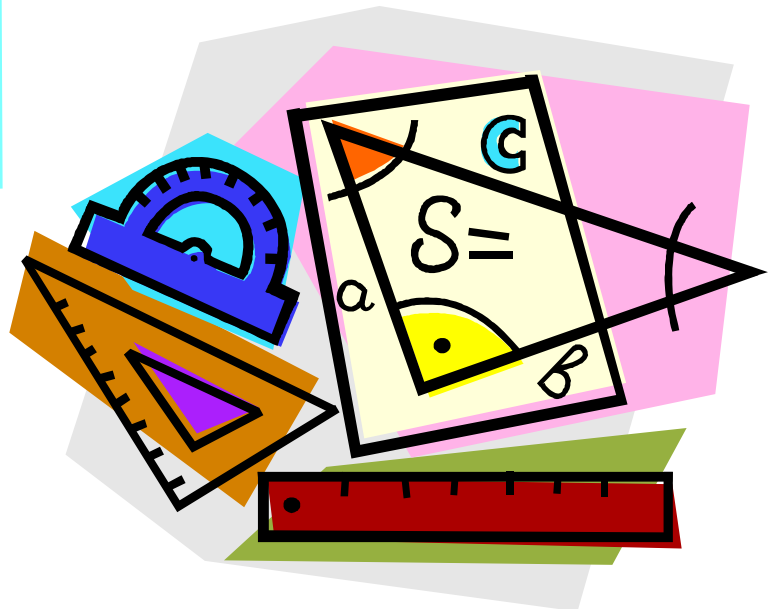
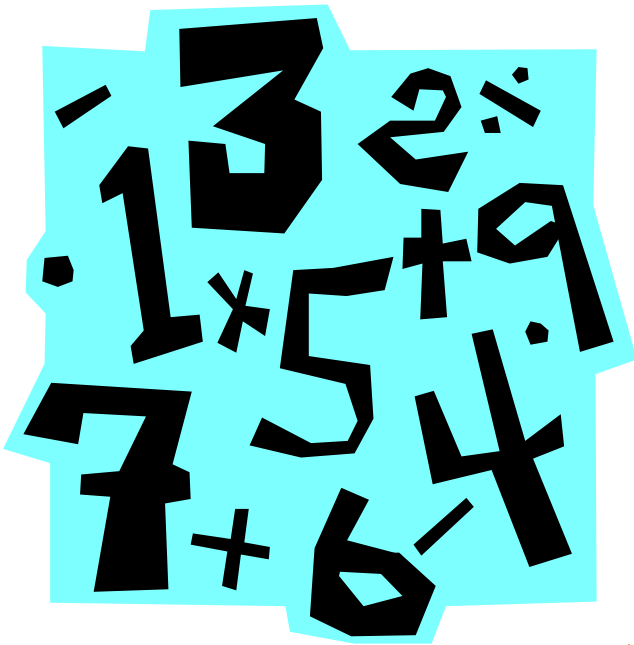




Maths  
at  
Dorchester Primary School



How to help your child in  
Year 6

## How we teach addition, subtraction, multiplication and division

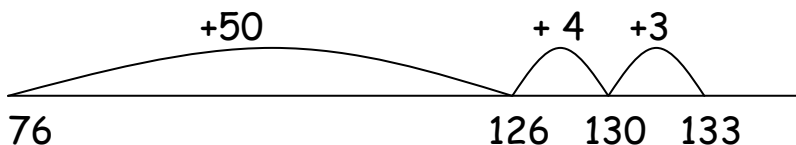
### Addition

In year 5 your child was taught to add using the following methods.

#### Adding using a blank number line

Put the largest number at the beginning of the number line. Partition the second number. Then add the tens and then the units, bridging through 10.

$$76 + 57 = 133$$



#### The Extended method

$$258 + 73 =$$

e.g. 258

$$+ 73$$

$$\begin{array}{r} 11 \quad (8 + 3) \\ 120 \quad (70 + 50) \\ 200 \quad (200 + 0) \\ \hline 331 \end{array}$$

add mentally from the top

-Add the units

-Add the tens

-Add the hundreds

-Finally add the hundreds,  
tens and units together

In year 6 your child will continue to use the above methods dealing with larger numbers and decimals (depending on ability).

When and if their teacher feels they are ready they will move on to use the formal written method.

e.g.

$$\begin{array}{r} 6648 \\ + 1486 \\ \hline 8134 \\ \hline \end{array}$$

The carrying figure should be put under the answer line and crossed out as they are added.

**Addition vocabulary:** plus, add, and, more than, more, sum.

## Subtraction

In year 5 your child was taught the following method which was alongside the number line.

e.g.  $654 - 96 =$

$$\begin{array}{r} 654 \\ - 96 \\ \hline 4 \\ 500 \\ \hline 54 \\ \hline 558 \end{array}$$

(to make 100)

Add on to 96 the number that makes 100

(to make 600)

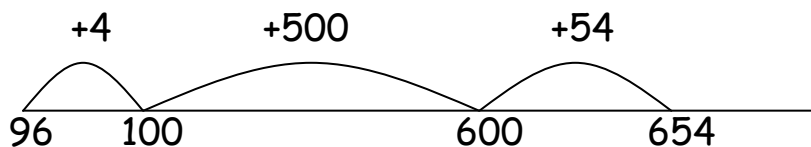
Add on to 100 the number that makes 600

(to make 654)

Add on to 600 what makes 654

This relates to the number line method as follows

$$654 - 96 = 558$$



$$500 + 54 + 4 = 558$$

In year 6 your child will continue to use these methods dealing with larger numbers and decimals (depending on ability).

When and if their teacher feels they are ready they will move on to using the formal written method.

e.g.

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

**Subtraction vocabulary:** subtract, minus, take away, less than, less, difference (e.g. What is the difference between 15 and 12? Answer=3)

## Multiplication

In year 5 your child was taught to multiply using the grid method.

### Grid method

e.g.  $34 \times 25 =$

34 and 25 are partitioned into tens and units as shown below

Children then multiply  $20 \times 30$ ,  $20 \times 4$ ,  $5 \times 30$  and  $5 \times 4$  and add the answers together

x	30	4	
20	600	80	$600 + 80 = 680$
5	150	20	$150 + 20 = 170$

$$680 + 170 = 850$$

In year 6 your child will continue to use the above method, dealing with larger numbers and decimals (depending on their ability).

When and if your child's teacher feels they are ready they will move on to use the more formal written method.

**The order they multiply** is important, always start with the units first.

$$\begin{array}{r} 352 \\ \times 27 \\ \hline 2464 \\ \phantom{2464} \cancel{3} \cancel{1} \\ 7040 \\ \phantom{7040} \cancel{1} \\ \hline 9504 \\ \phantom{9504} \cancel{1} \end{array}$$

$$\begin{array}{r} \text{or } 4346 \\ \times 8 \\ \hline 34768 \\ \phantom{34768} \cancel{2} \cancel{3} \cancel{4} \end{array}$$

**Multiplication Vocabulary:** multiply, times, groups of, lots of, multiple, array, repeated addition.

## Division

In year 5 your child was taught division in the following way.

$$75 \div 3 =$$

### Fact box

$$1 \times 3 = 3$$

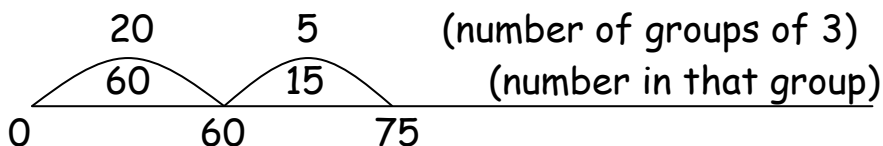
$$2 \times 3 = 6$$

$$5 \times 3 = 15$$

$$10 \times 3 = 30$$

$$20 \times 3 = 60$$

- Children will find the biggest group of 3 they can jump in (20 groups of 3 = 60) and mark this on number line.
- They then will then find the next biggest group they can jump in and repeat until they reach the number they are dividing.
- They then need to add up the number of groups they have jumped to find the answer.



In year 6 your child will continue to use the above method dealing with larger numbers and decimals (depending on ability).

When and if your child's teacher feels they are ready they will be taught to carry out formal written methods.

e.g.  $196 \div 6 = 32r4$  ( $32 \frac{4}{6}$ )

$$\begin{array}{r} 32r4 \\ 6 \overline{) 196} \\ \underline{18} \phantom{0} \\ 16 \\ \underline{12} \\ 4 \end{array}$$

e.g.  $265 \div 5 = 53$

$$\begin{array}{r} 53 \\ 5 \overline{) 265} \\ \underline{25} \phantom{0} \\ 15 \\ \underline{15} \\ 0 \end{array}$$

**Division vocabulary:** divide, shared, how many groups of..., remainder

# Ways to help your child at home

## Games

Play board games like Monopoly. Play darts and snooker, they are good ways to help children get faster at mental maths. Many card games and dice games encourage children to calculate mentally, such as: Yahtzee, Rummy, Whist, Pontoon, Newmarket, Cribbage



## Number

- Practice all times tables to 12x12
- Choose 5 items from a catalogue and use a calculator to work out how much they would cost if they were reduced by 10%, 20% etc.
- Play tables 'Millionaire'. Devise questions for each stage including tables backwards e.g. how many 8s in 56?
- Write fractions and decimals on different blank playing cards and match them.
- Make up word problems in different categories e.g. time, money



## Money

- Allow children to experience the use of real money
- Using different holiday brochures calculate how much it would cost for a holiday to different locations. Do different companies offer the same holiday? Which is cheaper? How much would it cost for families of different sizes?
- Use a catalogue like Argos and ask children to choose 5 items under £20. Calculate how much they cost and the change from £100.
- Give your child a budget for the week/month - encourage them to keep a record of spending
- Plan and cost a party within a given budget. Essentials? How many people can you cater for?



## Measures and shape

- Allow children to redesign their bedroom. Measure the room. Look at dimensions of furniture in a catalogue. What will fit? Calculate cost and draw a plan.
- Look at different recipes and calculate the quantities needed if you had twice as many people, half as many people, one more person, one less etc.
- Read maps. Work out distances using scale
- Involve children with everyday situations that involve time e.g. setting the video, looking at bus timetable, estimating journey times.

## Year 6 Goals

These goals are intended to give you an idea of some of the things most pupils should be able to do by the **end** of this year.

- Put numbers with three decimal places in order
- Understand what percent means and work out percentages of whole numbers
- Put a mixed set of number in order e.g.  $2\frac{1}{2}$ ,  $1\frac{3}{4}$ ,  $2\frac{1}{4}$
- Reduce a fraction to its simplest form e.g.  $6/12 = 1/2$
- Solve simple problems involving ratio and proportion
- Find fractions of quantities
- Multiply and divide numbers (including decimals) by 10, 100 or 1000
- Add and subtract decimals to two decimal places in a column
- Rapidly recall all times tables up to 12x12
- Work out division facts for all times tables
- Use a written method to multiply and divide numbers including decimals
- Read word problems and work out what sums they need to do and in what order.
- When solving problems explain what they have done both orally and in writing
- Solve a problem by drawing a graph, chart or table and read and understand the information it displays
- Work out the area and the perimeter of simple shapes
- Use a protractor to measure and draw acute (less than  $90^\circ$ ) and obtuse (more than  $90^\circ$ ) angles to the nearest degree
- Read and plot coordinates in all four quadrants

We hope this leaflet has helped you to understand how your child learns maths at Dorchester and that it will enable you to help your child to really enjoy maths.