Inspire Academy
Discovery Adventure Exploration

Curriculum statement for the teaching and learning of Maths

At Inspire Academy Primary School, our curriculum is carefully planned, tailored, progressive and aspirational. It ensures learning that contextualises, addresses cultural deficit and gaps in knowledge and experience, and that ultimately equips our children for the next stage of education and for life beyond.

National Curriculum Intent

The national curriculum for mathematics intends to ensure that all pupils:

1. 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.

2. Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

3. 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. Our curriculum ensure children apply mastery skills. We follow the White Rose maths scheme, with Deepening Understanding used to extend fluency, reasoning and problem solving. 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 mastery 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.

INTENT	Here at Inspire, we believe that the study of mathematics should be 'real' and meaningful; provoking questioning, reasoning and enabling children to develop problem solving skills. This starts when they join our Early Years and continues on their journey throughout our school. <u>Mastery</u> Pupils are required to explore maths in depth, using mathematical vocabulary to reason and explain their workings. A wide range of mathematical resources are used and pupils are taught to show their workings in a concrete, pictorial and abstract form wherever suitable. They are taught to explain their choice of methods and develop their mathematical reasoning skills. We encourage resilience, adaptability and acceptance that struggle is often a necessary step in learning. Our curriculum allows children to better make sense of the world around them relating the pattern between mathematics and everyday life.

Underpinned By	High Expectations and Mastery	Modelling	A Vocabulary Rich Environment	Pattern and Connection Identification
	<u>All</u> children are expected to succeed and make progress from their starting points.	Teachers teach the skills needed to succeed in mathematics providing examples of good practice and having high expectations.	We intend to create a vocabulary rich environment, vocabulary for the current maths units is always displayed in the classroom (twinkl or MasterTheCurriculum.) Teaching and referring back to key vocabulary in the lessons is a driver for developing the confidence of	All children will have opportunities to identify patterns or connections in their maths; they can use this to predict and reason and to also develop their own patterns or links in maths and other subjects.

			pupils to explain mathematically.	
	The Teaching of Fluency	**The Teaching of Reasoning**	**The Teaching of Problem Solving**	**MASTERY**
	We intend for all pupils to become fluent in the fundamentals of mathematics, so that they can develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.	We intend for all pupils to reason mathematically in every lesson, whether that is during teaching input or part of the plenary. Children are encouraged to explain relationships, generalise, and justify using mathematical language.	We intend for all pupils to solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.	All children secure long-term, deep and adaptable understanding of maths which they can apply in different contexts.

IMPLEMENTATION	**White Rose Scheme of Learning**	**Master the Curriculum**	**Mental Oral Starter**
	Every class from EYFS to Y6 follows the White Rose scheme of learning which is based on the National Curriculum. Lessons may be personalised to address the individual needs and requirements for a class but coverage is maintained.	In order to further develop the children's fluency, reasoning and problem-solving, we use 'Master The Curriculum' which correlates to the White Rose lessons and further develops children's understanding of a concept. We also use a range of planning resources including those provided by	We have a mental/oral starter at the start of each lesson, whereby children are set a maths task to ensure general maths knowledge and fluency are maintained and developed. (My Mini Maths, Can Do Maths.)

	the NCETM and NRICH to enrich our children's maths diet.	
Multiplication and Division Skills	**Shine Maths**	**Concrete Pictorial Abstract (CPA)**
Children are given weekly personalised times tables targets to improve children's calculation fluency/recall. Also, we have introduced Times Tables Rockstars as a system for developing children's times tables skills, knowledge, speed and accuracy.	Forming part of the recovery curriculum post-COVID-19 in 2020, and with the anticipation of gaps in the knowledge of our pupils we implemented a Rising Stars intervention scheme for reading and maths. This programme identifies the knowledge gaps of pupils and then creates a tailored scheme of work to plug the gaps of knowledge between assessments.	Pupils are introduced to a new mathematical concept through the use of concrete resources (e.g. fruit, Dienes blocks etc). When they are comfortable solving problems with physical aids, they are given problems with pictures – usually pictorial representations of the concrete objects they were using. Then they are asked to solve problems where they only have the abstract i.e. numbers or other symbols.
Continuing Professional Development (CPD)	**Cross Curricular**	**Whole School Event**
We continuously strive to better ourselves and frequently share ideas and things that have been particularly effective. We take part in training opportunities and regional networking events, such as the NCETM work groups.	Maths is taught across the curriculum ensuring that skills taught in these lessons are applied in other subjects.	We hold regular Times Tables Rockstars Tournaments, we have had whole school and whole Trust Battles where children log and compete against children from other schools within the Victorious Academies Trust. Certificates are awarded in assembly for most improved speed, improved accuracy rates and the classes with the highest percentage of children logging on and using Times Tables Rockstars regularly.

IM	Pupil Voice	Evidence In Knowledge	Evidence In Skills	OUTCOMES

	Through discussion and feedback, children talk enthusiastically about their maths lessons and speak about how they love learning about maths. They can articulate the context in which maths is being taught and relate this to real life purposes. Children show confidence and believe they can learn about a new maths area and apply the knowledge and skills they already have.	Pupils know how and why maths is used in the outside world and in the workplace. They know about different ways that maths can be used to support their future potential. Mathematical concepts or skills are mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations. Children demonstrate a quick recall of facts and procedures. This includes the recollection of the times table.	Pupils use acquired vocabulary in maths lessons. They have the skills to use methods independently and show resilience when tackling problems. The flexibility and fluidity to move between different contexts and representations of maths. Children show a high level of pride in the presentation and understanding of the work. The chance to develop the ability to recognise relationships and make connections in maths lessons. Teachers plan a range of opportunities to use maths inside and outside school.	At the end of each year, we expect the children to have achieved Expected Standard (EXS) for their year group. Some children will have progressed further and achieved Greater Depth Standard (GDS). Children who have gaps in their knowledge receive appropriate support and intervention. **Mastery** All children secure long-term, deep and adaptable understanding of maths which they can apply in different contexts.