

Section 1 - Place Value

This shows the value of the digit. Each place is ten times bigger. For example, 100 is ten times ten.



Place Value	The amount a digit is worth due to its position in a number, i.e. ones, tens, hundreds, thousands,
Negative	Opposite to positive
Rounding	To increase or decrease to the nearest ten, hundred, thousand, etc
Ordering	To arrange either from biggest to smallest or vice versa
Comparing	To look at two or more numbers to decide which is greater, lesser or if they are equal
Roman numerals	Numbers written as a combination of 7 letters: I, V, X, L, C, D and M.
Addition	Plus the two numbers together, e.g. $1 + 2 = 3$
Subtraction	To remove a quantity
Decimal	Not a whole number e.g. 4.2, 5.690
Exchange	To swap for an equivalent amount
>	Greater than
<	Less than
Equal =	Has the same value as.

Section 2 - Ordering, rounding and negative numbers

Rounding

Ordering and Comparing

A rhyme to help us remember what to do with rounding is "5 and above give it a shove, 4 and below leave it alone".

Negative numbers

Negative numbers go below zero. The value decreases the further away from zero. This means that -4 is smaller than -2.

Section 3 - Adding and Subtracting

5 - Addition vocabulary

+ add addition plus
total increase
more sum altogether

Addition Adding finds the total of two or more quantities or increases something by an amount.

$$\begin{array}{r} 7 \ 8 \ 9 \\ + 6 \ 4 \ 2 \\ \hline 1 \ 4 \ 3 \ 1 \\ \hline 1 \ 1 \end{array}$$

5- Subtraction vocabulary

- take away minus
less than reduce
taken from fewer difference
subtract decrease

Subtraction Subtracting takes one number or quantity away from another and reduces the amount.

$$\begin{array}{r} 1 \ 1 \\ 9 \ 3 \ 2 \\ - 4 \ 5 \ 7 \\ \hline 5 \ 6 \\ \hline 4 \ 7 \ 5 \end{array}$$

When adding and subtracting, we use the column method. Digits are placed in place value columns and each column is added or subtracted in turn, starting with the furthest righthand column.

Section 4 - Multiplication Methods

Multiplication is an efficient method of repeated addition. 5×2 is the same as $5 + 5$

Short multiplication: This is used when multiplying by one digit. The single digit is multiplied by each of the digits in the other number.

$$\begin{array}{r} 3 \ 7 \ 5 \ 1 \\ \times \quad \quad 6 \\ \hline 2 \ 2 \ 5 \ 0 \ 6 \\ \hline 4 \ 3 \end{array}$$

Long multiplication: This is used when multiplying by two digits or more. You must hold the place value of the ten in the second row and if multiplying by a number in the hundred you hold two place values. This increases by a place value each time the number you are multiplying by increases by a place value. You must add all rows together that you have calculated to complete the calculation.

$$\begin{array}{r} 1 \ 2 \ 4 \\ \times \quad \quad 2 \ 6 \\ \hline 7 \ 4 \ 4 \\ 1 \ 2 \\ \hline 2 \ 4 \ 8 \ 0 \\ \hline 3 \ 2 \ 2 \ 4 \\ \hline 1 \ 1 \end{array}$$

Section 5 - Division

Division is splitting into equal parts or groups. Division is the opposite of multiplying. The number you are dividing by is called the divisor. The number that is being divided is called the dividend. The answer is the quotient.

Short division is used when dividing by one digit. You must know your times tables to work out the answers.

$$432 \div 5 = 86 \text{ r } 2$$

$$5 \overline{) 432} \begin{array}{l} 86 \text{ r } 2 \\ \underline{40} \\ 32 \\ \underline{30} \\ 2 \end{array}$$

Short Division - including decimals

$$43.68 \div 7 = 6.24$$

$$7 \overline{) 43.68} \begin{array}{l} 6.24 \\ \underline{42} \\ 16 \\ \underline{14} \\ 28 \\ \underline{28} \\ 0 \end{array}$$

Section 6 - Long Division

Long Division is used when the divisor is larger and the calculations become more complex. It allows you to subtract amounts from the dividend.

$$15 \overline{) 28.8} \begin{array}{l} 1.92 \\ \underline{15} \\ 138 \\ \underline{135} \\ 30 \\ \underline{30} \\ 0 \end{array}$$

An acronym to remember what to do is **Dangerous Monkeys Swipe Bananas**. This stands for Divide, Multiply, Subtract and Bring down.

If the number cannot be divided equally the answer will contain a remainder. This can be given in the form of a remainder, fraction or decimal.