

## 'Old Methods' (The way we were taught!)



This presentation is for parents of pupils in Year 4, 5 and 6 and focuses on addition, subtraction, multiplication and division using 'formal' methods. In the notes of this presentation, I have referred to the first column as 'units' as this is what most of us were taught in school. Currently, the children refer to this as 'ones'.

## Addition

$478 + 243 =$

$$\begin{array}{r} 478 \\ + 243 \\ \hline 721 \\ \small{1 \quad 1} \end{array}$$



If your child 'carries over' to a different place (on the line), do NOT attempt to change this. As long as your child is consistent, there is no problem. There are pros and cons to both places for carrying. Please ensure the carried number is written smaller than the numbers involved in the problem.

## Subtraction

$$938 - 273 =$$

$$\begin{array}{r} \overset{8}{\cancel{9}} \overset{1}{3} 8 \\ - 273 \\ \hline 665 \end{array}$$



As we were all taught this in school, this method seems very straightforward to us as adults. Common mistakes the children make is forgetting they can't take 7 away from 3 in this method (see the tens row) or not carrying through 0s in order if the number was 2003 for example.

## Short Multiplication

$987 \times 5 =$

$$\begin{array}{r} 987 \\ \times \quad 5 \\ \hline 4935 \\ \quad 4 \quad 3 \end{array}$$



Like the addition method, if your child 'carries over' to a different place (on the line), do NOT attempt to change this. As long as your child is consistent, there is no problem. There are pros and cons to both places for carrying. Please ensure the carried number is written smaller than the numbers involved in the problem.

## Long Multiplication

$93 \times 45 =$

$$\begin{array}{r} 93 \\ \times 45 \\ \hline 465 \\ 3720 \\ \hline 4185 \end{array}$$



Just like short multiplication, the children start with the units row and complete all of the red parts first. A 0 is put in at the start of line two (see the green circle). If the digit in this place is not 0, the answer is guaranteed to be wrong. Forgetting to put the 0 is a very common error. Once the 0 is in place, complete the multiplications by 4 (See the blue numbers). Finally, add up the 'normal' sized digits using standard column method.

## Short Division

$$439 \div 3 =$$

$$\begin{array}{r} 146 \text{ r}1 \\ 3 \overline{) 439} \end{array}$$



This is a quick method of division. If your child is confused, remind them to ask, "How many xx can I get in yy?". In this case, the statement would read, "How many 3s can I get in 4?" The answer is 1 with 1 left over. The remainder (the one left over) is carried over to the 3, written smaller and creates a new two-digit number. Here it is 13. The statement now reads, "How many 3s can I get in 13?". The answer is 4 with a remainder of 1. This process goes on until there are no more numbers to divide.

### Short Division with decimal remainder

$$439 \div 3 =$$

$$\begin{array}{r} 146.333 \text{ etc!} \\ 3 \overline{) 439.0000} \end{array}$$



The children are also expected to convert the remainder into a decimal – it is a lot easier than it looks. Remember, 439 is a whole number so it is really 439.0000000 (etc). When the child has calculated how many 3s there are in 19 and has realised that there is a remainder, they are taught to put the answer (6) after the 4 on the top and .0 after the 439 on the bottom. The remainder (1), is then carried onto the 0 to make a new two-digit number. Generally, the calculation will not require the child to go past 3 decimal points.

## Long Division

$$865 \div 21 =$$

$$1) 21$$

$$2) 42$$

$$3) 63$$

$$4) 84$$

$$5) 105$$

$$6) 126$$

$$7) 147$$

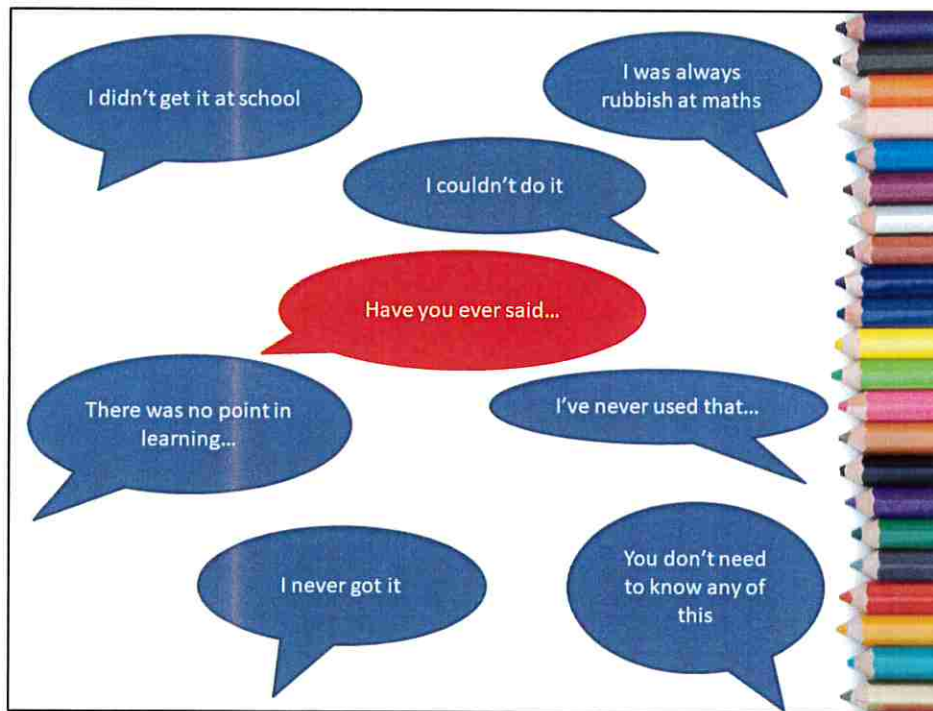
$$8) 168$$

$$\begin{array}{r} 41 \text{ r } 4 \\ \underline{21} \quad \overline{) 865} \\ - 84 \phantom{0} \\ \hline 25 \\ - 21 \\ \hline 4 \end{array}$$

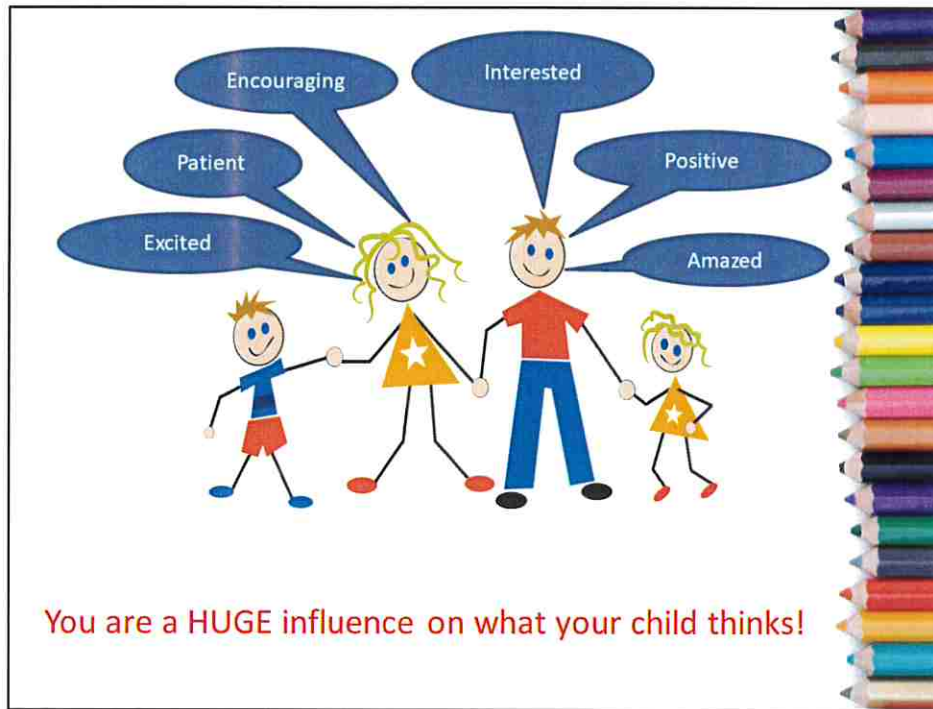


The long method of division looks complicated but really isn't. It is however, hard to explain in text and in a limited space. If you would like to go over this method, please speak to Mr Gray and he will arrange a time to help you. It really isn't as bad as it looks.





Many parents (and teachers!) have a phobia of maths as a result of a bad experience at school. I often hear comments like this during meetings with parents and many have told me this prior to our workshop! Never, ever say this to your child! In their subconscious, they will link that mum and dad are successful and they didn't like or couldn't do maths, so they don't need to do it either. They will also pick up on your negative feelings and they will take these on board. If you are positive about maths (even if you have to act!), they will be more positive about it too. Many people say negative things about themselves mathematically, but wouldn't dream of saying they couldn't write or read well!



With the previous slide in mind, try to be all these things about maths!

## What **NOT** to say (or do)!

- **Don't get them to explain the wrong ones**  
(They associate explaining with mistakes)
- **Don't get frustrated**  
(They will not get it right every time, even if they did yesterday!)
- **Don't make maths (or homework) a chore**  
(Be excited and interested in what they've been sent home!)
- **Don't say negative things about yourself**  
(It doesn't make them feel better! It associates success without maths)
- **Don't show them a formal method (Yr4)**  
(They will not have seen it, it doesn't support reasoning and it requires understanding they don't have yet.)

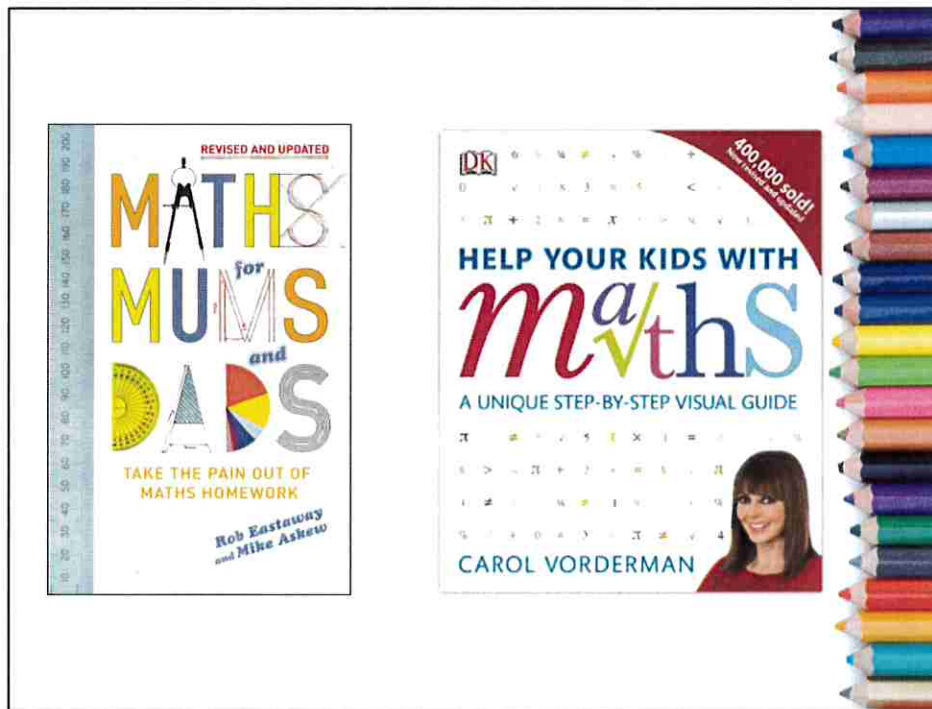


We often ask children to explain the problem or calculation which is wrong so we can help them get better. They soon realise that they are only asked to explain when they are wrong. Because of this, they associate explanation with failure. Ask them to explain one that is correct. Be amazed at the answer and comment on things like, "I'd forgotten an odd+odd = even, that is so cool!" Then try things like, "I make that one 11, what have I done wrong?" and let them teach you by explaining why you're wrong. By building up these positive conversations, you will be able to help them fix errors when they do get one wrong without it being a negative event for your child.

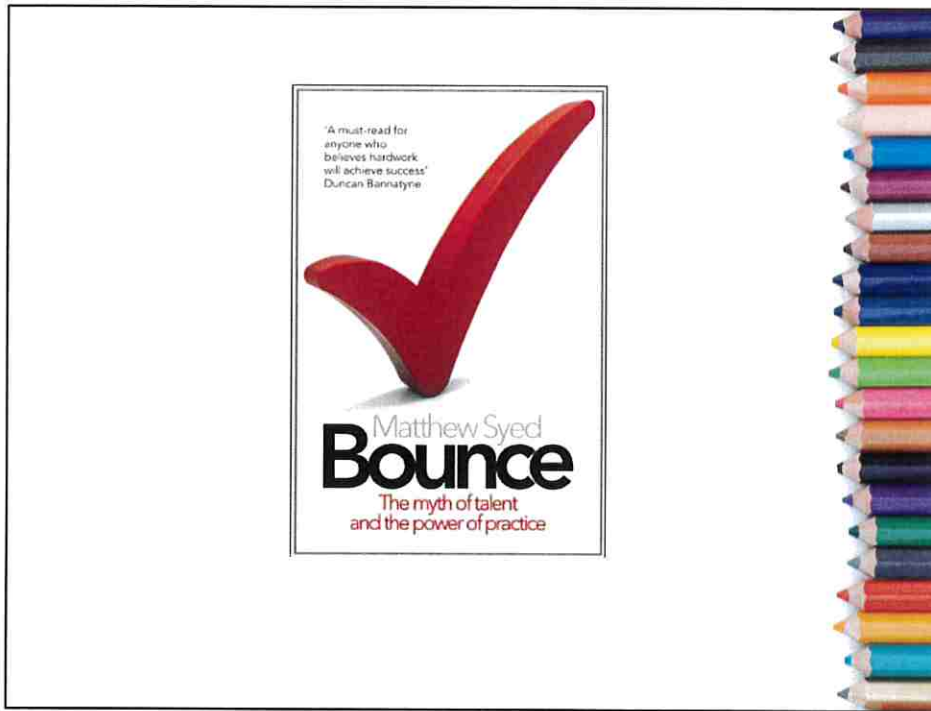


Praise the effort, not the score!

There are lots of studies about praising effort rather than results and the impact it has on children's learning, effort and end result in terms of testing. If you would like to know more, feel free to talk to Mr Gray, or, search for Carol Dweck and effect of praise on Google. Please note, we have not checked any of the links which Google will produce. This is simply the area of her research.



Maths for Mums and Dads is an easy to read book which explains why children are taught the ways they are. It gives good examples of how things go wrong and suggestions of things you can do at home. It is easy to dip in and out of and can be used as a help book if the homework or method your child is using is unfamiliar! Maths for Mums and Dads Book 2 is designed for secondary level. Carol Vorderman's book is an excellent reference book. It explains terminology clearly and has excellent annotated examples of problems.



This book discusses the idea of talent and that some people are born naturally gifted or able in certain areas. It is easy to dip in and out of and is an easy and enjoyable read. There are plenty examples of using positive praise to get good results as well as lots of interesting sporting examples and stories. If you would like more information about this book and how it relates to your child's learning, feel free to speak to Mr Gray.