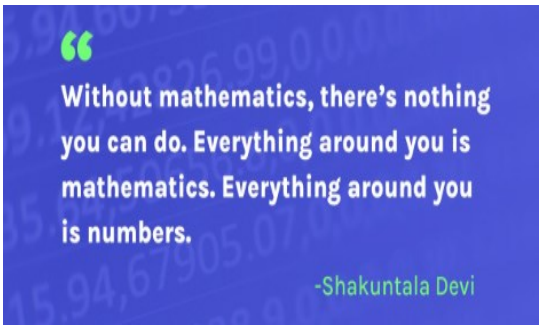
The Catholic School of St Gregory The Great

Believe and Achieve MATHS 2026

Welcome to our Maths community!



A very warm welcome back to school—and a special welcome to families joining us for the first time.

At St Gregory's, our maths team is dedicated to providing the very best education for your children. We strive to keep maths a high-profile subject in school while fostering positive attitudes, consistent effort, and active participation.

At the start of each year, we focus on developing a positive mindset. We know that maths can be challenging, but great mathematicians aren't simply those who find it easy—they are the ones who keep going until they succeed.

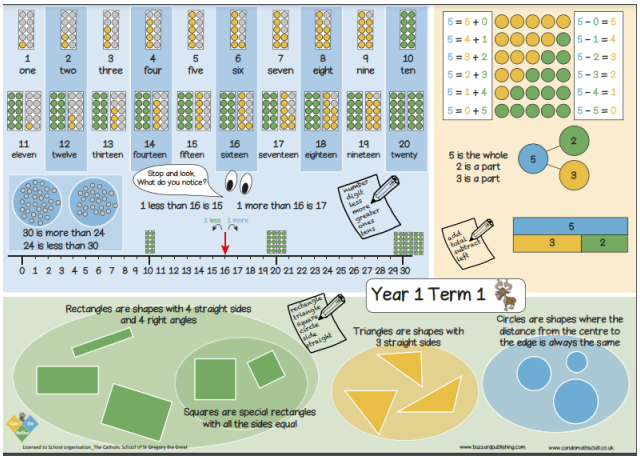
Our aim is to help pupils appreciate this approach and believe that ,with effort and perseverance, they too can enjoy success in maths.

Each academic year, we share a maths newsletter with parents to provide key updates and suggestions on how you can support learning at home.

Further information can also be found on the maths pages on the school website packed with information about our vision and approach to maths teaching and learning, information about the 99 club, and links to useful documents, great websites and slides from previous parent workshops.

What the children are learning each term

We know from studies that strong relationships and communication between school and home really benefit children's learning. Knowing what your child is learning in class makes it easier for you to talk about it at home, which not only strengthens and consolidates the work they do at school but also helps them understand that what they are learning is valued and valuable. To help you do this, we make the brilliant **Knowledge Organisers** from our maths scheme of work available on our website. These are **visual representations** of the **key learning, manipulatives and vocabulary** for each term for each year group (except for **EYFS**). We really encourage you to have a look at the relevant knowledge organiser(s) for your child(ren) to **help you support** their maths learning. Year 1 term 1 is shown below as an example.



If you have a child in EYFS, see our **leaflet**, which explains the key concepts covered and how you can help at home. Also available in **Polish**.

Changes in modern teaching methods means maths is sometimes a difficult subject to support at home. These videos (from White Rose Maths) aim to bridge the gap between school and home by explaining current teaching methods.

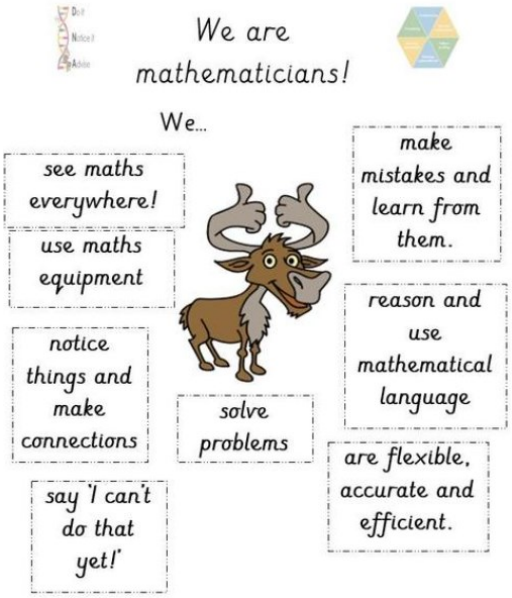
Growth Mindset

In the first week of each academic year at Saint Gregory's, we spend time with our classes thinking about what it is to be a mathematician and how having a positive 'can do' attitude makes such a difference towards our mathematics learning. Adopting a **growth mindset** is at the heart of our maths approach at Saint Gregory's. Our learners understand how new challenges and making mistakes help their brains to grow!



We encourage the belief that everyone can succeed in maths so that our pupils are motivated to try new challenges and to keep going when things are tricky. ***Growth mindset***, is the term for this belief that **we can improve our abilities by using learning behaviours such as effort, resilience, perseverance and practice** and all the other characteristics included in the St Gregory's learner profile.

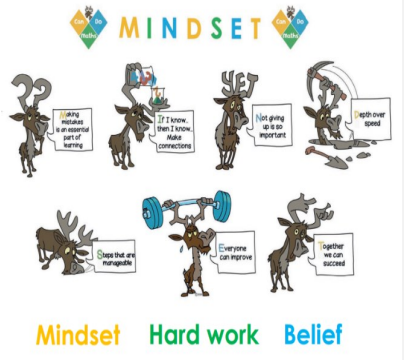
Each class has a vision for maths which reflects what our maths classrooms are like and each vision reinforces a 'can do' attitude. These are in the children's books and on working walls and are referred to in lessons.



When speaking to our children about Maths at St Gregorys, they said quotes such as:

- *Maths is fun!*
- *Making mistakes is not a bad thing– you can fix them!*
- *We use resources like counting sticks and number lines*
- *We like journaling key vocabulary (KS2)*
- *Maths is really useful in life*
- *We like a challenge!*

Parents play a vital role in promoting a positive attitude to maths...



Click **here** to read more about Growth Mindset at St Gregs.

- **Talk positively about maths!** If children hear the people around them saying they can't do maths, or that they don't like maths, this is likely to have a negative impact on children's learning.
- **Set high expectations!** Doing this will show children that you believe they really can succeed.
- **Celebrate mistakes!** Mistakes should be encouraged, explored and celebrated. Research shows that mistakes actually increase a child's capacity to learn and grow the brain (Boaler, 2016). Explain to children that their brain is like a muscle which gets stronger with exercise – they'll find it fascinating!
- **Praise carefully!** It's so easy, when you're feeling proud, to say things like "well done – you're so clever". This can reinforce a belief that children are either good, or not good, at something. Try to celebrate effort by saying things like – "well done – you tried so hard".
- **Talk about learning!** When talking to children about their day, ask them about what they learned. Question whether they tried hard, and whether they were challenged. Celebrating the learning process is key.
- **Encourage practice!** If children dislike maths, they may not want to do their homework. Remember to tell children that practice is the key to success!

Famous mathematicians

Mathematics is a creative and highly interconnected discipline that **has been developed over centuries**. Because of this, during our Mindset maths sessions this year, we also spent time learning about famous mathematicians and how we all use maths in our everyday lives.

Year 1 learnt about Ada Lovelace – an inspiring English mathematician and computer scientist from the 19th Century. They then programmed the Bee-bots robots to follow paths in different directions.

Year 2 applied their problem solving skills to a funfair themed problem-solving challenge! The children worked with a partner to see how many ways they could make 6 and 9 using 3 counters. They used their learner profile characteristics of: try their best and persevere!

Year 3, who are studying the Stone Age explored Stone Age markings, thinking about how they could represent numbers. They then made their own markings, discussing how we all visualise number differently.

Year 4, who are studying ancient Egyptians, learnt about the famous mathematician Ahmes who wrote the famous Rhinid Papyrus. They solved several hieroglyphic problems.

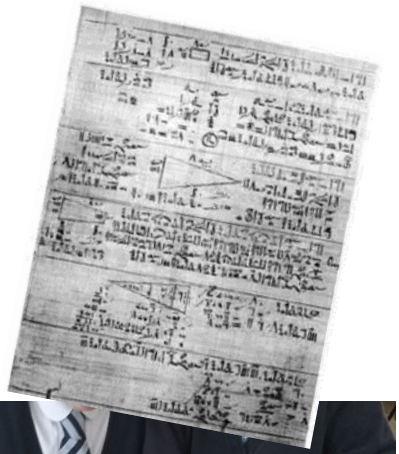
Year 5, who are studying the Ancient Greeks, thought about when Maths is used in everyday life. They carried out a problem solving task involving scaling.

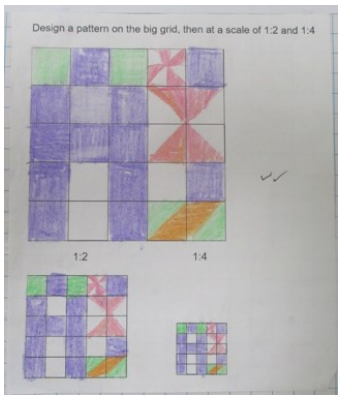
Year 6 researched Percy McMahon, who was a Cheltenham mathematician who patented several successful puzzles. They applied their problem solving skills to solve examples of his best known puzzle – they could identify that they were pattern spotting, visualising and using trial by improvement.

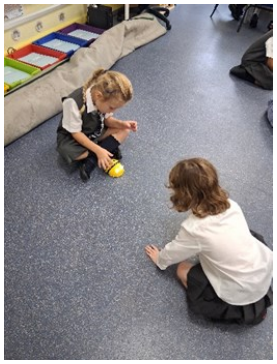
As you can see, we are working hard to make links between our maths learning and real life contexts through famous mathematicians, careers and daily life. If you think you can support us in this further (perhaps you would like to come in or write about how you use maths) please contact the maths team through the parents@st-gregorygreat.gloucs.sch.uk email or through the office. Many thanks!





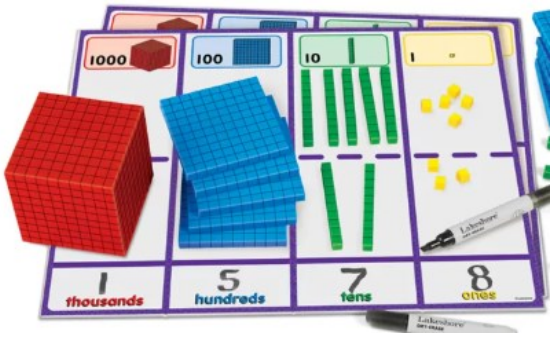








Place Value



In many classes at the start of the academic year, following the *Growth Mindset* refreshers, there is usually a big focus on **place value**, as this is such a fundamentally crucial concept for children to master.

Place value is the term used to describe the **value of a digit in a number**, which of course depends on where it is.

Although there are only **10 digits** in our number system (0-9), we can make any number using combinations of them within our place value system.

As numbers sequentially increase and we use up all available digits, we have to move to the next *place* to continue. So if there is a 9 in the *ones place* and we want to increase the value by 1, we have to move left to the next place, *the tens place.* Writing '10' shows that we now have one set of 10; 20 is two sets of 10 etc.

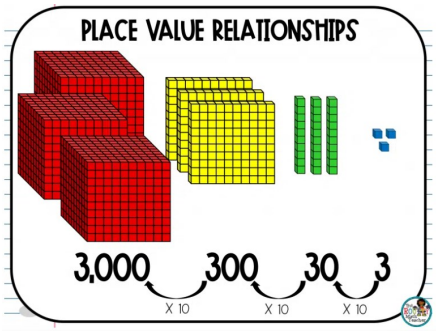
When we get to 99 (9 sets of ten and 9 additional ones) we have again used up all our available digits, and have to move to the *next* place, the hundreds place: we write '100' - and can think of this as one set of 100, or ten sets of 10 or even a hundred sets of 1, and this flexibility of thinking is extremely useful.

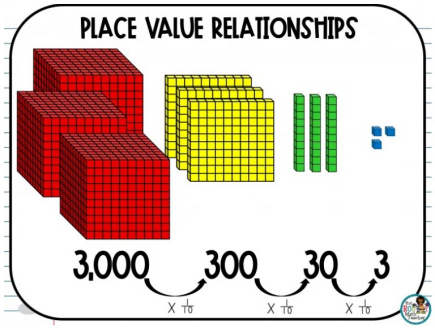
100	10	1
	9	9

100	10	1
1	0	0

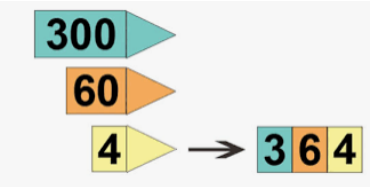
Place Value Cont'd...

A '3' in the ones place means three sets of 1 (3), but in the tens place means three 10s (30), and in the hundreds place three 100s (300) etc. So **moving digits one place to the left increases their value by a factor of 10** and **moving them one place to the right decreases the value by the same factor**. It is this feature that makes multiplying and dividing by 10 and its powers, effortless (once you get the hang of it!)





The number 364 (below) has three 100s (300), six 10s (60) and four 1s (4) and is equal to 300+60+4.



This ability to think **flexibly**, **partition** and **combine** numbers and **use place value knowledge** to easily **multiply and divide by 10 and powers of 10**, are all key skills for children to learn and are used in many areas of maths.



Place Value Cont'd...

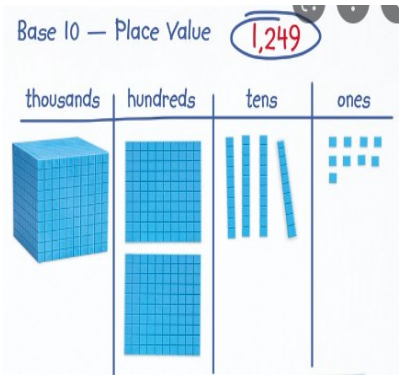
Many tools are used in class to help the children with their understanding of place value, including real apparatus to hold and manipulate as well as images on boards, in books or worksheets.

Some examples include:

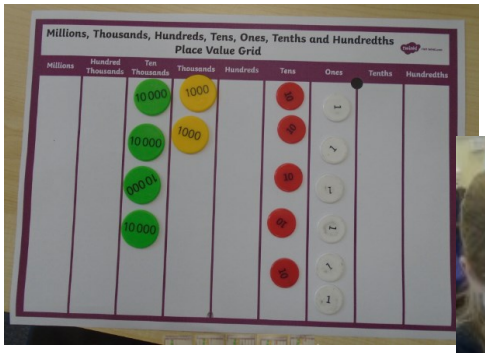
- Base 10 blocks or dienes. These help the children understand the relative value of the digits they are writing depending on whether they represent ones, tens, hundreds or thousands.



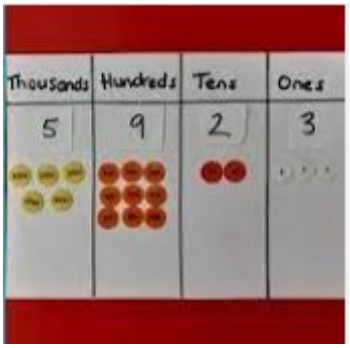


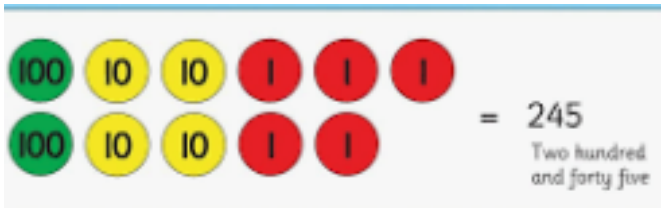


- Once children get beyond thousands, it's no longer practical to use dienes, so counters are used instead. Children need to have mastered the difference between ones, tens, hundreds, thousands etc before using them because all the counters are the same size, but definitely not the same value! Making numbers from counters then writing them in a place value chart reinforces the value of each digit.











Click the following links to watch videos explaining place value:

White Rose
Oxford Owl (scroll down to 2nd video "What is place value?")

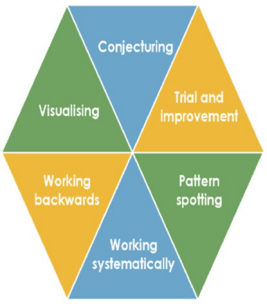
Maths—Problem Solving

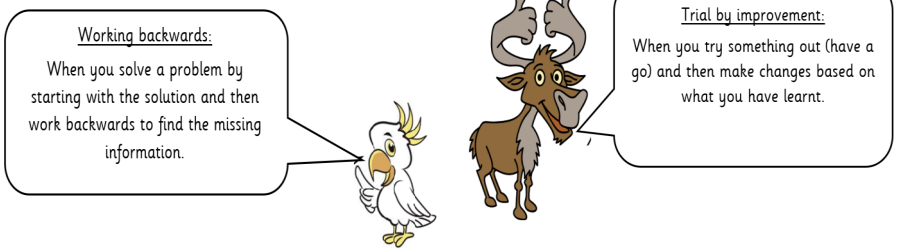
Successful mathematicians don't just know the curriculum – they can use their skills and knowledge to solve problems, explain their thinking, and feel confident about themselves as learners of maths.

At our school, we've been working hard to build children's problem-solving skills so that they have both the strategies and the self-belief to tackle all sorts of challenges. We talk a lot about having a positive mindset when solving problems: "We are curious, collaborative, resourceful and resilient." These qualities help children to keep going, try out different ideas, and learn from mistakes.

Our children problem solve throughout their maths lessons but to help them with this, we teach six key problem-solving strategies. Each term, we shine a spotlight on two of them. This term, the focus is on Working Backwards and Trial by Improvement.







Working backwards explained:

When a question tells you where things ended up and asks where they started, you run the steps in reverse and undo each one. Every operation has an opposite. Going forwards × 3 comes back as ÷ 3, and + 6 comes back as − 6.

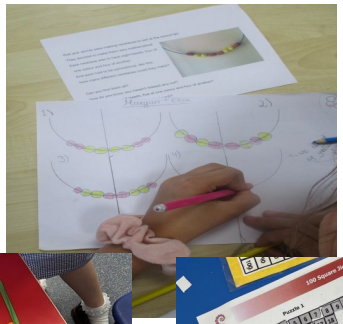
Trial by improvement explained:

Trial and Error Trial and error is *a way of solving problems through repeated attempts*, trying something different every time until you are successful.

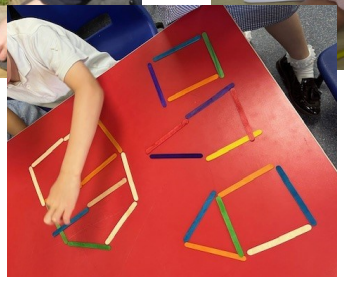
If you would like to problem solve at home, N-Rich has some excellent resources.
KS1: https://nrich.maths.org/trial-and-improvement-ks1 https://nrich.maths.org/working-backwards-ks1
KS2: https://nrich.maths.org/trial-and-improvement-ks2 https://nrich.maths.org/working-backwards-ks2

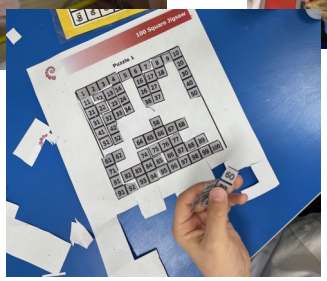
We also have termly 'Maths for pleasure' sessions where children get to explore and solve a range of problems away from the maths lesson. This is a great opportunity for children to use their positive mindsets and the strategies they have learnt to solve a range of different types of problems!

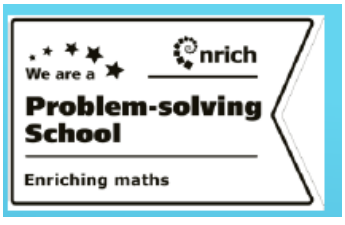












Mastering Number

At St Gregory's, we follow the Mastering Number programme produced by the National Centre for Excellence in the Teaching of Mathematics (NCETM) for our EYFS maths lessons and our Number Sense sessions in Years 1 and 2.

The programme aims to develop solid number sense, including fluency and flexibility with number facts. The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number.

Manipulatives and representations

The core manipulative used is the rekenrek. The rekenrek is a maths counting frame that has 2 rows of10 beads, totaling 20 beads. Each row has five red and five white beads that can be easily moved along the rungs. The rekenrek is a hands-on resource that helps children visual and learn essential foundations in number.

You can find more information about the Rekenrek here: https://whiteroseeducation.com/latest-news/what-is-rekenrek

Further representations used in the Mastering Number programme include: Number blocks, counters, dice, the tens frame, multi-link, images that mirror the rekenrek (birds on a line, children on a bus), fingers.



Leading the programme is the NCETM's Director for Primary Mathematics, Debbie Morgan, who was also a maths consultant for the Number blocks television show on CBeebies. She explains how the abacus-like rekenrek can be used to help children develop confidence and fluency with number. Watch HERE.

EYFS will hold a Mastering Number workshop for parents in the Spring term.

Maths Homework—TTRS and Numbots

Times Tables Rock Stars (also know as TTRSs) is a fun, rock-and-roll-themed online math programme designed to help children aged 6 and older master multiplication and division facts.

NumBots is an online game and learning platform designed to help young children (our EYFS and KS1 learners) build core foundational math skills, specifically focusing on addition, subtraction, and number bonds.

The children are set weekly TTRS or Numbots homework which they should complete. In Key Stage 2, 15 minutes per week is set; this results in an expectation of only 3 minutes practice a day! We know that a little and often approach supports many learners in learning their times tables. The national expectation is for all learners to know their times tables facts up to 12 x 12 by the end of Year 4.



There is a guide and video for parents to help you navigate the site which we would recommend watching:

https://www.youtube.com/watch?v=-ZxZbRVvbYM



Children should be completing times table practice daily as this will help them when completing maths tasks at school and in everyday life. There is also a leaderboard for local schools and we would love to be at the top!

We celebrate the children and classes who are the most active users of TTRS and Numbots in our Friday Celebration assemblies. We would love if each class was celebrated for their participation on these platforms!

If you have any questions about TTRS or Numbots please speak to your child's class teacher, Miss Preece or Mrs Barnes. We will be happy to help!

What are the different Game Modes?	
Single Player	
Garage 10 coins per correct answer	Players answer the tables selected by their teacher or by TTRS' Auto trainer. **Important**: if you feel your child is overwhelmed by the number of tables they're practising, please speak to their teacher. We suggest to teachers to select one table per week with small combinations every third or fourth week. If your child is on Auto, they will practise the one table chosen for them* in small chunks of 4 questions at a time. Our algorithm selects the table after a Gig game.
Gig 10 coins per correct answer	If your child is on Auto training they will periodically play Gig games to assess which table is best for them to practise in the Garage. **Important**: players must give each Gig performance their full concentration to demonstrate their tables skills. They may be returned to an earlier table if not.
Jamming 4 or 8 coins/correct answer	The only game mode without a timer, your child choses the table and the operation (× or ÷ or both) they want to practise. Answer 10, 20 or 30 questions.
Studio 1 coin per correct answer	Here your child earns their Rock Status, which is based on their Studio Speed. The faster they are the better their status. Studio Speed is the average of their most recent 10 Studio games. Suitable for confident players.
Soundcheck 5 coins per correct answer	Soundcheck games ask 25 multiplication questions (up to 12×12), allowing 6 seconds for each question. Suitable for confident players.

Maths practice booklets

We know that parents like to support children at home with maths concepts. Along with TTRS and Numbots, you can also complete maths work-books with your child at home. These workbooks match what your child has been learning in class so are a great way to pre-teach concepts or go over areas that they have not mastered—yet!

All of the booklets are saved on the school web-site for you to access. The booklets are all la-belled with the unit and are in order of when they are taught in the school year.

https://www.st-gregorygreat.gloucs.sch.uk/maths-extra-practice/

Extra Practice Workbook

- Year3Unit1DeliberatePracticeNumberPlaceValue.pdf
- Year3Unit2DeliberatePracticeGeometry.pdf
- Year3Unit3DeliberatePracticeMultDiv.pdf
- Year3Unit4DeliberatePracticeAddSubtract.pdf
- Year3Unit5DeliberatePracticeAddSubtract.pdf

Your child will complete termly "remember it" tests which assess everything they have learnt over the term. These come home with your child so that you are able to see areas that they found tricky and support them at home. The practice booklets are a great resource to use to help with this.

If you would like more support with how to use the booklets, please speak to your child's class teacher or Mrs Barnes.



99 club—Changes.



You may already know about our 99 Club at school which supports times tables learning at St Gregory's, but in case you don't here is a quick overview.

Pupils take fortnightly 10 minute tests (or quizzes if you prefer – a less scary term!), initially on addition, then repeated addition, leading to times tables questions, finally including both multiplication and division questions.

The children learn their times tables in a logical order and the tests assess that knowledge progressively, ultimately testing multiplication and division knowledge up to 12x12 (or 144÷12) in a series of 99 questions.

Once children pass this final level, they are congratulated on becoming a 99 champion and receive a prestigious, shiny medal during celebration assembly!





We know that the children like the club, are keen to progress and are very excited when they move up!

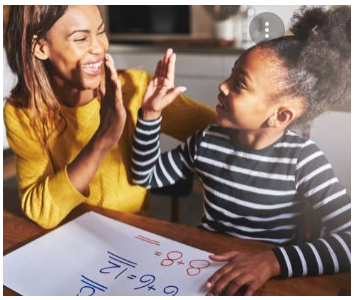
More information about 99 club can be found on our school website:
https://www.st-gregorygreat.gloucs.sch.uk/times-tables-and-99-club/

Due to the importance of children being able to recall multiplication facts up to 12x12 for the Y4 multiplication times table check, all children will now remain on 99 club until they reach Y5. Once they reach Y5, they will be able to progress on to Bronze, Silver and Gold club.

How can I best support maths at home?

Here are some **top tips** for **engaging your children with maths**, which can make an *enormous* difference to their attitudes, engagement and attainment!

- **Have fun** and model **positive attitudes** to maths—this alone can have a huge effect!
- Use **maths talk** every day—count stairs, money, toys, objects.
- **Sing** counting songs, e.g. Ten Green Bottles. Try bbc nursery rhymes.
- Ask children to say **how many** without counting—then check!
- **Play games** with dice/dominoes and say how many dots without counting!
- **Identify shapes**—wheels, windows, tiles, mirrors.
- **Do baking** together—great for all areas of maths e.g. measuring, sharing etc!
- Develop **memory** skills—e.g. phone numbers, times tables, nursery rhymes.
- Ask children to **help lay the table** with enough cutlery and crockery.
- Collect, **sort and group** items, e.g. stones, feathers, conkers, leaves.
- **Make / continue patterns** of items, e.g. building blocks, toys, items from garden.
- **Spot numbers** when out and about e.g. on buses, houses, clocks, phones etc.
- **Use tens frames** often e.g. for reward charts, or scoring in games.
- **Watch Numberblocks** on Cbeebies— a TV programme written by maths specialists.
- Deliberately **make mistakes**—showing it's normal to make them and fun to spot them.
- Play **outdoor games** like skittles, hopscotch.
- **Read books with maths concepts** e.g. One is a Snail, Ten is a crab, The Doorbell Rang.
- Draw attention to **more or less**, bigger smaller, taller shorter etc.
- Ask questions such as **"How many more?", How many altogether?" "How many left?"**
- **Learn their methods** e.g. bar modelling, column addition / subtraction.
- **Practise reading the time** including on analogue clocks.
- **Use fractions** in daily life.
- **Practise times tables—**they're *essential!*
- Talk about when and how you use **maths at home or at work**.
- Involve them with **problem solving** e.g. at the supermarket 2for1 deals, 25% off sale.
- Use **open questions** when helping with homework instead of 'doing it for them' e.g. how did you get that answer? / what method did you use?
- Play to their **love of technology**. Lots of maths apps are free including Khan Academy, Mr Thorne's Maths, DoodleMaths.
- **Provide challenge**—use NRICH or Transum.







With every good wish **from the maths Team.**

Maths Website

https://www.st-gregorygreat.gloucs.sch.uk/mathematics-curriculum/

If you are not already familiar with the maths page on our school website, please do take a look! We have information about how we teach maths at St Gregory's and how a typical maths lesson is structured.

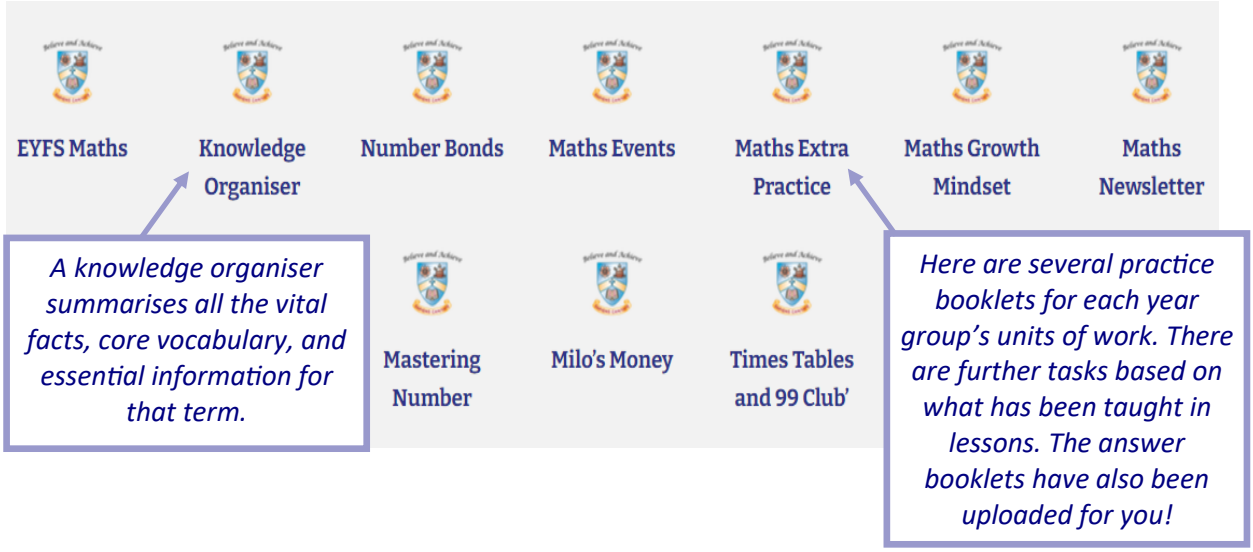
Typical Lesson Design:

Opportunities for children to develop fluency, reason and solve problems are embedded throughout our lessons. Manipulatives are also a key part of our lessons and we recognise how important they are in helping children understand the structure of mathematics and therefore essential in supporting understanding. We know concrete, pictorial and abstract representations all play a vital role in securing understanding and we move between the different representations in our lessons.

1) Hook It: Wonder, notice, connections.
2) Teach It: Live modelling of the new learning with explicit use of potential misunderstandings.
3) Practise It: All children practise together and notice something about the structure of the mathematics.
4) Do It: Up to 5 examples – exploring standard and non-standard form, what it is / is not.
5) Secure It: Exploring misconceptions, mistakes, active arguments (Go deep)
6) Deepen It: Apply understanding to solve new problems (Go deeper)
7) Review It: Lesson Recap: key vocabulary and assess / reflect on learning.



At the end of the maths page, you will see different tabs covering different areas of our maths curriculum. If you click on the tab, you can find out more.



We really do love maths at St Gregory's and are always looking for ways to support parents with maths learning at home. If you can think of any ideas on how we can improve mathematics at our school, please do let us know. Equally, if you have any positive feedback we would also love to hear from you!



Thank you for all of your support,

Mrs Barnes and the maths team.

