



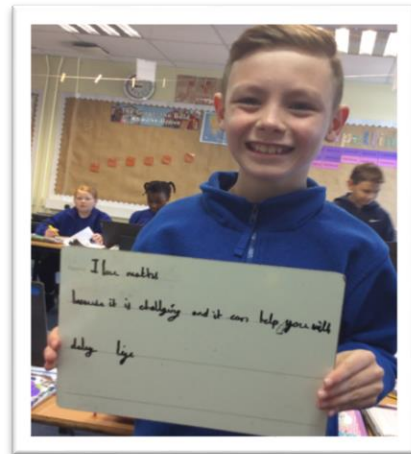
Maths at Burstow Primary School

Believe, Achieve, Succeed

"Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject." (The New National Curriculum in England Framework Document, July 2013)

At Burstow, we make the most of Maths lessons to fulfil our aims for the children to become independent, resilient and inquisitive learners. Our ambition is to foster a love of Maths while raising levels of attainment for all children. We teach Maths in line with the Early Years Framework and the KS1 and KS2 National Curriculum.

"I love maths because it is challenging and it can help you with daily life." Year 5 pupil



The Early Years Framework states: *it is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.*

Here are the aims of the National Curriculum, which states that all pupils...

- *Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately*
- *Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language*
- *Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions*

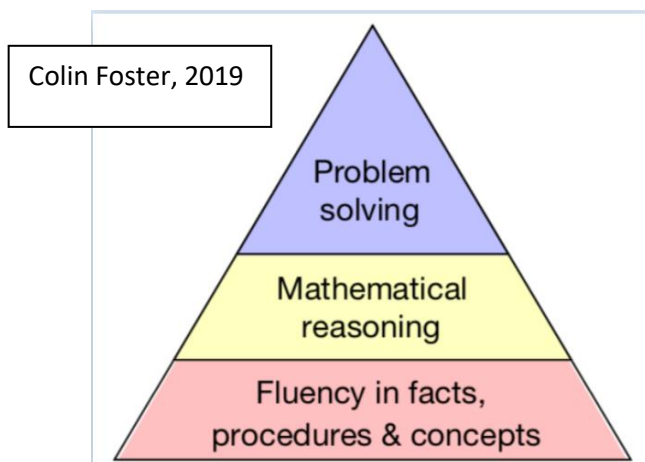
At Burstow, we want our children to....

- To develop a growth mind-set and positive attitude towards mathematics.



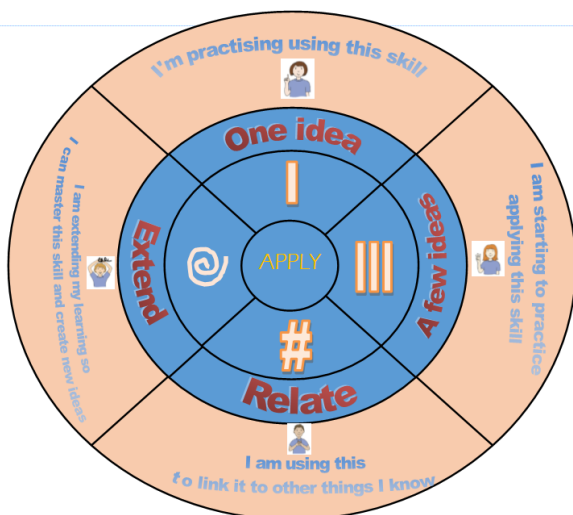
- To become proficient with number
- To become problem solvers with strong reasoning skills
- To use mathematical language confidently
- To collaborate and co-operate with others, supporting and challenging others' ideas courteously
- To develop a conscientious attitude towards their learning
- To appreciate real life contexts to learning in mathematics.

Fluency – Reasoning – Problem-solving



Typically within units of work, teachers at Burstow begin with an explore lesson, where children use manipulatives and concrete resources to gain a secure understanding of what they are learning. Teachers plan fluency tasks, especially if there is new content within a lesson. Fluency focuses on key facts and concepts. This allows children to practice and apply a skill (using different

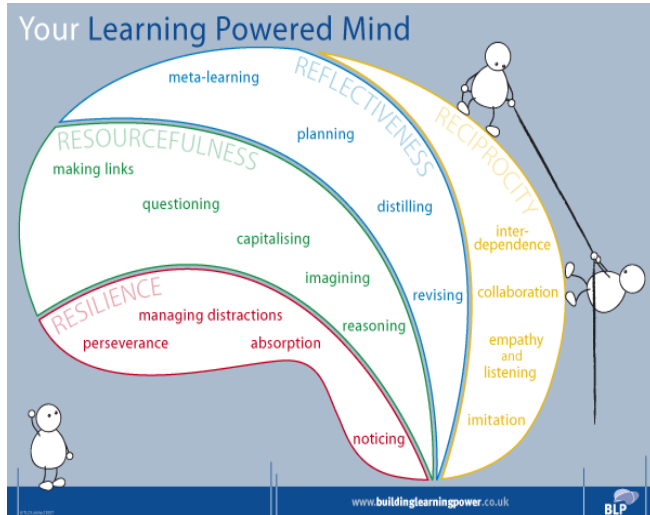
representations) to secure their understanding. Children then develop their logical thinking through verbal and/or written reasoning tasks. Finally, children combine the knowledge and understanding gained through fluency and reasoning activities to solve unfamiliar problems. However, this is not always a linear process. Sometimes, teachers will begin a lesson with a problem and the children have to navigate their way through, practising their enquiry skills as they try to find the best method.



Our core teaching at Burstow centres around the Solo Taxonomy approach, which is a learning continuum. As a result, children are aware of themselves as learners and understand the next steps in their learning. In one Maths topic, they might be working on an A Few Ideas (multi-structural) task, whereas in another they might begin on an Extend (extended-abstract) level. Maths



teaching at Burstow varies between differentiated tasks at each level or 'low threshold – high ceiling' tasks which give every child the same starting point and equips them with the independence to explore their own learning at an appropriate level.

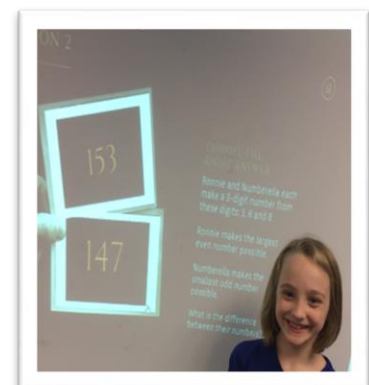


Another fundamental approach in our school is teaching children to how to improve their Building Learning Power muscles. Whether it's noticing patterns in shape, revising methods, imagining real-life scenarios or listening to a partner in an enquiry task, the children are improving as learners and this is celebrated through positive praise.

Whole School Curriculum Implementation

Teachers use medium-term plans to deliver progressive and thorough maths lessons. By referring to the Maths Skills Progression document, teachers know which objectives must be taught and assessed in each year group and can follow progressive small steps to ensure pupils have a comprehensive understanding of Maths. We utilise key learning questions and tasks from the White Rose Scheme and enhance this with a wide range of resources for example, STEM, NCETM, NRICH and YouCubed. This use of a variety of schemes allows for a breadth of contexts in which children must apply their mathematical knowledge and skills.

Teachers plan weekly for their year group and deliver sequential units of work. The amount of time spent on one Maths topic is dictated by the curriculum objectives and the needs of the year group. Across the school, teachers adopt the Concrete-Pictorial-Abstract approach in inputs and tasks. Children begin by using maths manipulatives such as apples, dice, dienes or straws to help them answer questions. Then they move on to using different images or drawings to support their understanding. Finally, they can use recognisable mathematical notation.





EYFS approach

In Early Years, Maths learning is delivered through continuous provision. Teachers deliver a daily input formed by objective-led planning. Independent and adult-led activities are linked to this learning throughout the day. Excellent use of mathematical language is modelled by adults. Routines help children understand concepts such as time and allows the children to practise skills such as counting pom poms for house points. The children are surrounded by concrete and pictorial resources to prompt them during explicit teaching or through play.



KS1 approach

At the beginning of Year 1, Maths is taught within continuous provision. Teachers deliver 3 inputs a week, which are linked to the independent activities on the Maths table and this teaching is enhanced with 1:1 and group interventions. Concrete – Pictorial – Abstract approaches form the basis of the planning. Year 1 move towards the solo taxonomy approach over the year.



Year 2 teach 5 Maths lessons each week and follow the solo taxonomy structure to plan activities. Again, teachers begin with concrete resources before moving children on to more abstract concepts. Interventions such as Precision Teaching support children to consolidate objectives from lessons.



KS2 approach

Across KS2, Maths is taught for nine hours over a fortnightly period. Year 6 teach an additional hour due to the PPA timetable. In addition, classes complete a daily mental maths task (times tables, Minute Maths, Ninja maths) to practice key skills. Interventions such as Power of 2 or Precision Teaching are in place to consolidate children's understanding. Teachers differentiate using the solo taxonomy approach or plan exploratory problem-solving lessons, supporting and challenging children accordingly.





Equal opportunities

Teachers plan and teach for children with additional needs following the Burstow School SEND policy: *high quality teaching is that which is differentiated to meet the needs of the majority of students. Some students will need something additional to and different from what is provided for the majority of students; this is special educational provision and we will use our best endeavours to ensure that provision is made for those who need it.*



Resources

Each classroom has a stock of resources, which are age-appropriate. This might include 3D shapes, multi-link, Base 10 resources, Numicon etc. Other resources, such as weighing scales or clocks, are kept in our central Maths cupboard.

Displays

Every class has a Maths working wall, which is used to display key vocabulary, modelled methods and challenges related to the week's learning. Teachers might also choose to display key facts (for example, times tables) in the classroom permanently.

Assessment

Assessment is a vital part of teaching and learning. Teachers use formative (ongoing) assessment of pupils daily, including: regular marking of work, addressing misconceptions, questioning, observing and giving verbal feedback. This informs future planning. We also carry out summative (at the end of a unit of work) assessments.

EYFS

At the start of the year in Reception, children's starting points are assessed as a baseline for the year. At the end of the year children are assessed against the end of Key Stage 'Early Learning Goals' in the EYFSP (Early Years Foundation Stage Profile). The specific learning areas for mathematics are: numbers and space, shape and measure.



KS1

In Year 1, teachers assess attainment and progress using HeadStart assessment resources. This begins as a whole class approach in the Autumn term, and as the children are increasingly able to access the tests independently, they complete this individually. In Year 2, children sit the National SATs tests and use a mixture of HeadStart assessment and previous SATS papers to measure progress. Data has not been published in recent years due to the pandemic.

KS2

Each half term, teachers assess attainment and progress using HeadStart Assessment resources. In Year 6 children sit the National SATs tests and teachers use previous SATS papers to measure progress. Data has not been published in recent years due to the pandemic.

Home learning

Teachers use a variety of methods to make Maths home learning engaging and valuable for all children. This might be an activity in the home learning book, consolidating the week's learning. Sometimes, teachers set a challenge on Sumdog or Times Tables Rockstars. It is very important for children to practice their Maths skills at home.

Role of the Subject Leader

The subject leader is responsible for:

- Preparing policy documents, curriculum plans and schemes of work
- Reviewing and implementing changes to the national curriculum
- Monitoring the learning and teaching of maths
- Encouraging staff to provide effective learning opportunities for pupils.
- Helping to develop colleagues' expertise in the subject.
- Organising the deployment of resources
- Liaising with teachers across all phases.
- Communicating developments in the subject to all teaching staff.
- Leading staff meetings and providing appropriate training.
- Organising, providing and monitoring CPD opportunities in the subject.
- Ensuring high for recording and assessing pupil performance.
- Advising on cross-curricular and extra-curricular activities.
- Collating assessment data and setting new priorities for the development of maths in subsequent years.