

## Maths

### Aims and purpose

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 national curriculum for mathematics aims to ensure 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.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

### Teaching and Learning

Fluency is at the centre of all our Maths lessons, all pupils are given the opportunity to practise in numerous ways to ensure each learner can become mathematically fluent. In each classroom, mathematical manipulatives are being used to help all children succeed, these can be found in individual Maths packs and on Maths stations. All staff ensure that they model the aspect of Maths and mathematical vocabulary, to ensure every child understands and if they require further explanation for the concept, support is given by showing them another way or providing pupils with 1:1 or group support. We use pre-teaching for pupils who are less secure in specific areas of Maths, to help each child become more confident. We aspire for every child to enjoy Maths and have confidence and high aspirations within the subject. Therefore, we do not group in Maths through

ability but pupils are given chilli challenges, which encourages independence through choosing their own challenge based on their own confidence for the activity. Some pupils have support choosing the right challenge for them, so that they can reach their full potential. Pupils are encouraged to explain their reasoning behind their answers and given regular time to talk to peers and members of staff about their findings in Maths. Interventions are available for some pupils based on the objectives not yet met (Target Tracker gap analysis is used to support this). Pupils (Year 1-6) are set weekly My Maths home- learning and most classes also send paper Maths learning throughout the year. Pupils, who are in Year 2-6, all have a Times Tables Rockstars (TTRS) login and are encouraged to use this learning tool at least 2/3 times a week.

## **Planning**

Teachers use a long-term plan and create weekly Maths planning, which is saved in teacher's resources and also printed, annotated and evaluated each week and put into their planning folder. The long- term plan is aspects of Active learn, as we use this as a skeleton planning resource, to ensure that we are covering all of the objectives for each year group, for mixed year classes. We use the objectives and a variety of resources to form a sequence of lessons. These resources include: Mastery Checkpoints from Active Learn, NCTEM, Nrich, dip and picks and many online resources from TTRS, Purple Mash and Education City. Class teachers and LSA's match physical resources to support the pupils further with these lessons, which include: number lines, number squares, place value charts, Numicon, dienes, place value cards, bead strings, man- made and natural counting objects, fractions resources, time resources, etc, which are available for pupils at all times in the classroom and in their Maths packs. We aim for Maths to be contextualised and purposeful for all pupils and where possible, mathematical content is linked to class termly topics and key events that happen throughout the year. For example: Maths and Art week, Fairtrade Fortnight, Global Awareness and World Book Day.

## **Assessment**

We encourage all pupils to present their Maths learning neatly, so that they are able to refer back to previously learning with ease. Teachers assess pupil's knowledge, understanding and skills throughout all Maths lessons by observing the pupils during the lesson and adapting planning when necessary to suit the needs of the children in their class. Feedback is given to pupils by their peers, LSA's and teachers verbally or written in their Maths book and home- learning. All teachers follow the school Marking and Feedback Policy and ensure that next steps are given in the children's learning, through a paw print, which the children are given time to respond to. The children's Maths learning is also assessed three times a year using the Target Tracker statements. We aim for all children to make at least 6 steps progress by the end of the year. This assessment is based on their learning in class but also from: half- termly active learn assessments and three assessment points in the year: November (Active Learn assessments), February (mid – year assessments from White Rose- arithmetic and reasoning and past SATs papers for children in Year 2 and Year 6- arithmetic and reasoning. The end of year assessments are from Test Base- arithmetic and reasoning and Year 2 and 6 carry out SATS- arithmetic and reasoning in May. All assessments are used to inform and improve future practice and support children in closing gaps within Maths.

