

Ysgol y Foel



'Happy, United, Inspired Achievers'

Mathematics Policy for Teaching of Written Calculations

Addition Strategies

Year 2

Informal method – Use of a number line to support, record and explain partial mental methods.

e.g. Counting on in multiples of 10 or 1.

Progressing into the development of the **mental** method of partitioning, adding the most significant numbers (tens) first.

$$\text{e.g. } 47 + 76 = (40 + 70) + (7 + 6)$$

Year 3

Informal method – developing and extending the mental method of partitioning to two digit numbers.

$$\begin{aligned} 35 + 42 &= 35 + (40 + 2) \\ &= 35 + 40 + 2 \\ &= 77 \end{aligned}$$

$$\text{or } (30 + 40) + (5 + 2) = 77$$

Standard method – Vertical layout – expanded work

$$\begin{array}{r} 75 \\ +57 \end{array}$$

$$\begin{array}{r} 120 \\ 12 \end{array} \quad \text{adding most significant digit first}$$

$$132 \quad \text{partial sums added mentally}$$

$$\begin{array}{r} 247 \\ +76 \end{array}$$

$$\begin{array}{r} 200 \\ 110 \\ 13 \end{array}$$

$$323$$

Year 4

Informal method – Where calculations are set out in columns, know that units should line up under units, tens under tens, and so on...

HTU + TU then *HTU + HTU*

Standard method – adding the most significant digits first

$$\begin{array}{r} 783 \\ + 242 \end{array}$$

$$\begin{array}{r} 900 \\ 120 \\ 5 \\ 1025 \end{array}$$

Extend to decimals, **Money – vertical addition**

$$\begin{array}{r} \pounds 3.49 \\ + \pounds 3.45 \\ \pounds 6.00 \\ \pounds 0.80 \\ \pounds 0.14 \\ \pounds 6.94 \end{array}$$

Years 5 and 6

Calculations set out in columns, units line up under units, tens under tens, and so on..

$$HTU + HTU \quad \text{then} \quad ThHTU + ThHTU$$

Standard methods – begin to explore adding the **LEAST** significant digit first, where relevant

$$\begin{array}{r} 587 \\ +475 \\ 12 \\ 150 \\ 900 \\ 1062 \end{array}$$

Leading into contracting the work to a compact efficient form (carrying)

$$\begin{array}{r} 587 \\ + 475 \\ 1062 \\ 11 \end{array}$$

Extend this method to decimals – know that decimal points line up under each other

Decimal addition

$$137.8 + 24.73$$

Expanded

$$\begin{array}{r} 137.80 \\ + 24.73 \\ 100.00 \\ 50.00 \\ 11.00 \\ 1.50 \\ 0.03 \\ 162.53 \end{array}$$

Contracted

$$\begin{array}{r} 137.80 \\ + 24.73 \\ 162.53 \\ 11 \end{array}$$

Money addition

Expanded	Contracted
£11.66	£11.66
£9.53	£ 9.53
+ £3.55	+ £ 3.55
£23.00	£24.74
£1.60	111
£0.14	
£24.74	

N.B. A pupil will develop contracted or expanded method depending upon ability