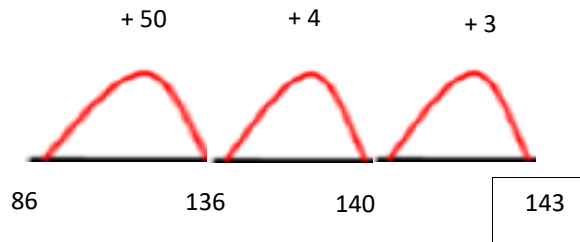




Year 3 Addition



$$86 + 57$$



Partition one number

$$86 + 50 + 7 = 136 + 7 = 143$$

Partition both number

$$67 + 24 = (60 + 20) + (7 + 4) = 80 + 11 = 91$$

(horizontal add tens first)

67	83
+ 24	42
11	5
80	120
91	125

Including 3 digit numbers

	167	
+	124	
100	60	7
100	20	4



Year 3 Addition cont..



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

Key Skills for Addition at Y3:

- Read and write numbers to 1000 in numerals and words.
- Add 2-digit numbers mentally including those exceeding 100.
- Add a 3-digit number and ones mentally ($175+8$)
- Add a 3-digit number and ones mentally ($175+8$)
- Add a 3-digit number and hundreds mentally ($2381+400$)
- Estimate answers to calculations, using inverse to check answers.
- Solve problems, including missing number problems, using number facts, place value, and more complex addition.
- Recognise place value of each digit in 3-digit numbers (hundreds, tens, ones)
- Continue to practise a wide range of mental addition strategies, ie number bonds, adding the nearest multiple of 10, 100, 1000 and adjusting, using near doubles, partitioning and recombining.
-

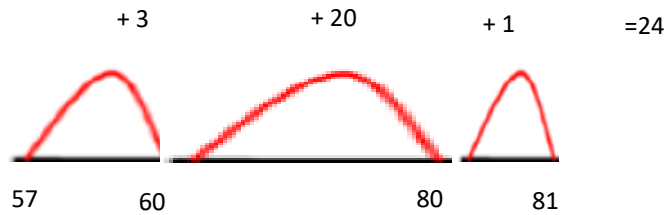


Year 3 Subtraction



Finding the difference

$$81 - 57 =$$



Takeaway

$$81 - 57 =$$

80	=	80	1	1 takeaway 7
- 57		50	7	Is tricky so
_____		_____		exchange

67	83
+ 24	42
— 11 —	— 5 —
80	120
91	125
_____	_____

Including 3 digit numbers

167
+ 124
—
100 60 7
100 20 4



Year 3 Subtraction cont..



Key vocabulary

equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many fewer / less than, most, least, count back, how many left, how much less is_? difference, count on, strategy, partition, tens, units **exchange, decrease, hundreds, value, digit**

Key Skills for Subtraction at Y3:

- Subtract mentally a: **3-digit number and ones, 3-digit number and tens, 3-digit number and hundreds** .
- Estimate answers and use inverse operations to check.
- Solve problems, including missing number problems..
- Find 10 or 100 more or less than a given number.
- Recognise the place value of each digit in a 3-digit number .
- Counting up differences as a mental strategy when numbers are close together or near multiples of 10
- Read and write numbers up to 1000 in numerals and words.
- Start at the smaller number and count on in **tens** first, then count on in units to find the rest of the difference:
- Practise mental subtraction strategies, such as subtracting near multiples of 10 and adjusting (e.g. subtracting 19 or 21), and select most appropriate methods to subtract, explaining why.



Year 3 Multiplication



Recalling facts

$$4 \times 5 = 20 \quad 5 \times 4 = 20$$

Access to unknown facts from the known eg 7×8 can be assessed from knowing 5×8 and 2×8 .

Informal recording of partitioned numbers,

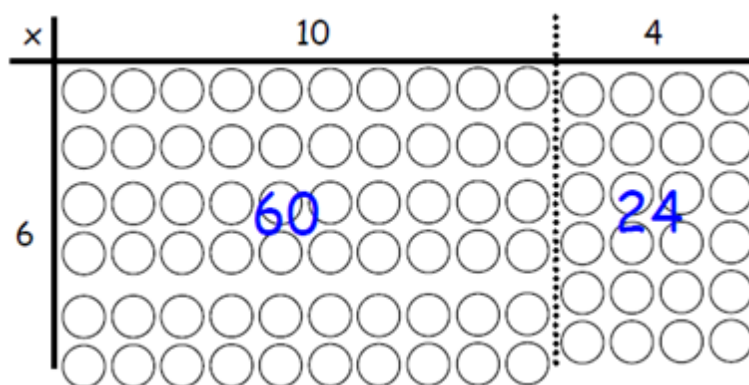
$$15 \times 5 = 10 \times 5 \text{ and } 5 \times 5$$

Introduce the grid method for multiplying 2-digit by single-digits:

Eg. $23 \times 8 = 184$

X	20	3
8	160	24

Link the layout of the grid to an array initially:



Introduce the grid method with children physically making an array to represent the calculation (e.g. make 8 lots of 23 with 10s and 1s place value counters), then translate this to grid method format



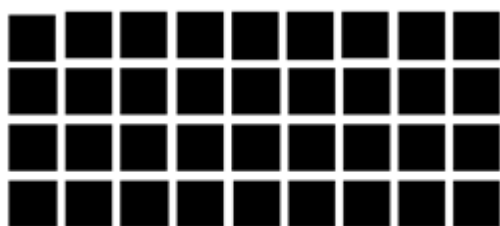
Year 3 Multiplication...



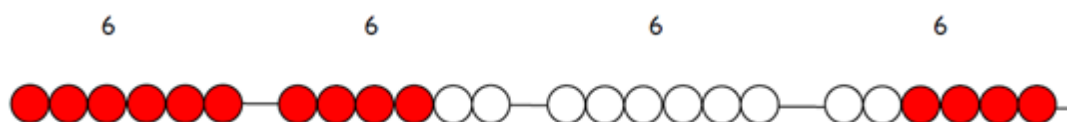
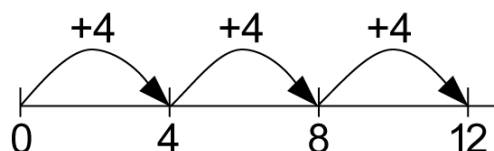
To do this, children must be able to:

- Partition numbers into tens and units
- Multiply multiples of ten by a single digit (e.g. 20×4) using their knowledge of multiplication facts and place value
- Recall and work out multiplication facts in the **2, 3, 4, 5, 8 and 10** times tables.

□ Work out multiplication facts not known by repeated addition or other taught mental strategies (e.g. by commutative law, working out near multiples and adjust-ing, using doubling etc.) Strategies to support this are repeated addition using a number line, bead bars and arrays:



$$9 \times 4 = 36$$





Year 3 Multiplication cont..



Key vocabulary groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated ad-dition, column, row, commutative, sets of, equal groups, times, _times as big as, once, twice, three times..., **partition, grid method, multiple, product, tens, units, value**

Key Skills for Multiplication at Y3:

- Recall and use multiplication facts for the **2, 3, 4, 5, 8 and 10** multiplication tables, and multiply multiples of 10.
- Write and calculate number statements using the multiplication tables they know, including **2-digit x single-digit**, drawing upon mental methods, and progressing to reliable written methods.
- Solve multiplication problems, including missing number problems.
- Develop mental strategies using commutativity (e.g. $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$)
- Solve simple problems in contexts, deciding which operations and methods to use.
- Develop efficient mental methods to solve a range of problems e.g using commutativity ($4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$) and for missing number problems $\times 5 = 20$, $3 \times = 18$, $\times = 32$



Year 3 Divison



36

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