Curriculum Leadership – Subject Vision

Subject / Curriculum Area: Maths

Vision

Mathematics is essential to everyday life. We would like for all our children, to master the mathematics curriculum, where they acquire a deep, long-term, secure and adaptable understanding of the subject. We want them to become fluent in the fundamentals of mathematics, where they can quickly and accurately recall and apply their knowledge. We want them to be able to reason mathematically, and make connections, explaining their thinking using mathematical language. We want them to experience a sense of awe and wonder as they solve problems for the first time. At Dovers Green, we believe that a high quality mathematics education provides a foundation for understanding the world, gives children an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject. Mathematics has its own unique place within our curriculum, and we want to provide the children with powerful ways to describe and investigate our ever changing world.

What does your subject area offer the Dovers children?

The children at Dovers Green are provided with an exciting, creative mathematical curriculum, and are taught to explore and understand important mathematical concepts, in a practical and hands on way. They develop their skills of fluency and problem solving, and are encouraged to explain their thinking and make connections between concepts learnt. Through our mathematical provision, children are given opportunities to make mistakes and take risks, and learn a wide range of mathematical vocabulary.

How does your subject enhance the curriculum?

Maths enhances the whole curriculum, as so many of the skills and knowledge are transferable into other subject areas. Problem solving encourages the children to show initiative in a wide range of contexts, including the new or unusual and gives them confidence to keep trying when tackling difficult situations. Mathematics gives the children the ability to reason, generalise and make sense of solutions and the ability to embrace the value of learning from mistakes and false starts.

What use is it to children later in life?

People use maths every single day! Knowledge of mathematical concepts provides the children with skills, which will be needed to function throughout their lives. Maths helps people to solve problems and persevere when faced with challenges, and being proficient in maths will ultimately provide the children with a wider range of career prospects.

What are the main skills and knowledge (overarching objectives) you want teachers to focus on?

- Fluency – so that children develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Reasoning – so that children can follow a line of enquiry and develop an argument, justification or proof using mathematical language.
- Problem Solving – so that children can apply their mathematics to a variety of problems and learning to persevere when seeking a solution.
- Number and Place Value – Counting, Ordering, Recognising, Matching, Writing, Number Patterns, Number Bonds
- Addition and Subtraction, Multiplication and Division
- Fractions of shapes, objects and quantities
- Measurement – length, height, weight, mass, capacity, volume, time, money, temperature
- Geometry – 2D and 3D shapes, symmetry and position and direction

Statistics – interpret, construct and ask and answer questions about tally charts, block diagrams and simple tables

Curriculum Leadership – Intent, Implementation and Impact

Subject/Curriculum Area: Maths

Intent

What is being taught?

- At Dovers Green our intent for mathematics is to teach a rich, balanced and progressive curriculum using maths to reason, problem solve and develop fluent conceptual understanding in each area. Our curriculum allows children to better make sense of the world around them, helping them make links between mathematics and everyday life. Lessons are child-focused and maths is kept fun, active and current.
- Our policies, resources, training and schemes support the vision e.g. White Rose Maths, I See Reasoning and TRG Maths Mastery programme. Teachers are supported and aided in their roles ensuring confidence in the skills and facts they are required to teach. For example, CPD training on the importance of following the CPA approach for achieving mastery. Staff are encouraged to raise any issues they have within mathematics in order to ensure everyone is confident in what they teach. This year the maths subject leaders have been participating in the Teaching for Mastery Teacher Research Group (TRG). This development opportunity has deepened our own understanding of mastery and it has helped us to identify key processes and resources which really benefit the children's mathematical learning. Dovers Green is well resourced but each year group has an allocated budget and can therefore buy additional mathematical resources which can support the children's learning.
- The mapping of mathematics across the school shows clear progression in line with age-related expectations. Progression documents have been created to demonstrate how each skill is developed throughout the child's time at Dovers Green. There are end of year statements for each skill including greater depth statements. These progression documents also outline 'Dovers Green' statements. These additional statements have been suggested by the year group leaders and consist of skills which we feel will benefit the child's learning. For example, introducing number bonds to 10 in reception or doubling to 20 in year one.
- Teachers can use this document to gain a thorough understanding about how individual skills are developed and to help the children make links with previous learning.
- Maths working walls are used in every classroom to support both the skills being taught each week and recapped from the previous week.
- Key vocabulary is displayed and referred to in most lessons, to help the children learn key mathematical terms (e.g. addition/ add/ plus/ more than).

How does it cater for PP/SEND and higher attainers?

- Interventions are in place for children who struggle with mathematics such as First Class@Number and basic skills booster groups. Children who have a special educational need in mathematics will have targets on their ISP linked with this. They are supported with visual resources, oracy discussions and activities are broken down into manageable tasks. The use of concrete resources on the carpet during an input is consistently provided as a means of support throughout the school.
- PP children are closely monitored throughout the school and data is analysed every term. A member of SLT oversees their progress and the support provided for them. Pre-teaching is available for those PP children who need it.
- Higher attainers are planned for carefully and at times children in KS1 are streamed to ensure the most able children are challenged. They are also challenged through higher level questioning and encouraging deeper thinking when making mathematical links or when solving problems.

Implementation

The National Curriculum, EYFS Framework and the end of KS1 framework are all followed carefully and are regularly referred to when planning for mathematics. This is reinforced by the progression grids which map out what areas should be taught in each term, in each year group. The progression statements outline how each skill is developed though EYFS and KS1, which allows teachers to recap and make links to previous learning. A report on mathematics across the school is written termly by the Subject Leader to monitor progress and review how the subject is being delivered. The SLT and the Maths Subject Leaders regularly review the approaches we are using to teach maths and use feedback from observations, work scrutinies and pupil voice to create action plans. Teachers and often TAs are provided with training when new approaches are brought into school, e.g. use of CPA. In EYFS children are given opportunities to develop basic maths skills through continuous provision which is carefully planned for and set up by the teachers. They are also taught in groups by the class teacher. The children in EYFS also develop their maths skills through Big Maths, which involves teaching maths in a fun, engaging and lively way. The progression grid below details when each skill is taught and built on. Within KS1 maths is taught as discrete lessons throughout the week however maths skills are revisited and consolidated throughout the year in many ways such as mental maths sessions, maths challenges set at the start of the day, within a forest school/PE session and during filler activities such as chanting in multiples of 10 as the children walk to assembly.

EYFS Maths Progression

Autumn Term Progression				
Number and Place Value	Addition and Subtraction	Number and Place Value	Addition and Subtraction	Measurement
Numbers to 5 → One, Two, Three → Four → Five	Sorting → Sorting into groups	Comparing groups → Comparing quantities of identical objects → Comparing quantities of non-identical objects	Change within 5 → One more → One less	Time → My Day

Spring Term Progression			
Addition and Subtraction	Number and Place Value	Addition and Subtraction	Geometry
Numbers to 5 → Introducing 0 → Numbers bonds to 5	Numbers to 10 → Counting to 6,7 and 8 → Counting to 9 and 10 → Comparing groups up to 10	Addition to 10 → Combining two groups to find the whole → Number bonds to 10 – ten frame → Numbers bonds to 10 – part-whole model	Shape and Space → Spatial Awareness → 3-D Shapes → 2-D Shapes

Summer Term Progression				
Geometry	Addition and Subtraction	Number and Place Value	Multiplication and Division	Measurement
Exploring Patterns → Making simple patterns → Exploring more complex patterns	Count on and back → Adding by counting on → Taking away by counting back	Numbers to 20 → Counting to 20	Numerical Patterns → Doubling → Halving and sharing → Odds and Evens	Measure → Length, height and distance → Weight → Capacity

Year 1 – Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value				Number: Addition and Subtraction				Geometry: Shape	Number: Place Value		Number: Addition and subtraction
Spring	Measure: Time		Number: Place Value		Number: Addition & Subtraction	Measurement: Length and Height	Number: Multiplication & Division				Number: Fractions	
Summer	Number: Place Value		Geometry: Position & Direction		Number: Addition, Subtraction, Multiplication & Division			Measure: Money		Measurement: Weight & Volume		Consolidation

Year 2 – Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value			Number: Addition and Subtraction (+Inverse)				Measurement: Money	Number: Multiplication and Division			
Spring	Number: Addition and Subtraction Problem Solving (Blank Number Lines)		Geometry: Properties of Shape		Measurement: Length/ Height & Mass		Measure: Time			Measurement: Capacity & Temp	Number: Fractions	
Summer	Geometry: Position and Direction			Problem solving and efficient methods		Statistics		Investigations & Consolidation				