Bullion Lane Primary School

Key Stage 2 Multiplication Methods

As children enter Key Stage 2, they are expected to really get to grips with their multiplication tables. They learn the following tables in the school year and term set out below. Every effort should be made to help children learn their tables as they help them to develop and understand so many other areas of maths. Hopefully they will know table facts like they know their name – without even having to think about the answer!

	Year 3	Year 4
Autumn Term	3 times tables	6 times tables
Spring Term	4 times tables	7 times tables
Summer Term	9 times tables	8 times tables

In Years 5 and 6, children will revisit all table facts and apply them in different situations. It is one of the most important things your child can learn so **please help them**.

Focus on one fact at a time, e.g. 4 x 6 = 24. Ask your child when you see them, stick it on the fridge door or the mirror in the bathroom for up to a whole week. They should be able to say the fact as it is, switch the 4 and 6 around understanding the answer will stay the same, as well as putting the 24 at the beginning and dividing it by both 4 and 6.

This then provides the children with what we call a 'Fact Family' which they can use in different situations.

The Fact Family for 4x6=24 is …

$$4 \times 6 = 24$$
$$6 \times 4 = 24$$
$$24 \div 4 = 6$$
$$24 \div 6 = 4$$

Now for the methods to work multiplication problems out …
First, children use what we call 'Smile Multiplication'. Using this method children can multiply a 2 digit (2d) multiple of 10 by a single digit,
E,g, 20 x 4

Children do the tables bit (2x4=8) then add the zeros in the question onto the answer.

20 x 4 = 80

By setting out like this a 'smile' is drawn underneath the calculation. It is always stressed to the children how important the understanding of place value is at this point as they need to be aware of the reason why they add the zeros on. Telling children to 'just add a zero' when making things 10 times bigger is no help as when children move onto decimal numbers, the value doesn't change if a zero is added. Children must be aware the digits move one place to the left and a zero is added as a place holder.

Children also use this method for multiplying two 2d multiples of 10,

E.g. 70 x 80 = 5600

Must remember to …
1. Do the tables bit.
2. Count the zeros in the question.
3. Add the zeros onto your answer.

After this, children move onto what we call the 'Grid Method' for multiplication.

This is where children partition (split) numbers up and draw a grid to help organise their work.

E.g. 23 x 4

X	20	3	
4	80	12	80+12=92

For this method, children can use their table facts along with 'Smile' multiplication to help get the answer.

Moving onto …

725 x 6

X	700	20	5	
6	4200	120	30	4200+120+30=4350

Then …

69 x 38

X	60	9	
30	1800	270	2 0 70
8	480	72	5 52 +
			26 22

Finally …

368 x 53

X	300	60	5	
50	15000	3000	250	18250
3	900	180	15	1095 +
				19345

Multiplication involving decimals uses the same method. Children do the tables bit, but understand what the value of each digit within the number is worth.