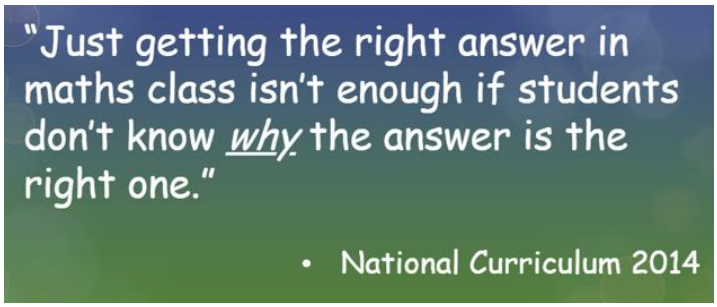
'Shine like stars'
Philippians 2:15

All of our curriculum is designed so all children have the opportunity to grow and develop the gifts that God has given to them and to know their value and worth in His world.

Mathematics Vision Statement

Lowdham CofE Primary School's mathematics program promotes an environment in which students develop a comprehensive and enduring understanding of the concepts of mathematics. Students learn to effectively apply these concepts and use a variety of reasoning and problem-solving strategies. The program nurtures a productive disposition toward mathematics and challenges all learners.
Most importantly, perhaps, our ambitious program builds a growth mindset that allows children to discover that maths is fun, and something not to be feared, while constantly delivering fluency, and deep and lasting skills.

> "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.
> National Curriculum 2014"



<table>
<tr><td>Intent</td><td colspan="4">When teaching mathematics at Lowdham, we incorporate sustained levels of challenge through varied and high quality activities with a focus on fluency, reasoning and problem-solving. Our aim is to build mathematicians who enjoy maths, do not fear it, and are able to ‘talk maths’ using rich vocabulary. Building articulacy and fluency is our goal; this can only be achieved by teaching in such a way that allows children to ‘live’ maths, encouraging all students to use rich vocabulary. We want our children to say: ‘why’, ‘how’, ‘I know this because’, ‘another way to solve that is…’, ‘I can represent this as a picture’, ‘I can check this answer by…’ and ‘they have made this mistake…’
All children will make progress in every maths lesson, and most will make the required attainment.
All staff will subscribe to and enjoy teaching maths as a multi-layered and open-ended vocation, full of conceptual variation and rich language.</td></tr>
<tr><td rowspan="4">Underpinned by</td><td>High Expectations</td><td>Modelling</td><td>A Vocabulary Rich Environment</td><td>Pattern and Connection Identification</td></tr>
<tr><td>All children are expected to succeed and make progress from their starting points.</td><td>Teachers teach the skills needed to succeed in mathematics providing examples of good practice and having high expectations.</td><td>We intend to create a vocabulary rich environment, where talk for maths is a key learning tool for all pupils. Pre teaching key vocabulary is a driver for pupil understanding and develops the confidence of pupils to explain mathematically.</td><td>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.</td></tr>
<tr><td>The Teaching of Fluency</td><td>The teaching of Reasoning</td><td>The Teaching of Problem Solving</td><td></td></tr>
<tr><td>We intend for all pupils to 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.</td><td>We intend for all pupils to reason mathematically by developing and following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.</td><td>We intend for all pupils to solve problems by selecting and 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.</td><td>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.</td></tr>
<tr><td>Impleme ntation</td><td>White Rose & Deepening Understanding
Every class from EYFS to Y6 follows the White Rose</td><td colspan="2">S.O.D.A & Consolidation/Pre-Teaching
We have Start of Day Activities (S.O.D.A) in each</td><td>Assessment
Through our teaching we continuously monitor pupils’ progress against</td></tr>
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	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 Deepening Understanding which correlates to the White Rose lessons and further develops children's understanding of a concept and the links between maths topics. We also use a range of planning resources including those provided by the NCETM and NRICH to enrich our children's maths diet.	class whereby children are set a maths task to ensure general maths knowledge and fluency are maintained and developed; these may take many forms, for example: arithmetic, specific times tables or several questions about a mixture of maths topics. While the class are solving the questions, the staff are able to support children with consolidation or pre-teaching ensuring they are confident with skills required for the upcoming session. Each lesson contains a careful mix of intelligent practice (see Lowdham Lesson Aid): fluency facts; conceptual and procedural variation; CPA; intelligent questioning; misconceptions explored; scope to problem-solve throughout; use of manipulatives where useful; STEM sentences throughout; regular short, sharp tasks.	expected attainment for their age, making formative assessment notes where appropriate and using these to inform our teaching. Summative assessments are completed at the end of each half term; their results form discussions in termly Pupil Progress Meetings and update our summative school tracker and visual maps. The main purpose of all assessment is to always ensure that we are providing.
	Online Maths Tools In order to advance individual children's maths skills in school and at home, we utilise Times Tables Rock Stars for multiplication practice, application and consolidation. In KS2, maths homework is set weekly, often using TTRS, Mathletics etc...	**Concrete Pictorial Abstract (CPA)** We implement our approach through high quality teaching delivering appropriately challenging work for all individuals. To support us, we have a range of mathematical resources in classrooms including Numicon, Base10 and counters (concrete equipment). When children have grasped a concept using concrete equipment, images and diagrams are used (pictorial) prior to moving to abstract questions. Abstract maths relies on the children understanding a concept thoroughly and being able to use their knowledge and understanding to answer and	**Continuing Professional Development (CPD)** 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.

		solve maths without equipment or images.		
	Cross Curricular Maths is taught across the curriculum ensuring that skills taught in these lessons are applied in other subjects.	**Whole school events** We celebrate National Maths Day and have whole school maths themed days. We also plan whole school competitions such as TTRS launch day. These bring the school together and raise the profile of maths.		
Impact	**PUPIL VOICE** 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. Language such as 'tell me', 'describe', 'why', 'explain' and 'I know this because' are commonly used and heard.	**EVIDENCE IN KNOWLEDGE** 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. This is called purposeful repetition.	**EVIDENCE IN SKILLS** 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.	**OUTCOMES** At the end of each year we expect the children to have achieved Age Related Expectations (ARE) for their year group. Some children will have progressed further and achieved greater depth (GD). Children who have gaps in their knowledge receive appropriate support and intervention. Not all children will make the required attainment, but these children are aware to us and their progress will be appropriate for their starting point.