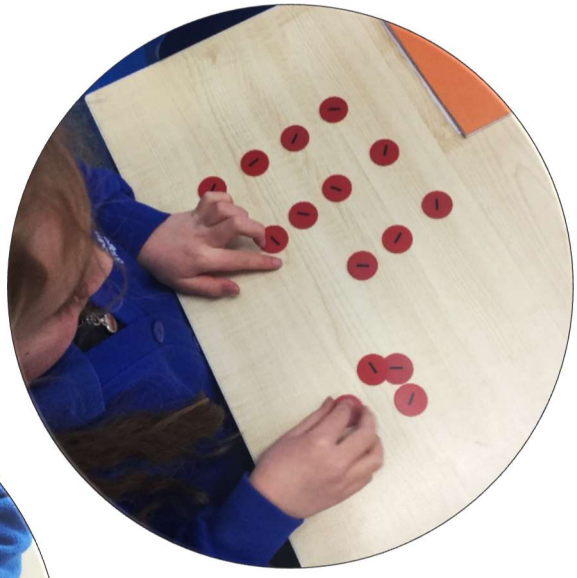
Godmanchester Bridge Academy

How we teach Maths



This document outlines: the intent and rationale behind our Maths curriculum, how it is delivered it and how we measure pupil progress.

Intent

At Godmanchester Bridge Academy, the Maths curriculum is aligned to our school values:

Inspire	Enjoy	Achieve
Children are inspired to acquire a deep, long-term, secure and adaptable understanding of the subject.	Children develop a favourable attitude towards and interest in mathematics.	Children acquire a solid understanding of the maths that has been taught, to enable children to move on to more advanced material.

At Godmanchester Bridge Academy we use the White Rose scheme as a guide to create our maths curriculum. We have chosen to follow this as it is influenced, inspired and informed by the work of leading researchers and practitioners across the world which combined with our professional judgement helps to equip pupils with the skills necessary to have a secure understanding of mathematical concepts, processes and strategies.

We set out to ensure that pupils develop the confidence to attempt a range of problems; develop their capacity in both mental and written calculations and acquire the skills necessary to apply their mathematical understanding to a range of concepts. We do this through using and designing resources that instil a deeper understanding of mathematical concepts using a varied range of inspiring classroom activities.

Our maths curriculum covers all the essential topics in key stage 1 and key stage 2 linked to the National Curriculum. They include, but are not limited to, times tables, the four operations (addition, subtraction, multiplication and division), fractions, decimals and percentages. Our EYFS (Reception) units use the NCTEM's Mastering Number programme to build the foundations for success and a deep understanding of the number system.

Implement

Maths at Godmanchester Bridge Academy is taught with a focus on deep understanding of mathematical concepts. Children are given opportunities to develop their fluency, access reasoning and problem solving style tasks to apply their mathematical understanding. At Godmanchester Bridge Academy, we develop children's knowledge through moving from concrete objects, to pictorial representation to using pictorial representation to support finding the appropriate mathematical concept.

We encourage children to share their ideas and mathematical reasoning both through verbal and written forms of communication.

At Godmanchester Bridge Academy, we incorporate Rosenshine's Principles of Instruction into our lessons to help ensure our teaching is as research backed and effective as possible.

Prior to the lesson, teachers will:

- ensure children have completed a 'cold' assessment task using the previous years' 'End Of Unit Assessment' to gather information on what needs to be retaught or prioritised
- ensure they have a deep understanding of the concept they are teaching
- plan a range of tasks, which are focussed on the learning objective and incorporate reasoning skills into all lessons
- provide opportunities for children to apply their acquired mathematical understanding and skills
- provide some children with opportunities to "overlearn" through pre-teaching

During a lesson at Godmanchester Bridge Academy, children will:

- begin the lesson with a starter to review previously taught content
- have concepts taught and modelled clearly, with explanations provided using key mathematical vocabulary
- be taught the appropriate learning objective linked to the National Curriculum
- solve a variety of fluency, reasoning, problem solving and application problems
- achieve a high success rate in their independent work (~80%)
- have sufficient time to work with a guided group in order to support or extend their learning if necessary
- be provided with scaffolds where appropriate to support their learning
- have access to extension tasks to deepen their understanding and make connections between different areas of maths

After a lesson at Godmanchester Bridge Academy, children will:

- have the opportunity to feedback to the teacher through self-assessment
- have their worked checked by their teacher
- have opportunities to have targeted support that will build on from the feedback given by the teacher, this may be through additional time in the afternoon/morning task time/the start of the next lesson
- provide some children with opportunities to "overlearn" through post-teaching

Curriculum Accessibility – Maths

All Pupils:

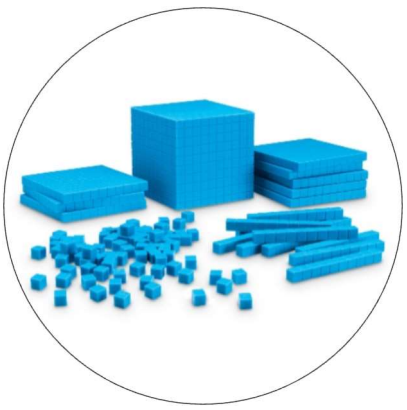
- access an adapted curriculum that is appropriate for all but is also meaningful, challenging & ambitious.
- are provided a range of activities to engage them and allow them to effectively communicate their understanding.
- are closely monitored and supported pastorally to ensure their emotional wellbeing is prioritised.
- are considered when making seating arrangements to help support learning and foster a feeling of each pupil having their own place in their class community.
- record work in a variety of ways, allowing access to the curriculum through multi-sensory learning where possible.
- are supported with their behaviour choices in a positive environment, school use restorative consequences so that pupils can reflect and be supported to meet the community's behaviour expectations.
- receive feedback in lessons that results in further progress across the curriculum.

Some Pupils Need:

- use of concrete and pictorial representations during teaching and when working independently to aid their understanding.
- dual coding to reduce their cognitive load.
- use of manipulatives e.g. multilink, numicon, Cuisenaire rods, rekenreks.
- scaffolding such as step-by-step instructions and sentence stems.
- clear vocabulary explanations and/or introductory vocabulary work to prepare for a task.
- one-to-one/small group targeted interventions to support learning
- a specific seat in lessons to meet a sensory or a learning need.
- differentiated lesson structure, e.g. more paired/ discussion work or increased mini-plenaries.
- extra support in a lesson from an additional adult so that the pupils needs, academic or pastoral are effectively met.

Specific Pupils Need:

- personalised long-term learning outcomes with carefully planned incremental targets to achieve their outcomes.
- access to a quiet space to ensure they can be supported to meet their potential.
- additional support in lessons from an adult who is attuned to their individual pastoral and learning needs.
- bespoke timetables and curriculums to ensure that they are taught in an environment and at a level that best supports their needs.
- curriculum adaptations to allow for engagement through pupil interests
- long-running interventions to support challenges around number understanding and understanding of calculations.



Impact

The impact of our mathematics curriculum at Godmanchester Bridge Academy is that:

- children understand the relevance of what they are learning in relation to real world concepts
- we have an environment where Maths is fun, and it is OK to be 'wrong' because the journey to finding an answer is more important than the answer itself
- our children have a growth mindset and make measurable progression against their own targets
- our maths books are packed with a range of activities showing evidence of fluency, reasoning and problem solving
- our feedback and interventions are supporting children to strive to be the best mathematicians they can be ensuring a greater proportion of children are on track
- children 'have a go' and choose the equipment they need to help them to learn along with the strategies they think are best suited to each problem
- children are developing skills in which they are articulate and can explain their reasoning through verbal responses, pictorial representations and written form
- our school standards are high, we moderate our books both internally and externally to ensure accuracy and ensure our children are achieving well
- we use the End of Unit Assessment tasks from the White Rose Planning Resources to assess progress within a block and NFER termly tests and SATs papers (where appropriate) to assess progress and attainment termly
- we use the findings of any assessments to help us ensure that we are planning to address any misconceptions or plug any gaps in learning that become evident

Subject Map

Year	Autumn Term	Spring Term	Summer Term
R	Numbers (within 5) 1:1 Correspondence Counting Subitising Patterns	Numbers (within 10) 1:1 Correspondence Counting Subitising Number Bonds	Numbers (within 10) 1:1 Correspondence Counting Subitising Number Bonds Shape
1	Place Value (within 10) Addition and Subtraction (within 10) Shape	Shape (cont) Place Value (within 20) Addition and Subtraction (within 20) Place Value (within 50) Length and Height Mass and Volume	Multiplication and Division Fractions Position and Direction Place Value (within 100) Money Time
2	Place Value Addition and Subtraction Shape	Money Multiplication and Division Length and Height Mass, Capacity and Temperature	Fractions Time Statistics Position and Direction
3	Place Value Addition and Subtraction Multiplication and Division A	Multiplication and Division A (cont) Multiplication and Division B Length and Perimeter Fractions A Fractions B	Mass and Capacity Money Time Shape Statistics
4	Place Value Addition and Subtraction Multiplication and Division A Multiplication and Division B	Multiplication and Division B (cont) Time Fractions Decimals A Decimals B	Money Length and Perimeter Area Statistics Shape Position and Direction
5	Place Value Addition and Subtraction Multiplication and Division A Fractions A	Fractions A (cont) Multiplication and Division B Fractions B Decimals and Percentages Perimeter and Area Volume	Shape Position and Direction Decimals Negative Numbers Converting Units
6	Place Value Addition, Subtraction, Multiplication and Division Decimals Fractions A Fractions B	Fractions, Decimals & Percentages Statistics Ratio Algebra Converting Units Area, Perimeter and Volume Position and Direction	Shape Themed Projects Problem Solving