



**WAYCROFT**

MULTI ACADEMY TRUST

*Living and Learning Together*

Progression in  
Written Calculation  
Year 5

This progression in written calculations has been written in consultation with the teaching staff and the New Curriculum for Mathematics to suit the current needs of our children.

Please note that children will move through this progression at different rates and teachers will use their professional judgement to decide when the most appropriate time is to move the children on. There may be occasions when other methods will be taught to suit the needs of individual pupils.

## MULTIPLICATION

**By the end of Year 5, Children should be able to:**

- Multiply numbers up to 4 digits by a one or two-digit number using the formal written method, including long multiplication for two-digit numbers.
- Recall multiplication and division facts for multiplication tables up to 12 x 12.

**Partitioning:** This method is used during mental arithmetic tasks rather than being a written calculation.

e.g.  $63 \times 8 = (60 \times 8) + (3 \times 8)$   
 $= 480 + 24$   
 $= 504$

**Formal written method for short multiplication e.g.  $342 \times 7$**

$$\begin{array}{r}
 342 \\
 \times 7 \\
 \hline
 2394 \\
 21 \phantom{00} \\
 \hline
 \end{array}$$

**Formal written method for long multiplication e.g.  $78 \times 34$**

$$\begin{array}{r}
 78 \\
 \times 34 \\
 \hline
 312 \\
 2340 \\
 \hline
 2652 \\
 \hline
 \end{array}$$

## DIVISION

**By the end of Year 5, Children should be able to:**

- Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and find remainders as a whole number, fraction and decimal.
- Recall multiplication and division facts for multiplication tables up to 12 x 12.

**Formal written method for short division e.g.  $279 \div 6$**

Whole number remainder

$$\begin{array}{r}
 46r3 \\
 \overline{) 279} \\
 6 \phantom{00} \\
 \underline{12} \phantom{0} \\
 7 \phantom{0} \\
 \underline{12} \\
 9 \\
 \underline{18} \\
 3
 \end{array}$$

Fraction remainder

$$\begin{array}{r}
 46\frac{1}{2} \\
 \overline{) 279} \\
 6 \phantom{00} \\
 \underline{12} \phantom{0} \\
 7 \phantom{0} \\
 \underline{12} \\
 9 \\
 \underline{18} \\
 3
 \end{array}$$

Decimal remainder

$$\begin{array}{r}
 229.5 \\
 \overline{) 279.0} \\
 6 \phantom{00} \\
 \underline{12} \phantom{0} \\
 7 \phantom{0} \\
 \underline{12} \\
 9 \\
 \underline{18} \\
 30 \\
 \underline{30} \\
 0
 \end{array}$$

## ADDITION

By the end of Year 5, Children should be able to:

- Add whole numbers with more than four digits.

Formal written method of addition, involving whole numbers e.g.  $14\,635 + 12\,957$

$$\begin{array}{r} 14\,635 \\ + 12\,957 \\ \hline 27\,592 \\ \hline \end{array}$$

1                      1

## SUBTRACTION

By the end of Year 5, Children should be able to:

- Subtract whole numbers with more than four digits.

Formal written method of subtraction, involving whole numbers e.g.  $45\,257 - 17\,143$

$$\begin{array}{r} 45\,257 \\ - 17\,143 \\ \hline 28\,114 \\ \hline \end{array}$$

3                      1