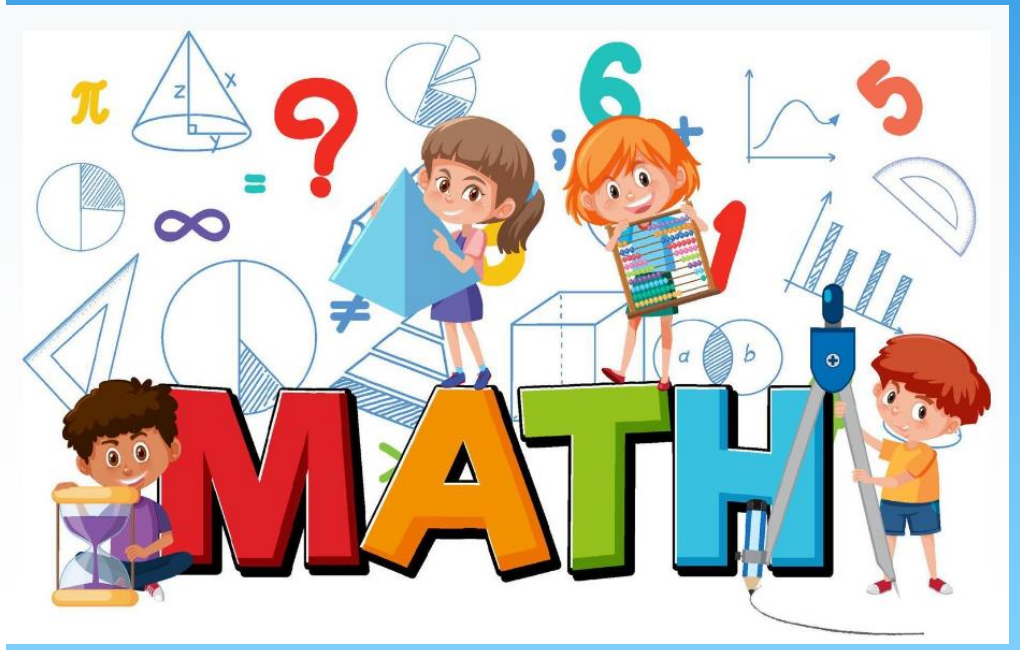
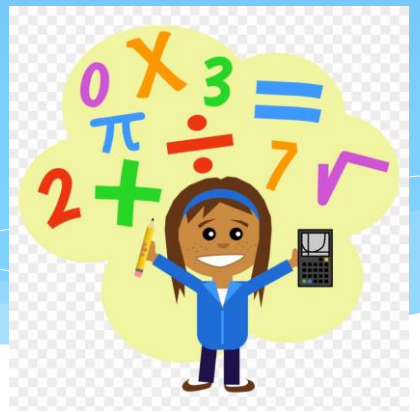
Welcome to our Maths workshop



Year 3 and Year 4



Session Aims

What does Maths look like in Year 3 and Year 4? (With a focus on multiplication, division, fractions, decimals and percentages).

How is Maths taught at St Joseph's?

How can children be supported at home?

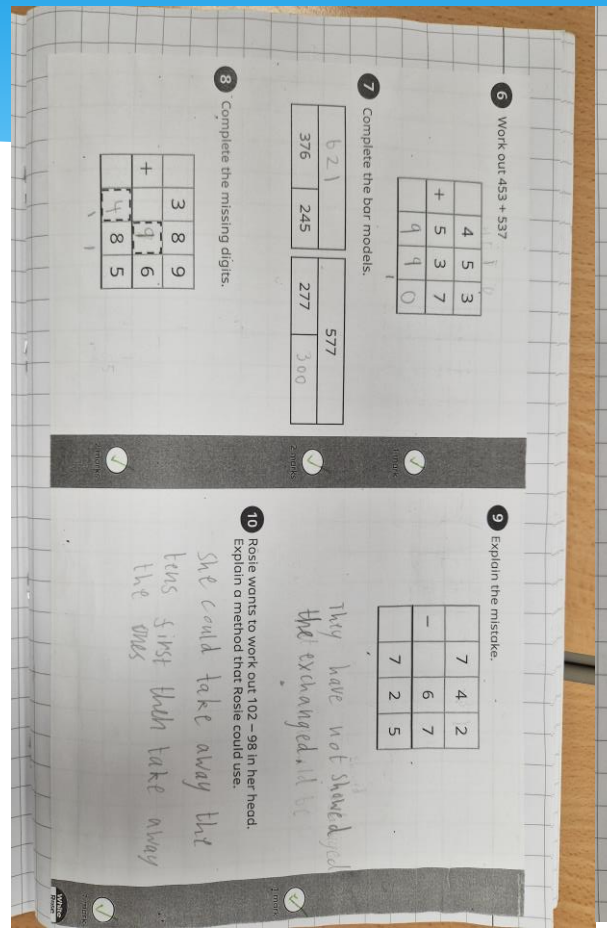
What does Maths look like in Year 3?

Consistently use the correct number formation (0-9).

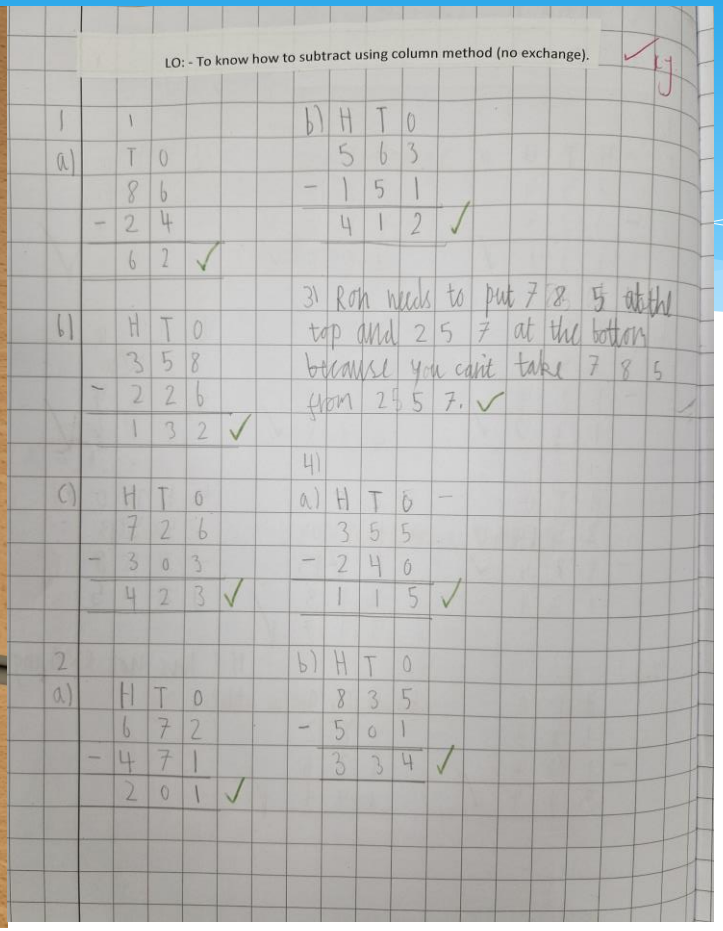
To recognise the place value of each digit in a three-digit number (hundreds, tens and ones).

To read and write numbers up to 1,000

To add and subtract mentally and scaling these by 10 e.g. 6 + 3 = 9, 60 + 30 = 90.



To understand the inverse relationship between add and subtract



To solve number and practical problems, including reasoning using my number knowledge.

To choose strategies to help me answer questions such as partitioning, number lines, counting on, counting back, bar models and eventually formal methods such as the column method.

To identify angles greater than or less than a right angle

To recall my 2, 5, 10s, 3, 4 and 8 times tables and related division facts.

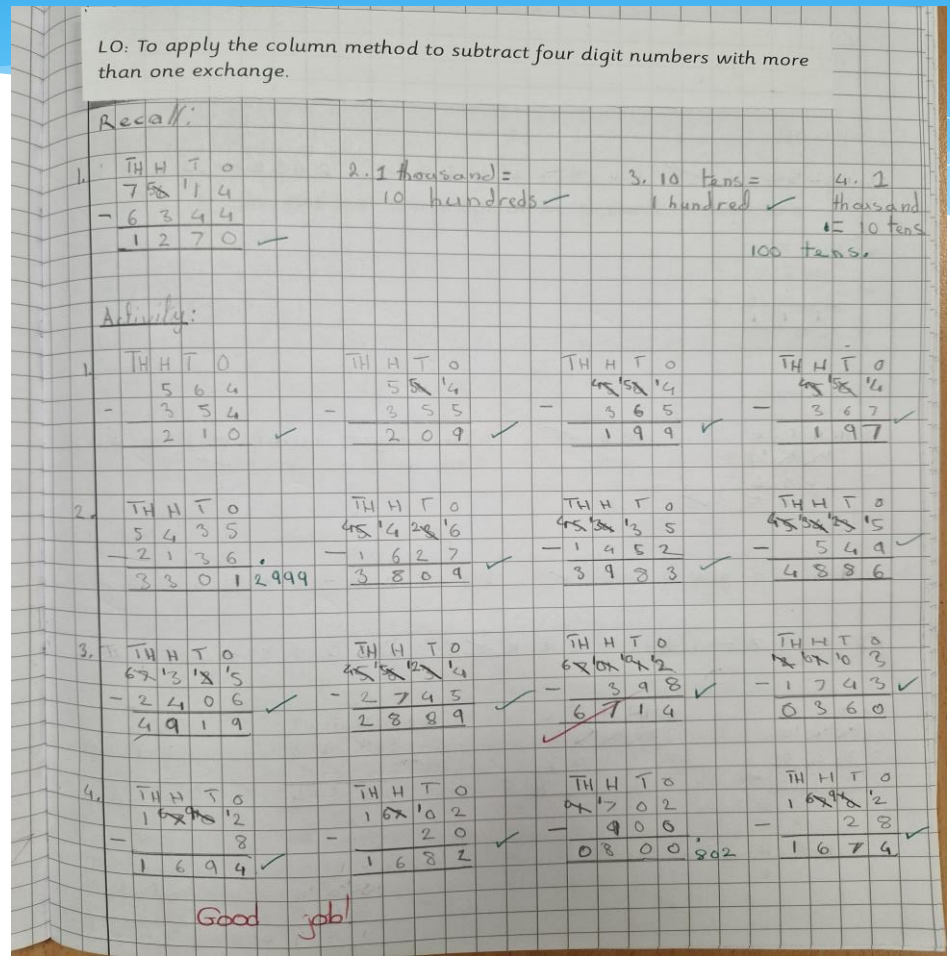
What does Maths look like in Year 4?

Find the perimeter of regular and irregular polygons

Begin to use expanded formal methods for addition and subtraction.

Have a secure understanding of number: confidently identifying the value of each digit in a 4 digit number E.g. 2378 the 3 represents 300.

To solve practical and number problems using reasoning to justify answers.



Multiply two-digit and three-digit numbers by a one-digit number using formal written layout

Convert mixed numbers to improper fractions and vice versa

Solve addition and subtraction two-step problems deciding which operations and methods to use and why

Recognise common groups of equivalent fractions and finding the corresponding decimal.

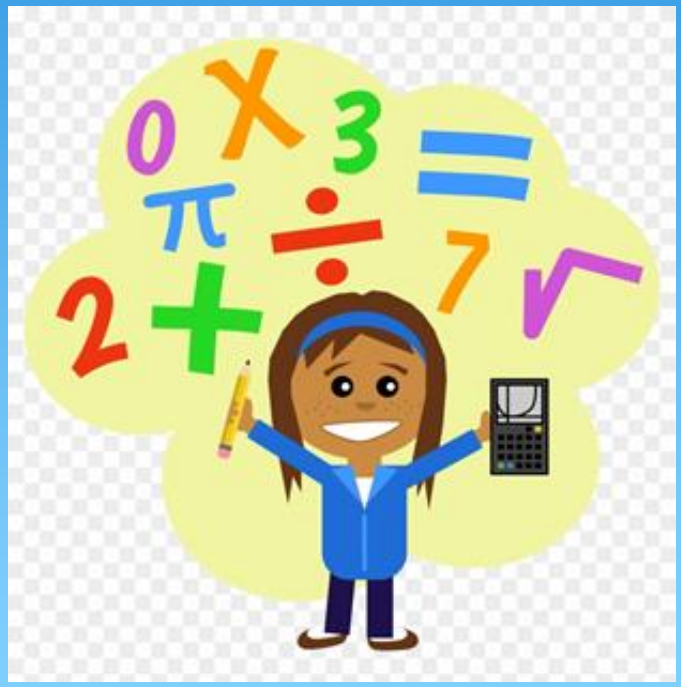
To confidently and securely know times tables facts, including the inverse up to 12x12

How is Maths taught at St Joseph's?

Our Calculation Policy

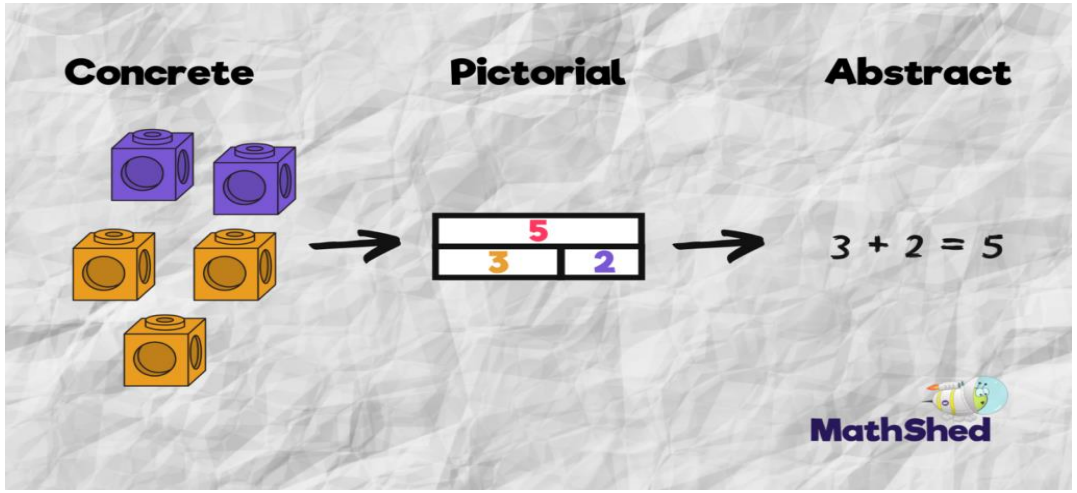
This document guides teachers through the **appropriate calculation methods within each year group** and the **progression** of skills **throughout the school**.

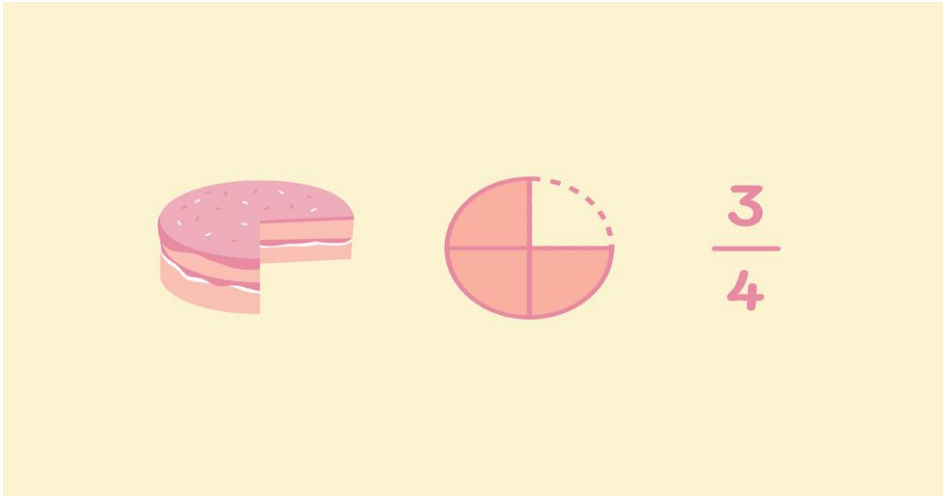
The content of this document is set out in year group blocks under the following headings: **addition, subtraction, multiplication and division**.



Concrete, Pictorial & Abstract

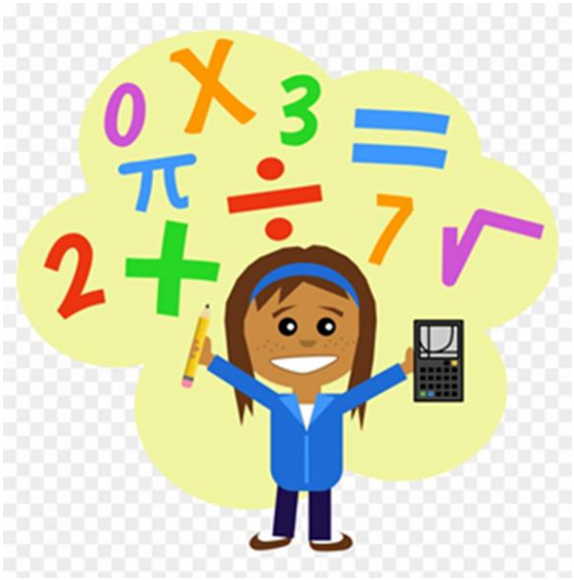
The Concrete Pictorial Abstract (CPA) approach is a system of learning that uses physical and visual aids to build a child's understanding of abstract topics. Pupils are introduced to a new mathematical concept through the use of concrete resources (e.g. fruit, Dienes blocks etc).





Questioning Children

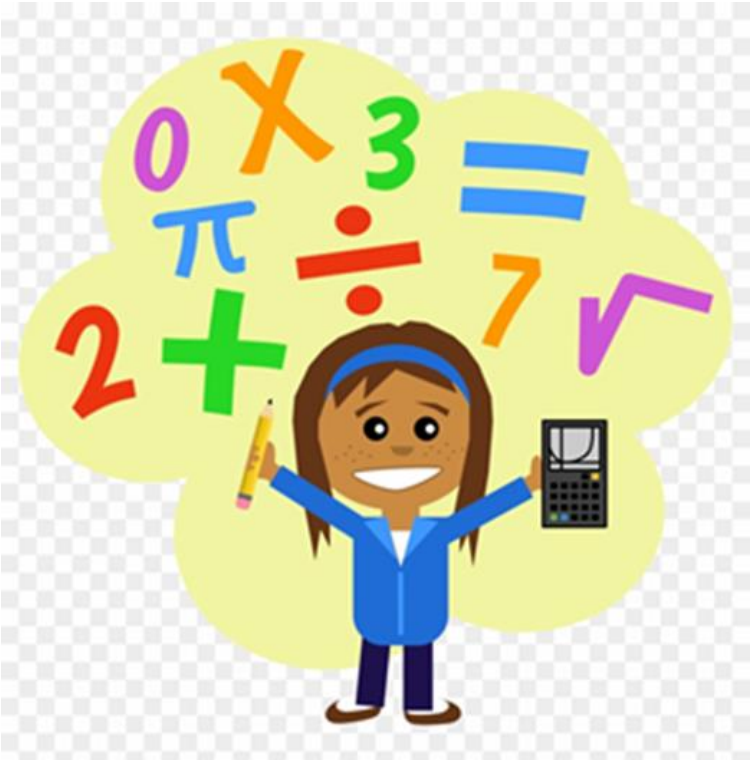
Good questions, and equally important, good listening, can help children make sense of Mathematics, build their confidence, and encourage mathematical thinking and communication. A good question opens up a problem and supports different ways of thinking about it. Some questions to try while helping a child might include:



- What do you already know about this?
- What do you need to find out?
- How might you begin?
- How can you organise your information?
- Can you draw a picture to explain your thinking?
- Are there other possibilities?
- What would happen if …?
- What do you need to do next?

Reasoning and Problem Solving

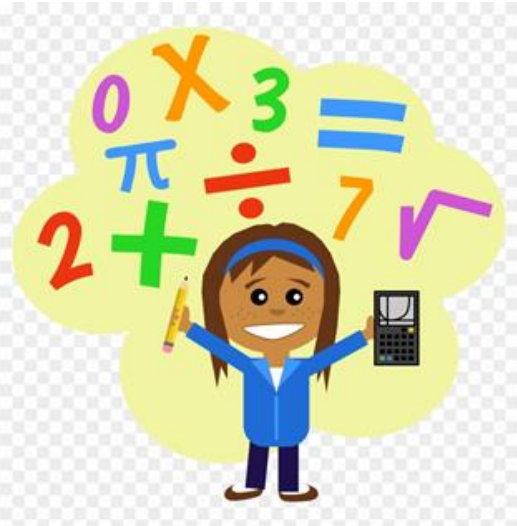
- What is ‘reasoning?’ Discuss!



Reasoning is…

The action of thinking about something in a logical, sensible way.

Progression in Reasoning



Describing	Simply tells what they did
Explaining	Offers some reasons for what they did (may or may not be correct)
Convincing	Confident that their chain for reasoning is right (inductive reasoning)
Justifying	A correct logical argument that has a complete chain of reasoning
Proving	A watertight argument that is mathematically sound (deductive reasoning)

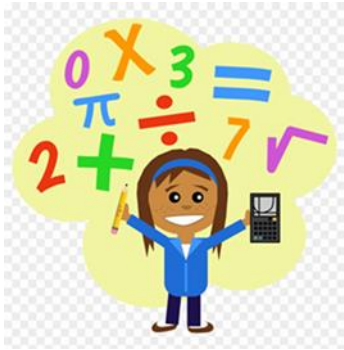
NRICH (2014)

Times Tables are extremely important!

Timetables and their related division facts – encourage them to use TTRockstars to improve their rapid recall skills of multiplication and division facts. Timestables check in **5th June.**

This will help them to solve problems that involve…

- Multiplications
- Fractions
- Number facts

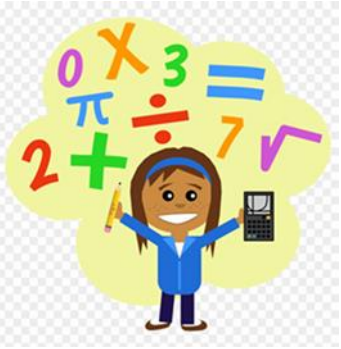


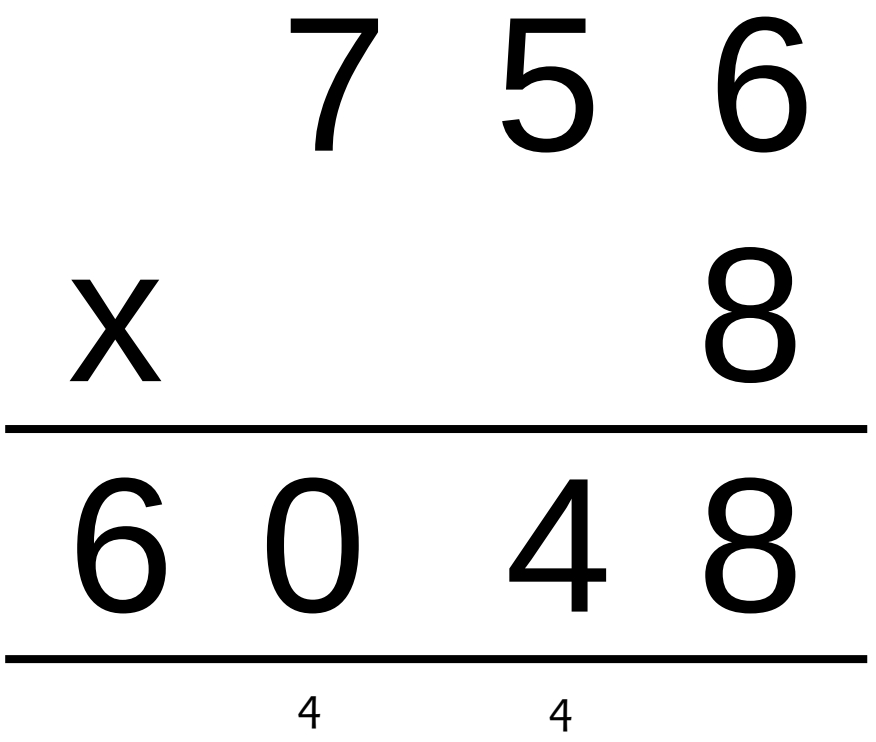
Multiplication

Children need to be able to…

Complete multiplication calculations. Give the following question a go:

756 x 8 =




7 5 6
x 8
6 0 4 8
4 4

Number: Division

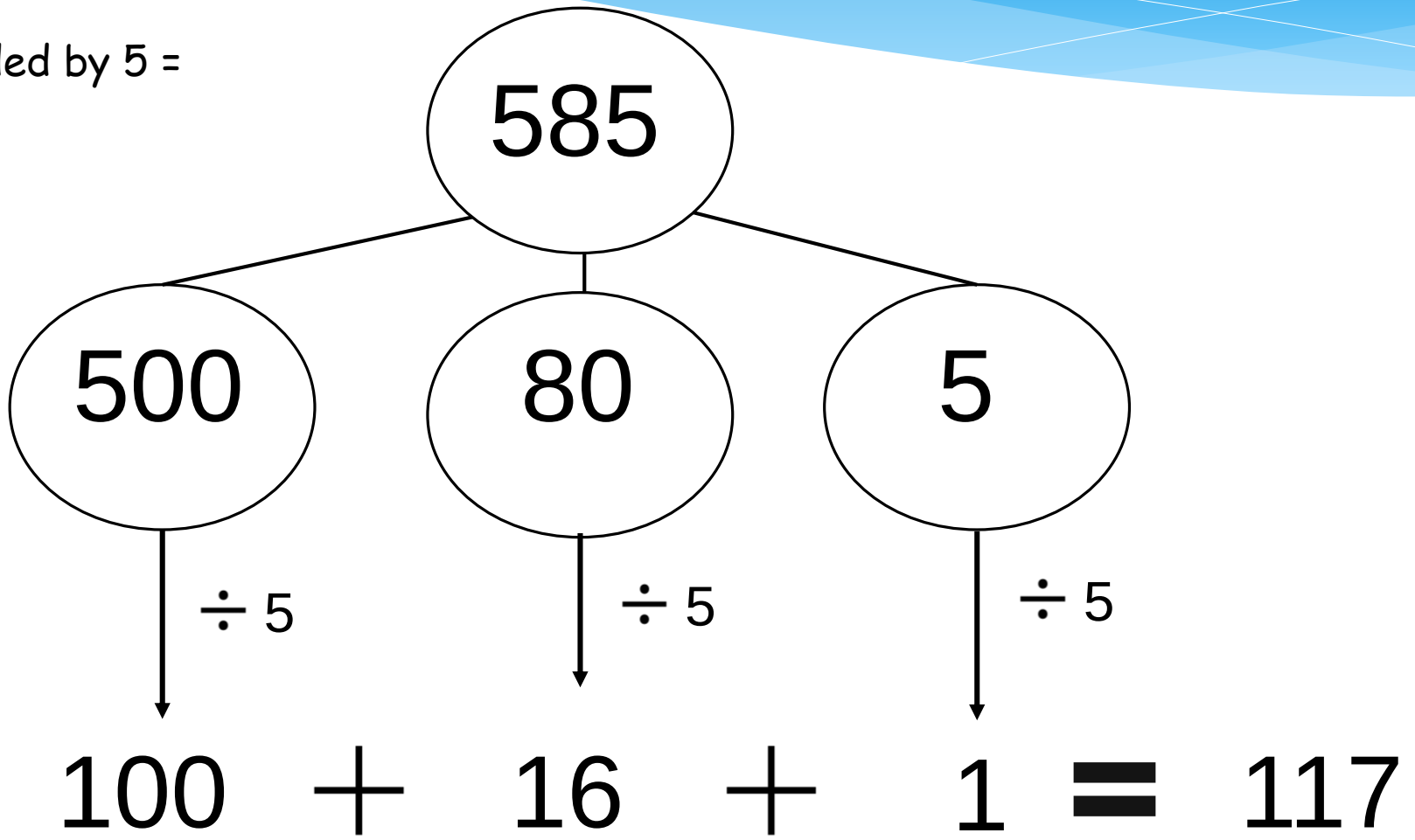
Pupils will need to divide numbers by 1 or 2-digit numbers.

It is important that your child is able to divide quickly in their calculations. Division speed stems from knowledge of times tables, so again, their importance cannot be understated.

Give the following question a go **without using the bus-stop method:**

585 divided by 5 =

585 divided by 5 =



Number: Addition & Subtraction

Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate

Give the following questions a try:

6075 + 948 =

5634 - 2745 =

$$\begin{array}{r} 6075 \\ +\ 948 \\ \hline 7023 \\ \hline {\scriptstyle 1\quad 1\quad 1} \end{array}$$

$$\begin{array}{r} {\scriptstyle 4\quad 15\quad 12\quad 1} \\ 5634 \\ -\ 2745 \\ \hline 2889 \\ \hline \end{array}$$

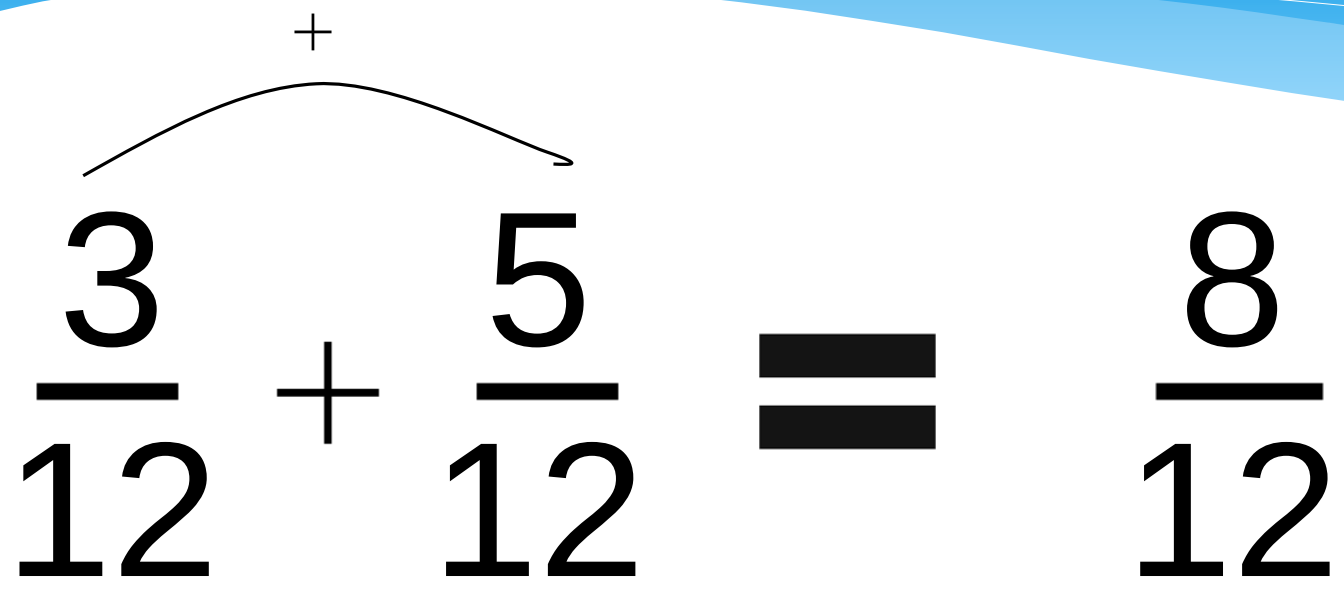
Number: Fractions

Add and subtract fractions with the same denominator. Additionally, they should be able to convert mixed fractions to improper fractions and vice-versa.

Give the following questions a try for (b), convert the answer to a mixed fraction:

a) 3/12 + 5/12 =

b) 7/10 + 8/10 =


+
3
12
+
5
12
=
8
12

$$\frac{8}{10} + \frac{7}{10} = \frac{15}{10} = 1\frac{5}{10}$$

How can you help your child with Maths at home?

* Take away their fear.
* Reassure and praise whenever possible. Positive mindset…
* Let them see you using Maths in your everyday routines – portioning meals between the family, chopping vegetables into halves and quarters etc.
* Play with numbers and shapes through games.
* Seeing mistakes as an opportunity to learn and using them as a discussion point.
* Recognising the **importance** and value of Maths in our everyday lives e.g. managing money and telling the time.

How can you help your child with Maths at home? (Continued)

* Practise using number in the environment. Add/multiply/subtract/divide door numbers, numbers on car registration plates, road signs and at the shop.
* Flicking through the TV guide? Ask your child to calculate the length of their favourite programmes. How long is it until the next programme?
* Use food packaging to discuss 2D and 3D shapes. What are the properties of these shapes e.g. how many faces, sides, vertices? Flatten the packaging out to find the net of the 3D shape too.
* Measuring up for new furniture? Want to make sure the Christmas tree will fit in your living room? These are really good opportunities to encourage your child to see the value of careful measuring skills in everyday life.
* Practise telling the time with your child. Can they read both the digital and analogue clock? Can they readily convert between the two and use the 24 hour clock? Can they also recognise Roman Numeral representations of the time too?
* Board Games supply endless opportunities for Maths – Snakes and Ladders, Monopoly, Bingo, Connect Four, Battle Ships etc

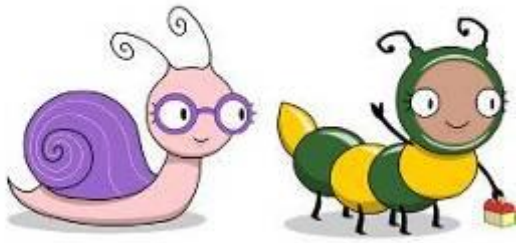
Websites to support children's Maths skills

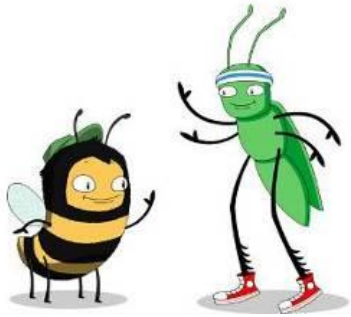
- BBC Bitesize – lots of information alongside short videos help to make the learning enjoyable and accessible for all children. Particularly look out for 'Guardians of Mathematica'.
- I See Maths – a useful site with a plethora of ideas for fun games that all the family
- Primary Games Arena - It is a free website that encourages children to play online maths games linked to their home learning. It breaks the games down into concepts which is really helpful.
- Hit the Button – children love this game as it helps to increase confidence through practising times tables and number bonds.
- Maths Zone – this site is jam-packed with fun ways to learn more about Maths.

Maths workshop

Another way to support your children is by using

When it comes to times tables, speed AND accuracy are important — the more facts your child remembers, the easier it is for them to do harder calculations. Times Table Rock Stars is a fun and challenging programme designed to help students master the times tables. World Famous musicians need to practice and so do children with their tables!

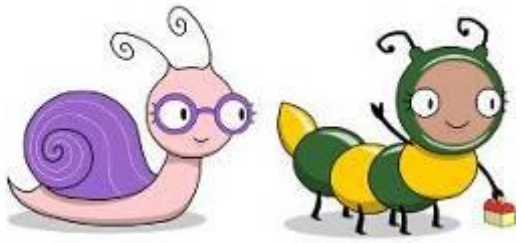


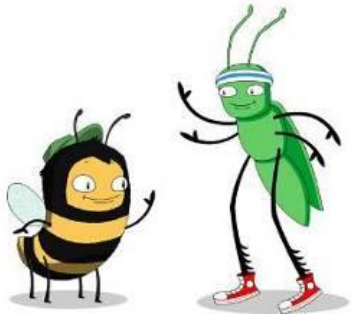


Math workshop

Another way to support your children is by using

For your child to be fully motivated and for them to get the best out of the practice, they need your help - your praise, reminders and support will help your child feel confident and motivated.





Thank you for listening.

Any questions?

We hope the workshop helps you understand how you can support your child at home.