

Welcome Back to School!



Hello to everyone at St Gregory's from the Maths Team! Christmas seems like a distant memory already but we hope you enjoyed the break and are getting back into the school routines.

With the cost of living crisis impacting the lives of us all, maths is a vital tool in our armoury for trying to mitigate its effects and for helping us spend our limited resources as wisely and effectively as we can.

It is apparent that many of our children are aware of the current crisis, and if this applies to your child and you think it would be appropriate, it does provide an opportunity for demonstrating how we use maths in real life and for involving them in doing things like comparing prices and hunting for bargains at the supermarket etc.

HSBC are coming to run some money workshops with our Y4 and Y5 pupils in Feb. See page 4 for details!

NOTE: So that we can monitor and improve what we offer to parents / carers to support their children's learning, please take a few minutes to complete our [maths survey](#). Thank you. (more details on page 3)

What the children are learning each term

A reminder that the maths [Knowledge Organisers](#) can be accessed via our school website. These are the visual representations of the key learning, manipulatives and vocabulary for each term for each year group (except for **EYFS**). They are a very quick and easy way of seeing what your child(ren) are learning each term, enabling you to talk about it, support at home and demonstrate the value of learning maths. Year 3 term 3 is shown below as an example.

Year 3 Term 3

Unit fractions have a numerator of 1

$\frac{1}{5}$: If the denominator is 5 there are 5 equal parts.

$\frac{1}{8}$: If the denominator is 8 there are 8 equal parts.

Non-unit fractions have a numerator greater than 1

$\frac{2}{3}$: 2 is 2 one thirds. The numerator is 2 so two out of 3 equal parts are shaded.

$\frac{4}{7}$

When the denominators are the same, the larger the numerator, the larger the fraction.

$\frac{4}{7} < \frac{6}{7}$

When numerators are the same, the larger the denominator the smaller the fraction.

$\frac{2}{7} < \frac{2}{6}$

Equivalent fractions

$\frac{2}{3} = \frac{4}{6} = \frac{6}{9}$

If there are 2 times as many equal parts, then there are 2 times as many shaded parts.

If there are 3 times as many equal parts, then there are 3 times as many shaded parts.

348 + 224 Regrouping the ones

100s 10s 1s

3 4 8
+ 2 2 4

5 7 2

Regroup the 12 ones into 1 ten and 2 ones

388 + 264 Regroup in multiple columns

100s 10s 1s

3 8 8
+ 2 6 4

6 5 2

Stop and Look! What do you notice? Where will we regroup or exchange?

76 + 388 Different numbers of digits

3 8 8
+ 7 6

4 6 4

Line up the ones with the ones, the tens with the tens

388 + 191

388 + 140
348 + 51

In my head? With jottings? Formal written method?

345 - 127 Exchanging tens

100s 10s 1s

3 4 5
- 1 2 7

2 1 8

345 - 157 Exchanging in multiple columns

100s 10s 1s

3 4 5
- 1 5 7

1 8 8

345 - 67 Different numbers of digits

3 4 5
- 6 7

2 7 8

Line up the ones with the ones, the tens with the tens

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](#).

0:1:2:3:4:5:6:7:8:9

Number Day 2023

On Friday 3rd February, it is **Number Day** in aid of the charity NSPCC. Please bring in a donation to wear a number themed outfit!

You could wear an item of clothing with a number/ year on (top, joggers) or get creative and become a number representation (playing card, dice, calculator!) There will be prizes on the day for fantastic outfits! You do not need to wear school uniform underneath.

Don't forget to check out our school Twitter page on the day to see what activities each class are completing. We look forward to celebrating the wonderful world of number with you!



0:1:2:3:4:5:6:7:8:9

Maths Survey



The maths team are committed to helping you as parents/guardians support your children's maths education.

Your support can make a real difference to your child's attitudes, engagement and attainment in maths.

We currently try to help you do this in several ways e.g. through the various pages on our website: [maths curriculum](#) , [maths in EYFS](#) and the [maths learning at home](#) , which have a wealth of information and links; [maths newsletters](#); [parent work-shops](#); provision of a [maths games library](#) and [maths shop](#).

However, we want to make sure that what we are offering is relevant and useful, and to this end, we are asking you to take a few moments to complete our survey.

Please follow the link below to complete the survey as this is a really important step for us as a school to support you in ways that are useful for you and that will therefore have an impact on your child's maths learning.

<https://www.surveymonkey.co.uk/r/JNZ52T2>



My favourite number

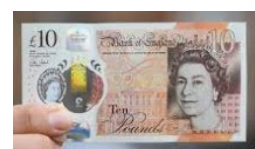
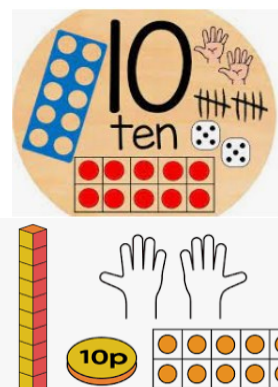


Mr Hollick in Year 6 Stow class has chosen 10 as his favourite number.

But what's so special about number 10 apart from the fact it rhymes with Ben?!

Here are ten cool facts about 10:

1. 10 is the base of our decimal numeral system.
2. *Dec* means ten in Latin and Greek and is found as a prefix in other words (decade, decathlon, decagon)
3. It is the first double digit number.
4. The British Prime Minister lives at No.10.
5. There are 10 commandments in Christianity.
6. Ten seconds is a knock out in boxing!
7. The word '*decimate*' comes from the number 10 and originally meant to reduce by a tenth!
8. The Roman numeral for ten is X which looks like two Vs (the Roman numeral for 5) put together!
9. Pythagoras considered 10 to be a sacred number because $1+2+3+4=10$. These numbers represent existence (1), creation (2), life (3), and the four elements (4) earth, air, fire and water!
10. 10 is the sum of the first 3 prime numbers (2,3 and 5).



Year 4 and 5 HSBC Money workshops



We are very much looking forward to welcoming a representative from HSBC Bank to school on the 9th February, when they will be running workshops with our Year 4 and 5 pupils.

These workshops are designed to boost interest and engagement with maths by using real life contexts, thereby demonstrating its crucial importance and usefulness in our everyday lives.

Year 4

Super Supper challenge. This focuses on both healthy eating and staying within a budget. It encourages young people to consider the choices we make around money, based on needs and wants, in particular exploring if it is possible to eat well on a limited budget.

Year 5

Savvy Shopping. This session is designed to build an understanding of what value is and how we make financial decisions. It involves an exploration of the buying cycle and the offers available on the high street and online.

We're looking forward to hearing some tips following the workshops!

Financial skills for learning

Money maths, understanding value and numeracy

Famous Mathematicians



This issue's famous mathematician is
Benjamin Banneker.

Benjamin was an American born in 1731 and was a scientist, mathematician and astronomer as well as working on his family farm. He is best known for the following achievements:

- Successfully predicting a solar eclipse.
- Building the first ever clock made entirely from wood—which worked accurately for decades!
- Being part of a team that surveyed and planned the capital of the United States.
- Publishing his own almanacs (annual information books) about eclipses and planetary movements.

"The colour of the skin is in no way connected with strength of the mind or intellectual powers."

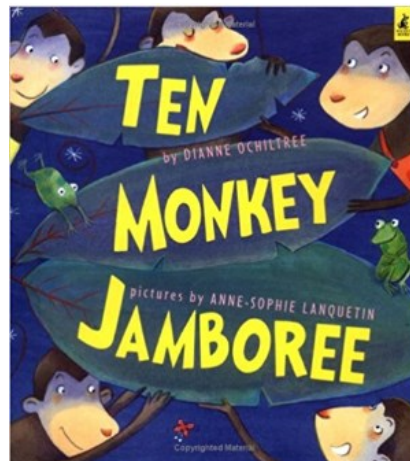
Book Recommendations

Due to the huge benefits and crucial importance of reading, the maths team like to recommend some maths related books each issue: we can brush up on our maths AND get some reading practice all at the same time—WIN:WIN!

For young children: [Ten Monkey Jamboree by Dianne Ochiltree.](#)

Official review by MathsThroughStories.org:

Dianne Ochiltree's *'Ten Monkey Jamboree'* (2002) follows the whimsical story of ten monkeys finding ways to have fun in the jungle jamboree. In addition to counting forwards to 10, the story also provides a clever introduction to the concept of number bonds, showing different combinations of numbers that add up to ten. The story is written in rhymes, making reading aloud more engaging for young children. The illustrations by Anne-Sophie Lanquetin are mathematically accurate and amusing. All in all, we highly recommend *'Ten Monkey Jamboree'* for children aged 4+ years old.

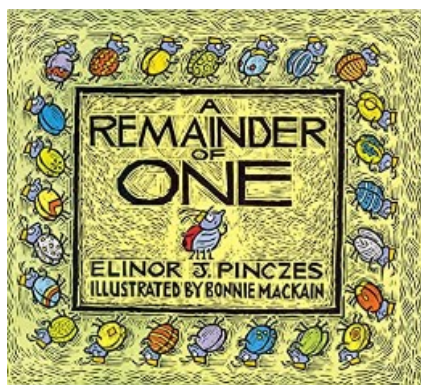


For a fun look at division and remainders (suitable for ages 5 and over) :

[Remainder of One by Elinor J Pinczes](#)

Official review by MathsThroughStories.org:

'A Remainder of One' (1995) is a well-known classic story by Elinor J. Pinczes. The story is about Joe, a bug soldier, who gets disheartened as every time he joins in a marching parade with 24 other bug soldiers, he always gets left on his own. They have tried 2 rows of 12 soldiers, 3 rows of 8 soldiers and even 4 rows of 6 soldiers: nothing works until they try 5 rows of 5. The story does a wonderful job in visually demonstrating to very young children what division and a remainder looks like using the array formation. Another great thing about this story is that readers can clearly see how knowledge of division can help meaningfully solve a problem. We can see this story being used by teachers and parents to provide a meaningful and fun context for children to learn about division and remainders using resources, such as counters and Unifix cubes, to represent different total numbers of bug soldiers. This story can also provide a useful context for children to explore the concept and property of prime numbers. All in all, we highly recommend *'A Remainder of One'* to teachers and parents of children, aged 5+, and the story serves as a perfect extension to another story by Elinor, *'One Hundred Hungry Ants'*, which is also about division, but without any remainder.



Mastering Number Programme - EYFS, KS1

At St Gregorys, 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 is designed 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.

Mastering Number is followed in **EYFS, Y1 and Y2**. In **EYFS**, the Mastering Number programme is used as the core planning for **maths lessons that take place four times a week** and continuous provision activities. In **Years 1 and 2**, we use the Mastering Number materials in our **Number Sense sessions**. These Number Sense sessions are additional time outside of the maths lesson for fluency practice and retrieval of learning.

Manipulatives and representations: The core manipulative used is the **rekenrek**. The rekenrek is a maths counting frame that has 2 rows of 10 beads, totalling 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 visualise and learn essential foundations in number. These include:

- Visualisation of number: subitising, five and a bit, ten and some more, odd and even
- Place value and the structure of our base-ten number system
- Counting
- Automatic recall of number facts
- Composition of number
- Cardinality of number – the ‘howmanyness’
- Bridging ten
- Compensation
- Commutativity
- Ability to transfer learning to related facts
- Strategies for addition and subtraction
- Strategies for doubling, halving, adding on, etc.



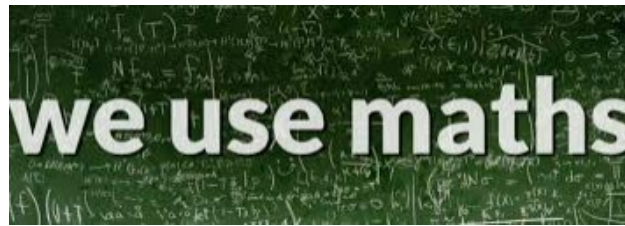
Further representations used in the Mastering Number programme include: Numberblocks, counters, dice, the tens frame, multi-link, images that mirror the rekenrek (birds on a line, children on a bus), fingers.

Leading the programme is the NCETM’s Director for Primary Mathematics, Debbie Morgan, who was also a maths consultant for the **Numberblocks** television show on **CBeebies**. Click [here](#) to watch a short clip in which she explains how the abacus-like rekenrek can be used to help children develop confidence and fluency with number.

[Click here to watch another short clip](#) which shows pupils using the rekenrek in a variety of ways to support and show their number fluency such as subitising, composition and cardinality of number.



How I use maths in my job...



This term, Mrs Blanch is sharing lots of different ways that she uses maths everyday in her job as Head Teacher here at St Gregory's School.

As a head teacher I have to use Maths all the time in lots of different ways. Here are just some of them:

- I have to make sure we have the right number of children in school each day by **counting** and **adding up** from the registers.
- I have to make sure we have enough money to buy things for the classrooms and pay the staff—I need to manage this carefully so that I **don't spend too much** otherwise we will be in trouble with the government! We use **addition, multiplication and subtraction** and **spread-sheets software**.
- I have to work out **how many minutes** teachers are teaching each subject by **adding up times**—that's especially difficult because you **can't use column addition for minutes and hours** because it's not a base ten measurement.
- I have to make sure we have the right numbers of staff to look after the children – **we use ratios** for this.
- I have to work out the school term dates by **adding the days up** to make sure teachers have **5 training days** and children are at school for **190 days every year** – I do this by **counting** the days.
- When we're running hot chocolate club, I need to **count the mugs and biscuits** to make sure I have enough for all the students of the week!

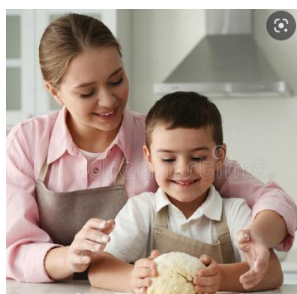


How Can I Support maths at home?

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. Google search 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—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.
- **Practice reading the time** including on analogue clocks.
- **Use fractions** in daily life.
- **Practice 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](#).

For more detail, see the attached [link](#)



With every good wish from the Maths Team.