Y3 Objectives

- 2dn + 2dn (sum>100)
- 3 dn + 3dn (column method)

Key skills:
2dn + 1dn
2dn + multiples of 10
Column method

2dn + 1dn

26 + 5
26 + 4 + 1 = 31

Children to use the bar model

2dn + multiples of 10

T	Os
10 10 10	1 1
10 10 10	1 1

64 + 30 = 94

2dn + 2dn

Keep the first number whole

27 + 14
27 + 10 + 4
37 + 4 = 41

Column method

Unitise:
8 ones + 4 ones equals 12 ones. We rename this: it is 1 ten and 2 ones.
4 tens add 1 ten add the 1 carried ten equals 6 tens (not 40 + 10 + 10 = 60)

2dn + 2dn with renaming
Carried figure at the top

$$\begin{array}{r} 23 \\ +\ 14 \\ \hline 37 \end{array}$$

3dn + 3dn with renaming
Carried figure at the top

$$\begin{array}{r} {\scriptstyle +1}\ \ \\ 48 \\ +\ 14 \\ \hline 62 \end{array}$$

Solve missing box problems

$$\begin{array}{r} {\scriptstyle +1\ +1}\ \ \\ 258 \\ +\ 165 \\ \hline 423 \end{array}$$

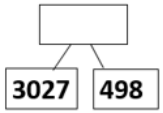
$$\begin{array}{r} 58 \\ +\ 1\square \\ \hline 75 \end{array}$$

Y4 Objectives

- Numbers up to 4 digits
- Choose appropriate method

Key skills:
2dn + 1dn
2dn + multiples of 10
Column method

Children to use the part whole and bar model to develop estimation and number sense



?	
3027	498

Column method

Unitise:
8 ones + 4 ones equals 12 ones. We rename this: it is 1 ten and 2 ones.
4 tens add 1 ten add the 1 carried ten equals 6 tens (not 40 + 10 + 10 = 60)

Solve missing box problems

$$\begin{array}{r} 758 \\ +\ \square 15 \\ \hline 10\square 3 \end{array}$$

3dn + 3dn with renaming
Carried figure at the top

$$\begin{array}{r} {\scriptstyle +1\ +1}\ \ \\ 258 \\ +\ 165 \\ \hline 423 \end{array}$$

4dn + 4dn with renaming
Carried figure at the top

$$\begin{array}{r} {\scriptstyle +1\ +1\ +1}\ \ \\ 7289 \\ +\ 5145 \\ \hline 12434 \end{array}$$

Y5 Objectives

- Numbers with more than 4 digits
- Decimal numbers

Children to use the part whole and bar model to develop estimation and number sense

?	
375.5	14.3

Column method

Unitise:
8 ones + 4 ones equals 12 ones. We rename this: it is 1 ten and 2 ones.
4 tens add 1 ten add the 1 carried ten equals 6 tens (not 40 + 10 + 10 = 60)

Decimal numbers
Different number of digits

$$\begin{array}{r} {\scriptstyle +1}\ \ \\ 57.30 \\ +\ \ 6.08 \\ \hline 63.38 \end{array}$$

- Vary the number of digits in the number
- = sign on the RHS
- Balanced equations

65 + 577 =
? = 4277 + 656
648 + ? = 1036 + 58

Problem solving

Amy and Matthew are playing their favourite computer game. Amy's current high score is 8,524. Matthew's high score is bigger than Amy's and when you add them together their combined total is19,384. What is Matthew's high score?

Work out the missing numbers.

$$\begin{array}{r} \square 4\square 3\square \\ +\ 2\square 5\square 2 \\ \hline 78529 \end{array}$$

Y6 Objectives

- Numbers with more than 4 digits
- Decimal numbers
- Multi-step problems

Children to use the part whole and bar model to develop estimation and number sense

?	
487.3	2.9

- Vary the number of digits in the number
- = sign on the RHS
- Balanced equations

247 + 14,699 =

? = 6.9 + 14.32

$\frac{2}{5} + \frac{3}{10} + \frac{1}{2} =$

Problem solving

A is an odd number which rounds to 100,000 to the nearest ten thousand.
It has a digit total of 30.
B is an even number which rounds to 500,000 to the nearest hundred thousand.
It has a digit total of 10.
A and B are both multiples of 5 but end in different digits.

A	B
631,255	

Addition – progression in written methods Y1 to Y6

Contextualise the mathematics
- **WHAT DOES THIS NUMBER REPRESENT?**

Expose mathematical structure and work systematically

Expect children to use correct terminology and express reasoning
- Use **STEM SENTENCES**
- Answer in **complete sentences**

Identify difficult points
- Be aware of common misconceptions
- Actively seek to uncover these

Move between the concrete, pictorial and the abstract (CPA)

1 + 5 = 6

addend addend sum

Teach inequality alongside equality

- < and > can also help deepen understanding of key concepts, eg 18p £0.15

Use empty box problems
- Promotes reasoning and finding easy ways to calculate
- Use a sequence to develop conceptual connections

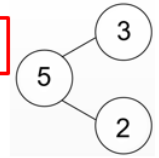
Y1 Objectives
- **Number bonds an related addition facts within 20**
- **Add 1 and 2 digit numbers to 20, including zero**

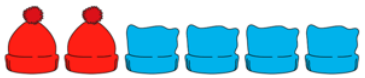
Key skills:
Adding 0 and 1 to a number
+ bonds within 10 e.g. 5 = 4 + 1
+ bonds = 10

Start with expressions (no = sign)

Use part whole diagram (include zero)
Zero is not a part

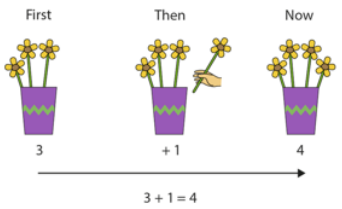
Move on to equations (has = sign)

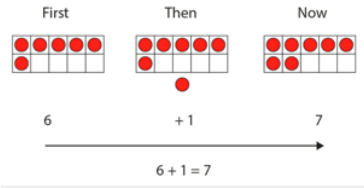




2 + 4
4 + 2

5 = 3 + 2





Teacher to use the bar model in summer term

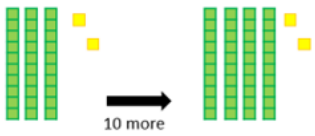
Y2 Objectives
- **1dn + 1dn + 1dn**
- **2dn + 1dn**
- **2 dn + 2dn (sum<100)**

Key skills:
2dn + 1dn
2dn + multiples of 10

2dn + 1dn Use numbers in a context

What does each number represent?

2dn + multiples of 10



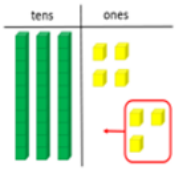
2dn + 1dn Use numbers in a context

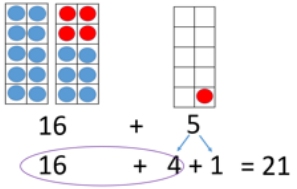
At **first** Fiona had saved £34 and **then** she added her £3 pocket money to that.

How much does she have **now**?

Children to use the bar model

?	
34	3





2dn + 2dn

Keep the first number whole

27 + 14

27 + 10 + 4

37 + 4 = 41

Progression from Y2 to Y3 addition written methods

Small Step	Example
2 digit + 1 digit (not bridging)	24 + 3
2 digit + 1 digit (with bridging, counting in 1s)	27 + 4
2 digit + 1 digit (with bridging, using facts to 10)	27 + 4 (27 + 3 + 1)
2 digit + 10	27 + 10
2 digit + multiples of 10 (not bridging 100)	27 + 20
skip counting in multiples of 20	7 , 27 , 47 , 67 , 87
2 digit + teens (not bridging 10)	27 + 12
2 digit + low 2 digit number (not bridging)	27 + 22
2 digit + teens only (bridging 10)	27 + 14 27 + 10 + 4 37 + 4 = 41
2 digit + 2 digit (not bridging 100)	27 + 54 27 + 50 + 4 87 + 4 = 91
"double method" Introducing **column addition alongside 2 digit + 2 digit** (not > 100 or bridging 10)	23 + 14 23 + 10 + 4 33 + 4 = 37 23 + 14 —