

## Redhill Primary School

### Written Calculation Strategies—Year 6

#### Addition

By year 6 the children should have a good grasp of the column method of addition, working with whole numbers and decimal numbers. They should be able to use numbers with different numbers of digits, lining up columns correctly, as well as for adding a series of numbers.

$$\underline{3587 + 675}$$

$$\begin{array}{r} 3587 \\ + 675 \\ \hline 4262 \\ \hline \end{array}$$

$$\underline{3587 + 675 = 4262}$$

#### Subtraction

In year 6, children will be continue to use formal methods of subtraction, working with whole numbers and decimal numbers. They should be able to use numbers with different numbers of digits, lining up columns correctly, as well as working with numbers including zero digits.

$$\begin{array}{r} 9 \\ 711 \\ 3804 \\ - 1256 \\ \hline 2548 \\ \hline \end{array}$$

$$\underline{3804 - 1256 = 2548}$$



## Multiplication

In year 6 the children are encouraged to continue to develop their more formal column method of multiplication, using whole numbers, up to and including thousands, and then moving on to decimal numbers.

$$\begin{array}{r} 72 \\ \times 38 \\ \hline 566 \\ 1 \\ \hline 2160 \\ \hline 2736 \\ 1 \end{array} \quad \begin{array}{l} (8 \times 72) \\ (30 \times 72) \end{array}$$

$$\begin{array}{r} 72 \\ \times 38 \\ \hline 576 \\ 2160 \\ \hline 2736 \\ 1 \end{array} \quad \begin{array}{l} (8 \times 72) \\ (30 \times 72) \end{array}$$



$$\underline{72 \times 38 = 2736}$$

## Division

In year 6 children will refine their more formal method, called chunking, which builds on the vertical number line method and use of multiplication facts.

$$\underline{426 \div 12}$$

$$\begin{array}{r} 12 \quad 426 \\ - \quad 360 \\ \hline \quad 66 \\ \quad \left\{ \begin{array}{l} 60 \\ 6 \end{array} \right. \end{array} \quad \begin{array}{l} (30 \times 12) \\ (5 \times 12) \end{array}$$

$$\underline{426 \div 12 = 35 \text{ r } 6}$$

Children also need to then be able to convert the remainder to a fraction or decimal as appropriate.

$$\underline{426 \div 12 = 35 \text{ and } 6/12 \quad (\text{or } 35 \text{ and } 1/2) \quad \text{or} \quad 35.5}$$

## Division

Year 6 children should also be able to make use of short division, choosing the most appropriate method to solve the problems. This can also be developed to use with decimal values.

$$\underline{34.2 \div 6}$$

$$6 \ 34.2$$

How many 6s are there in 3?

0, so we carry it across

$$\begin{array}{r} 0 \\ 6 \ 34.2 \\ \underline{34} \end{array}$$

How many 6s are there in 34?

5 R4, so we carry the 4 across

$$\begin{array}{r} 05. \\ 6 \ 34.2 \\ \underline{42} \end{array}$$

How many 6s are there in 42?

7

$$\begin{array}{r} 05.7 \\ 6 \ 34.2 \\ \underline{42} \end{array}$$

$$\underline{34.2 \div 6 = 5.7}$$

