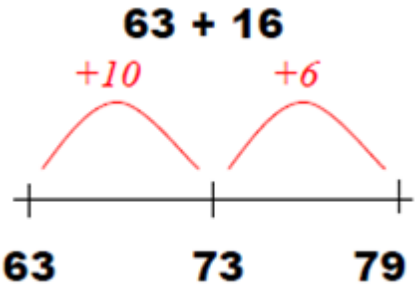
Add 2 digit numbers and tens



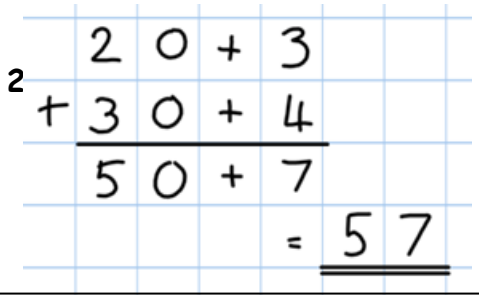
Add 2 digit numbers and units *-Use empty number lines, concrete equipment, hundred squares etc to build confidence and fluency in mental addition skills.*



Add pairs of 2 digit numbers, moving to the partitioned column method when secure adding tens and units.



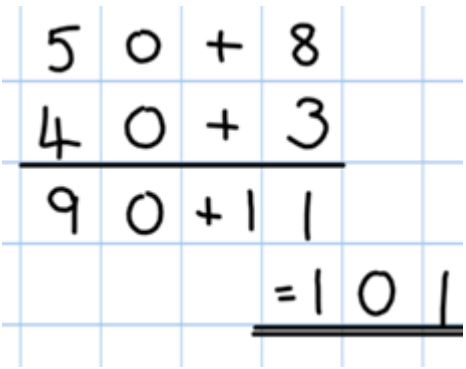
23 + 34:



Step 1*: only provide examples that do not cross the tens boundary until they are secure with the method itself.*

Step 2: *Once children can add a multiple of 10 to a 2 digit number mentally eg 80+11, they are ready for adding pairs of 2 digit numbers that DO cross the 10 boundary*

58 + 43:



Step 3: *children who are confident and accurate with this stage should move onto the expanded addition methods with 2 and 3 digit numbers.*

To support understanding, pupils may carry out the calculation with place value apparatus, then compare their practical version to the written form.

Year 2 Addition cont..

Key vocabulary *add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on, number line, sums, tens, units, partition, addition, column, tens boundary, fact families, jigsaw numbers.*

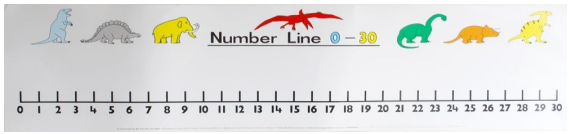
Key Skills for Addition at Y2:

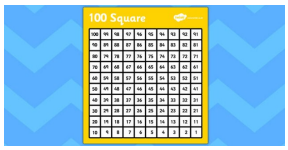
- *Add a 2 digit number and ones eg 29+7*
- *Add a 2 digit number and tens eg 25+50*
- *Add pairs of digit numbers eg 34+56*
- *Add three single digit numbers eg 3+8+6*
- *Show that adding can be done in any order (commutative law)*
- *Recall bonds to 20 and bonds of tens to 100 eg 40+60*
- *Count in steps of 2,3 and 5 and count in tens from any number.*
- *Understand the place value of 2 digit number (tend and ones)*
- *Compare and order numbers to 100 using < > and = signs*
- *Read and write numbers to at least 100 in numerals and words.*
- *Solve problems with addition, using concrete objects, pictorial representations, involving numbers, quantities and measures, and applying mental and written methods.*

Year 2 Subtraction

a) Subtracting by counting back

practically and by using a number line and hundred square.

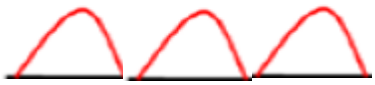




b) Subtracting by finding the difference– counting on

55-27 =

+3 +20 +5 = 28



27 30 50 55

c) Subtract pairs of 2 digit numbers, moving to partitioned column method when secure subtracting tens and units.

57– 23 =

	50	*7*
-	*20*	*3*
	30	*4*

Year 2 Subtraction cont..

Key vocabulary *equal to, take away, less, minus, subtract, leaves, difference between, how many more, how many less/fewer, less than, least, count back, how many are left? How much less is ?* ***difference, count on, partition, tens, units***

Key Skills for Subtraction

- *Recognise the place value of each digit in a two-digit number.*
- *Recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100.*
- *Subtract using concrete objects, pictorial representations, 100 squares and mentally, including: a two-digit number and ones, a two-digit number and tens, and two two-digit numbers.*
- *Recognise and use inverse relationship between addition and subtraction, using this to check calculations and missing number problems.*
- *Solve simple addition and subtraction problems including measures, using concrete objects, pictorial representation, and also applying their increasing knowledge of mental and written methods.*
- *Read and write numbers to at least 100 in numerals and in words.*

Year 2 Multiplication

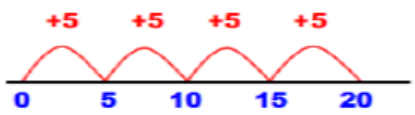
Multiply using arrays and repeated addition (using at least 2s, 5s, 10s)

Use repeated addition on a number line:

- Starting from zero, make equal jumps up on a number line to work out multiplication facts and write multiplication statements using x and = signs.

4 X 5 =...

4 lots of 5



4 X 5 = 20

Use arrays:

5 x 3 = 15

5 x 3 = 3 + 3 + 3 + 3 = **15**

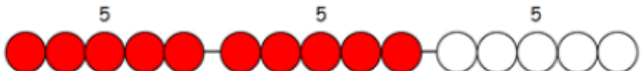
3 x 5 = 5 + 5 + 5 = **15**

3 x 5 = 15

Use arrays to help teach children to understand the commutative law of multiplication, and give examples such as **3 x __ = 6**.

Use practical apparatus:

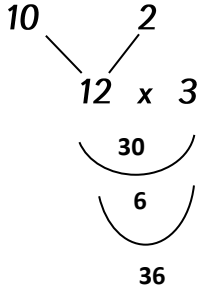
5 x 3 = 5 + 5 + 5



Use mental recall:

- Children should begin to **recall multiplication facts for 2, 5 and 10** times tables through practice in counting and understanding of the operation.

Use Big Maths Smile Multiplication



Year 2 Multiplication cont..

Key vocabulary: *groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times as big as, once, twice, three times…*

Key Skills for Multiplication at Y2:

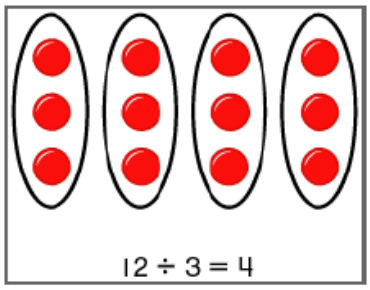
- *Count in steps of 2,3,5 from zero, and in 10s from any number.*
- *Recall and use multiplication facts from the* ***2, 5*** *and* ***10*** *multiplication tables including recognising odds and evens.*
- *Write and calculate number statements* ***using the x and = signs***
- *Show that multiplication can be done in any order (commutative)*
- *Solve a range of problems involving multiplication, using concrete objects, arrays, repeated addition, mental methods and multiplication facts.*
- *Pupils use a variety of language to discuss and describe multiplication.*

Year 2 Division

Group and share, using the ÷ and = sign

Use objects, arrays, diagrams and pictorial representations, and grouping on a number line.

Grouping

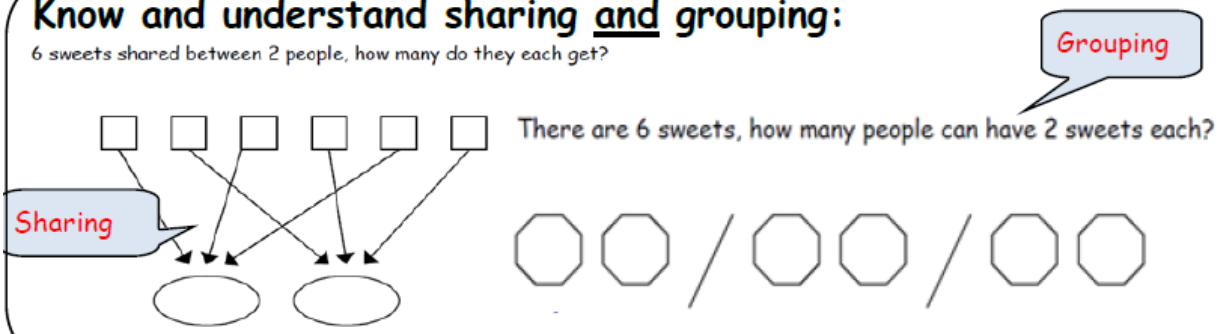


This represents **12 ÷ 3, posed as** how many groups of 3 are in 12?

Pupils should also show that the same array can represent **12 ÷ 4 = 3** if grouped horizontally.

Know and understand sharing and grouping:

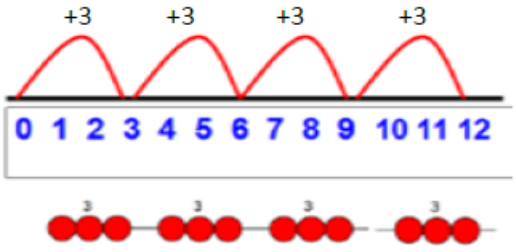
6 sweets shared between 2 people, how many do they each get?



Children should be taught to recognise whether problems require sharing or grouping.

Grouping using a number line:

Group from zero in equal jumps of the divisor to find out 'how many groups of _ in _ ?'. Pupils could and using a bead string or practical apparatus to work out problems like 'A CD costs £3. How many CDs can I buy with £12?' **This is an important method to develop understanding of division as grouping.**



12 ÷ 3 = 4

Pose 12 ÷ 3 as 'How many groups of 3 are in 12?'

Use inverse fact relationship fact families for 2,5,10 x tables.

2 x 10 =20 20 ÷ 10=2

Year 2 Division

Key vocabulary *share, share equally, one each, two each…, group, groups of, lots of, array*

divide, divided by, divided into, division, grouping, number line, left, left over,

Key number skills needed for division at y2

- *Count in steps of 2,3,5 from 0*
- *Recall and use multiplication and division facts fro* ***the 2, 5 and 10*** *multiplication tables, including recognising odd and even numbers.*
- *Calculate mathematical statements for multipli- ÷ cation and division with the multiplication tables and write them using the x, and = signs.*
- *Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.*
- *Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in*

Key vocabulary *share, share equally, one each, two each…, group, groups of, lots of, array*

Key number skills needed for division at y1

- *Solve one step problems, involving multiplication and division by calculating the answer using concrete objects, pictorial representations, arrays with the support of the teacher.*
- *Through grouping and sharing small quantities, pupils begin to understand, division, and finding simple fractions of objects, numbers and quantities.*
- *Children make connections between arrays, number patterns, and counting in 2s, 5s and 10s.*