



# Maths calculation booklet for parents.

## Year 5 & 6

The purpose of this booklet is to inform you, as parents, of the calculation strategies and methods that shall be used by your child. Should you have any questions, please speak to your child's teacher.

### **Sequence of learning.**

As your child is taught a new strategy, they shall begin by looking at in a concrete way. This means they will use physical resources to help them understand the process and how it works first.

Following this, they shall look at a pictorial representation of that same strategy. This is where they will draw pictures that represent the strategy which, again, helps to secure their understanding and also provides them a supportive tool that they can use when problem solving.

Finally, they shall link their knowledge of the concrete and pictorial stages with the abstract stage. This is where they will record the strategies purely in digit form without the physical resources or pictures to aid them.



## Addition

By year 5, children will be confident when using the column method for addition. During their time in year 4, they will have learnt to add decimals so year 5 and 6 is about eliminating any careless mistakes which might occur whilst using this method and applying it to a range of situations. A typical column method addition should look like this:

$$\begin{array}{r} 4595.27 \\ + 3951.06 \\ \hline 8546.33 \end{array}$$

Please note the position of the carried digit; these should be underneath the line in the next column. For example, the 7 and 6 combine to be 13 so 3 is noted in the units column and the ten is carried into the next column and recorded underneath the lower line.

## Subtraction

As in addition, the column method for subtraction will have been used since year 3. It should look like this:

$$\begin{array}{r} 7\cancel{8}^4 4 6.23 \\ - 4595.27 \\ \hline 3951.06 \end{array}$$

Please note how we exchange from the column to the left in order to complete calculations. In this example, we couldn't complete  $3 - 7$  so we have to exchange one of the tens in order to create the calculation  $13 - 7$ , which we could complete.

## Multiplication

Two methods are used for multiplication. The short

$$\begin{array}{r} 2592 \\ \times \quad 6 \\ \hline 15552 \end{array}$$

multiplication method is used when multiplying by a single digit.

The position of the carried digit is different to the column method for addition. We note

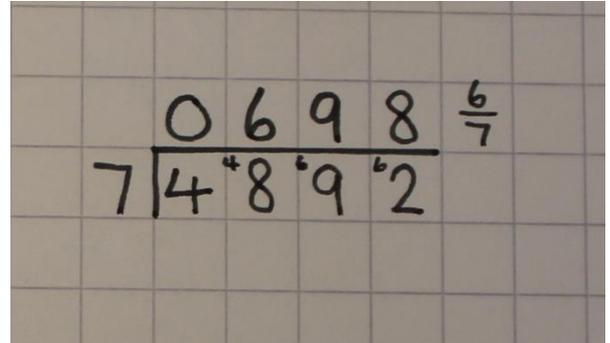
down the carried digit in the answer space in the next column to the right. For example,  $2 \times 6$  gives us 12 so we record the 2 in the units column and carry the ten into the next column. The reason we record the carried digit here is to help us get ready for long multiplication.

Long multiplication is used when we multiply by a two digit number. In this example, the first answer row shows  $2592 \times 6$ . The second answer row shows  $2592 \times 30$ . We then combine the two rows to arrive at a final answer through completing a column addition.

$$\begin{array}{r} 2592 \\ \times \quad 36 \\ \hline 15552 \\ + 77760 \\ \hline 93312 \end{array}$$

## Division

Two methods are also used for division. The first is short division, also known as the bus stop method. We use this when dividing by a single digit.

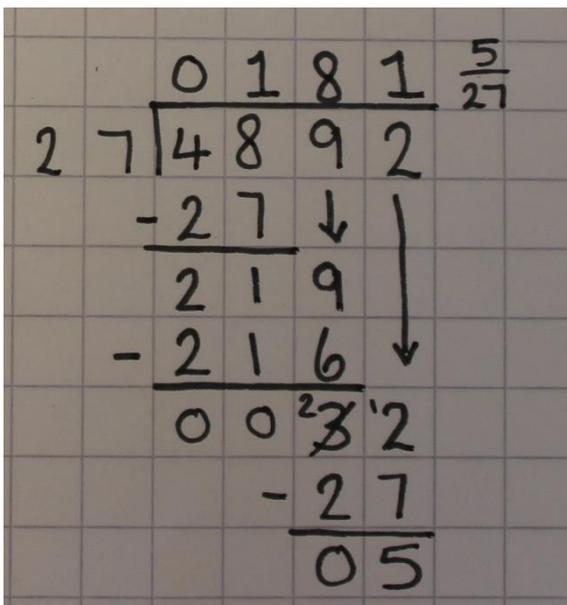


$$\begin{array}{r} 0698 \frac{6}{7} \\ 7 \overline{)4892} \end{array}$$

Division is the one operation in which we begin our calculation method in the left most column.

In this example, we looked to see how many times 7 went into 4. As it doesn't, we recorded a 0 and carried the 4 onwards to create 48 in the next column. Then we looked to see how many times 7 went into 48 etc.

Please note that we don't record a remainder when completing a division. Instead we divide down into fractions or decimals in order to improve our accuracy.



$$\begin{array}{r} 0181 \frac{5}{27} \\ 27 \overline{)4892} \\ \underline{-27} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ 219 \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \underline{-216} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ 0032 \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{00} \underline{-27} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{000} 05 \phantom{0} \phantom{0} \phantom{0} \end{array}$$

The children shall also learn the long division method. This is used when dividing by a two digit number. The process is the same but this method allows the children to break it down into clearer steps without them having to try to squash multiple carried digits into a single box.