

Maths Policy
April 2022 update

National Curriculum Aims:

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 an acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Intent	At Abbey Meads, we recognise the importance of maths in everyday life. We intend to provide a curriculum which caters for the needs of all individuals and provides them with the necessary skills and knowledge to become successful in their future adventures. We aim to develop confident, enthusiastic mathematicians, with an ability to think logically, work systematically and who enjoy being challenged. New mathematical concepts are introduced using a wide range of mathematical resources and pupils are taught to show their workings in a concrete, pictorial and abstract form. Arithmetic and basic maths skills are practised and embedded to ensure children can work with fluency and then gain a deeper understanding of mathematical concepts through enquiry, reasoning and problem solving. Our curriculum aims to develop a lifelong love of maths meaning children may go onto careers in STEM in some of the many businesses we have links with in Swindon in these fields, e.g. Intel, Nationwide.		
Underpinned by	High expectations and mastery	A vocabulary rich environment	Parental engagement
	All children are expected to succeed and make progress from their starting points. They secure long-term, deep and adaptable understanding which they can apply in different contexts.	We intend to create a vocabulary rich environment, where talk for maths is a key learning tool for all pupils. Understanding of vocabulary helps develop pupils' ability to explain mathematically.	We aim for parents to understand how their children learn maths in school and provide resources to enable them to support them with their learning at home.

Implementation	Scheme of work
	<p>The school has a progression of skills taken from the National Curriculum. This is broken down into 'Small Steps' using the White Rose scheme. The Small Steps are followed to ensure there is progression across the school and across a year, however the White Rose planning materials are not followed as a scheme, but to support planning and teaching. All year groups use the Small Steps to produce a yearly overview (long term plan).</p> <p>The school calculation policy maps out the progression of calculating skills across the school - this is also shared on the school website.</p>
	Planning
	<p>White Rose Small Steps are mapped out across a year on a long term plan. This is adapted throughout the year based on assessments. Teachers plan a medium term plan each term, which provides detail of the main objectives and ongoing 'mental/oral' objectives. Short term plans are made each week to provide detail about lessons, resources and support for different groups in the class.</p>
	Teaching
<p>Children have a daily maths lesson, where objectives are taught within a unit of work.</p> <p>Maths lessons are taught using a mastery approach, where teachers plan carefully crafted lessons using a variety of resources. Children are taught how to use practical resources, models and images and encouraged to choose methods to support their own learning. During a unit of work children will have developed their fluency with a skill and been given chance to apply it to real life situations and a variety of reasoning and problem solving contexts. Mental/oral starters are used to revisit skills already taught and to build fluency and accuracy.</p> <p>A range of methods are used to deliver the maths curriculum: whole class, group work, paired work and independent learning. Children are encouraged to embrace mistakes as part of their learning journey and to ask questions and extend their own learning through questioning. This links in with our 'Marvellous Mistakes' within metacognition.</p> <p>Children who are not meeting age related expectations will have additional sessions to try and close the gap between themselves and their peers. They will be supported to ensure they can access the learning in the maths lesson.</p> <p>Alongside maths lessons, children also have guided maths sessions and times tables.</p> <p>Guided maths is an additional problem solving session. Children are taught how to solve problems as a class. These sessions also provide an opportunity to revisit previous learning to support the retention of knowledge.</p> <p>Times tables are taught through daily chanting. Children follow a programme of learning tables and are tested on these tables on a weekly basis. The weekly assessments provide vital information about who needs further support with their recall of tables facts. Alongside this chanting, other activities are also used to support the recall of tables facts, e.g. games and TTRS.</p>	
Assessment	
<p>Teachers use formative and summative assessments to direct next steps in learning and provide targeted intervention where necessary.</p> <p>During lessons, teachers use questioning to guide lessons, support and challenge.</p> <p>End of unit assessments are used to ensure children have remembered what they learned. The outcomes of the assessments are used to identify areas that need to be revisited with some or all of the children.</p> <p>PUMA standardised assessments are used in most year groups twice a year. These assessments help to identify specific priorities for individuals and classes. Y2 and Y6 do not use PUMA, but instead carry out SATs assessments.</p> <p>All assessments that are carried out build up a picture of the child and support teachers in making teacher assessment judgements at three points during the year. Moderation meetings ensure there is consistency across the school.</p> <p>All teachers analyse their class data and discuss it with SLT. Progress meetings are used to discuss priorities within each class and to set target groups for the coming term.</p>	

	Cross curricular
	Every opportunity is taken to use maths in other areas of the curriculum. Teachers plan opportunities to use and apply maths skills, for example using time knowledge in PE or data skills in science.
	Home - School learning
	All year groups provide an overview of the maths curriculum at the beginning of the school year to ensure parents understand how they can support their child at home. Open mornings and family learning events provide further opportunities for parents to see how maths is taught and how they can support their children at home. The school website also shows parents how the written methods are taught. Online learning programmes (Mathletics and TimesTablesRockstars) provide children with the chance to practise skills learned in school.
	Monitoring
	The subject leaders for EYFS, KS1, LKS2 and UKS2 work together to monitor the subject across the school. We follow the school monitoring schedule to evaluate the effectiveness of teaching and learning in maths. Across the year, pupil voice, planning audits, book looks and learning walks will take place and the outcomes of this work are fed back to staff and SMT. Where necessary, further monitoring and support will take place outside of the planned work. Assessment analysis takes place at three points in the year and this work feeds into the progress meetings that are held with all teachers.

	Pupil/Parent/Staff voice
	Through discussion and feedback, children talk enthusiastically about their maths lessons and speak about how they love learning maths. They can articulate how maths can relate to real life situations. Children show confidence and believe they can learn about a new maths area and apply the knowledge and skills they already have. Children talk about how they learn and how they feel about mistakes being part of the learning process. Children understand how maths can be used in other areas of the curriculum and show examples of where they have done this. Children talk about 'how' they learn maths and can show examples of pictures or practical apparatus that helps them. Good attendance at family learning events and parents feel happy to talk to staff about their children's learning in maths. All staff feel confident in maths subject knowledge.
	Data
Impact	Data reveals that school standards are high across the school and at the end of each Key Stage. Children are on track from their previous data points. Y4 MTC results are in line with national average or above. PPG children will make good progress from their previous data points.
	Book looks
	Book looks reveal a high standard of children's work with evidence of fluency, reasoning and problem solving. Use of feedback and marking adheres to policy and moves learning forward. Evidence of children using pictorial representations to support their learning.
	Planning audits
	All planning meets the requirements of the NC, whilst ensuring the relevance of what they learn in relation to real world concepts. Planning ensures appropriate coverage of knowledge, skills and vocabulary. Opportunities for fluency, reasoning and problem solving are carefully planned for all children.
	Learning walks
	Children are engaged in their learning and show enthusiasm for maths. Children choose and use equipment/strategies as required to support their learning.