

Willerby Carr Lane Primary School



Supporting your child in mathematics

Expectations and Calculation  
Methods in Year 6

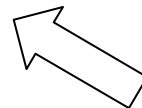
## ADDITION

### Addition Objectives for Year 6

- Use efficient written methods to add whole numbers and decimals
- Calculate mentally with whole numbers and decimals: U.t ± U.t TU.

$$\begin{array}{r} 625 \\ + 48 \\ \hline 673 \\ 1 \end{array}$$

$$\begin{array}{r} 783 \\ + 42 \\ \hline 825 \\ 1 \end{array}$$



$$\begin{array}{r} 124.9 \\ + 86.3 \\ \hline 211.2 \\ 111 \end{array}$$

Carry digits are recorded below the line, using the words 'carry ten' or 'carry one hundred', NOT 'carry one'.

## SUBTRACTION

### Subtraction Objectives for Year 6

- Calculate mentally with whole numbers and decimals: U.t  
- U.t (7.6 - 5.4)
- Use efficient written methods to add and subtract whole numbers and decimals.

$$\begin{array}{r} 0 \quad 110 \\ \quad \quad \cancel{10} \quad 13 \\ 100 \quad 20 \quad 3 \\ - \quad 50 \quad 7 \\ \hline 0 \quad 60 \quad 6 \end{array}$$

In Year 5 children use the expanded method to subtract.

$$\begin{array}{r} 0 \quad 11 \quad 13 \\ 1 \quad 2 \quad 3 \\ - \quad 5 \quad 7 \\ \hline 6 \quad 6 \end{array}$$

They then move on to the compact method which they continue to use in Year 6 with larger numbers and decimals.

$$\begin{array}{r} 5 \quad 13 \quad 1 \\ \cancel{6}467 \\ - \quad 2684 \\ \hline 3783 \end{array}$$

## MULTIPLICATION

### Multiplication Objectives for Year 6

- Use knowledge of place value and multiplication facts to  $10 \times 10$  to derive related multiplication and division facts involving decimals (e.g.  $0.8 \times 7$ ).
- Calculate mentally with integers and decimals: TU  $\times$  U, U.t  $\times$  U.
- Use efficient written methods to multiply and divide whole numbers and decimals by a one-digit integer, and to multiply two-digit and three-digit integers by a two-digit number.

### SHORT MULTIPLICATION (MULTIPLY BY 1 DIGIT)

$$\begin{array}{r} 346 \\ \times 9 \\ \hline 3114 \\ 45 \end{array} \quad (\text{estimate } 350 \times 10 = 3500)$$

$$\begin{array}{r} 4.9 \\ \times 3 \\ \hline 14.7 \\ 2 \end{array} \quad (\text{estimate } 5 \times 3 = 15)$$

### LONG MULTIPLICATION (MULTIPLY BY 2 OR 3 DIGITS)

$$\begin{array}{r} 56 \\ \times 27 \\ \hline 1000 \\ 120 \\ 350 \\ 42 \\ \hline 1512 \\ 1 \end{array} \quad \begin{array}{l} 50 \times 20 = 1000 \\ 6 \times 20 = 120 \\ 50 \times 7 = 350 \\ 6 \times 7 = 42 \end{array}$$

OR

$\times$	20	9	
200	4000	1800	5800
80	1600	720	2320
6	120	54	174
			8294
			1

## DIVISION

### Division objectives for Year 6

- Use knowledge of place value and multiplication facts to  $10 \times 10$  to derive related multiplication and division facts involving decimals ( $4.8 \div 6$ ).
- Calculate mentally with integers and decimals:  $TU \div U$ ,  $U.t \div U$ .
- Use efficient written methods to divide integers and decimals by a one-digit integer.
- Relate fractions to multiplication and division (e.g.  $6 \div 2 = 1/2$  of  $6 = 6 \times 1/2$ ); express a quotient as a fraction or decimal (e.g.  $67 \div 5 = 13.4$  or  $13 \frac{2}{5}$ ).

### SHORT DIVISION (MULTIPLY BY 1 DIGIT)

$$\begin{array}{r} 6 \overline{)196} \\ - 180 \quad 6 \times 30 \\ \hline 16 \\ - 12 \quad 6 \times 2 \\ \hline 4 \quad 32 \\ \text{Answer:} \quad 32 \text{ R } 4 \end{array}$$

$$\begin{array}{r} 97 \\ 3 \overline{)291} \end{array}$$

### LONG DIVISION (MULTIPLY BY 2 DIGITS)

$$\begin{array}{r} 24 \overline{)560} \\ \hline 80 \\ 3 \quad 72 \quad 24 \times 3 \\ \hline 8 \\ \text{Answer: } 23 \text{ R } 8 \end{array}$$





