Subject Information:

Maths Education at Oxenhope C of E Primary School

How we teach Maths at Oxenhope C of E Primary School

Subject Intent

What do we want to achieve with our Maths curriculum?

Maths at Oxenhope forms one of the fundamental building blocks for learning. Our maths curriculum is designed to teach 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. Through a varied offering of arithmetic, reasoning and problem-solving activities we develop confident and inquisitive mathematicians who enjoy challenge and are constantly developing their resilience and independence. Our learners are supported in the development of their mathematical thinking with carefully structured, engaging lessons, precise and personal feedback processes and a focus on identifying and celebrating best practice.

We aim to teach a love of maths, developing confidence and resilience. We allow children to play with maths, investigate and apply their mathematical knowledge in a range of cross curricular, creative and practical way. We incorporate maths into the everyday, showing children how they can transfer these skills into future careers.

Subject Implementation

At Oxenhope our daily maths is taught using the White Rose Maths Scheme:

To help structure and plan our lessons, we use White Rose Maths Hub schemes of learning to ensure firm foundations and sequence our learning.

Teaching and Learning,

Content and Sequence

• In school, we follow the national curriculum and use White Rose Schemes of Work as a guide to support teachers with their planning and assessment. WRM maths focuses on 3 main areas:

- Concrete
- Pictorial
- Abstract

As the children move get further up the school there less emphasis on concrete and pictorial and more on the abstract as their knowledge grows. Teachers still have autonomy regarding the sequence and content of lessons and repeat or revisit lessons if needed.

- The calculation policy is used within school to ensure a consistent approach to teaching the four operations over time.
- At the start of each new topic, key vocabulary is introduced and revisited regularly to develop language acquisition, embedding as the topic progresses.
- All lessons begin with a short assessment to support retrieval practice and develop long-term memory.
- Children are taught through clear modelling and have the opportunity to develop their knowledge and understanding of mathematical concepts. This incorporates using objects, pictures, words and numbers to help children explore and demonstrate mathematical ideas, enrich their learning experience and deepen understanding at all levels.
- Children work on the objective at whatever entrance stage they are assessed as being at. Children can ACQUIRE the skill, APPLY the skill or DEEPEN the skill within the lesson.
- Children move through the different stages of their learning at their own pace.
- Children who have shown their understanding at a deep level within the unit, will have opportunities to apply these skills in a GREATER DEPTH activity. This should be challenging and ensure that children are using more than just one skill to be able to answer the mathematical problems.
- Reasoning and problem solving are integral to the activities children are given to develop their mathematical thinking.
- Resources are readily available to assist demonstration of securing a conceptual understanding of the different skills appropriate for each year group.
- Children are encouraged to explore, apply and evaluate their mathematical approach during investigations to develop a deeper understanding when solving different problems / puzzles.
- A love of maths is encouraged throughout school via links with others subjects, applying an ever growing range of skills with growing independence.
- Children with additional needs are included in whole class lessons and teachers provide scaffolding and relevant support as necessary. For those children who are working outside of the year group curriculum, individual learning activities are provided to ensure their progress.

<u>Other resources used</u>

In year groups 3-6 children can use Times Table Rock stars to support their rapid re-call of their time tables. They are then able to improve their Rock Speed and climb the Rockstar ranks. The online games reward children with virtual coins for each correct answer, which they enjoy spending on upgrading their personal rock avatar.

In Reception, year 1 and 2 the children use NumBots. NumBots is an online game and playing little and often will significantly improve a child's recall and understanding of number bonds and addition and subtraction facts.

Children access these both at home and in school.

To support children's arithmetic and number facts recall we use Big Maths 'Learn its' in years 1-5. Number Facts are simple sums that it is vitally important for children to learn and be able to recall them instantly, (with no thinking time). In Big Maths these are called 'Learn Its'. There are 36 addition Learn Its (all the 1 digit add 1 digit facts from 2+2 through to 9+9) and 36 multiplication Learn Its (all of the 1 digit times 1 digit facts). There are 16 Learn Its challenges, beginning with 1+1 and 2+2 and finish with the Ultimate challenge, all 72 Learn Its which need to be answered in less than 3 minutes. Each step of the Learn Its journey is clear, listing new facts that must be learned. To help children to practice previous facts, along with the new facts, the Learn Its challenges include questions relating to 3 steps of the journey, 3,4,5 – 4,5,6 etc.

In year 6 the children take part in a weekly arithmetic challenge which mirrors the SATs style arithmetic test.

Maths opportunities are utilised through other subject particularly in science, DT, geography and history. This is an opportunity for children to use the maths taught in the discrete lessons in a practical context.

Leadership, Assessment and Feedback

- Assessment informs the teaching and learning sequence, and children work on the objectives they are assessed as being at, with fluid boosting available within a 'keep up no catch up' culture.

- Feedback is given on children's learning in line with our feedback policy. Formative assessment within every lesson helps teachers to identify the children who need more support to achieve the intended outcome and who are ready for greater stretch and challenge through planned questioning or additional activities.

- In order to support teacher judgments, children may be assessed using current and reliable tests in line with the national curriculum for maths. Gap analysis of any tests that the children complete is undertaken and fed into future planning.

- Summative assessments are completed at the end of the academic year and reported to parents in the end of year report.

- The maths leader has a clear role and overall responsibility for the progress of all children in maths throughout school. Working with SLT, key data is analysed and regular feedback is provided, to inform on progress and future actions.

Subject Impact

- Children demonstrate a quick recall of facts and procedures. This includes the recollection of the times table.
- Children show confidence in Believing that they will achieve.
- Each child achieves objectives (expected standard) for year group.
- The flexibility and fluidity to move between different contexts and representations of maths.
- The chance to develop the ability to recognise relationships and make connections in maths lessons.
- 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 show a high level of pride in the presentation and understanding of the work

Year 1 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 (within 10)				Number: Addition and Subtraction (within 10)				Geometry: Shape	Number: Place Value (within 20)		Consolidation
Spring	Number: Addition and Subtraction (within 20)				Number: Place Value (within 50) (Multiples of 2, 5 and 10 included)			Measurement: Length and Height		Measurement: Weight and Volume		Consolidation
Summer	Number: Multiplication and Division (Reinforce multiples of 2, 5 and 10 to be included)			Number: Fractions		Geometry: Position and Direction	Number: Place Value (within 100)		Measurement: Money	Measurement: Time		Consolidation

Year 2 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					Measurement: Money		Number: Multiplication and Division	
Spring	Number: Multiplication and Division		Statistics		Geometry: Properties of Shape			Number: Fractions			Measurement: Length and Height	Consolidation
Summer	Geometry: Position and Direction			Problem solving and efficient methods		Measurement: Time		Measurement: Mass, Capacity and Temperature			Investigations	

Year 3 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					Number: Multiplication and Division			Consolidation
Spring	Number: Multiplication and Division			Measurement: Money	Statistics		Measurement: Length and Perimeter			Number: Fractions		Consolidation
Summer	Number: Fractions			Measurement: Time			Geometry: Properties of Shape		Measurement: Mass and Capacity			Consolidation

Year 4 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			Measurement: Length and Perimeter	Number: Multiplication and Division			Consolidation
Spring	Number: Multiplication and Division			Measurement: Area	Number: Fractions				Number: Decimals			Consolidation
Summer	Number: Decimals		Measurement: Money		Measurement: Time	Statistics		Geometry: Properties of Shape			Geometry: Position and Direction	Consolidation

Year 5 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		Statistics		Number: Multiplication and Division		Measurement: Perimeter and Area		Consolidation
Spring	Number: Multiplication and Division			Number: Fractions						Number: Decimals and Percentages		Consolidation
Summer	Number: Decimals				Geometry: Properties of Shape			Geometry: Position and Direction	Measurement: Converting Units		Measurement: Volume	Consolidation

Year 6 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, Subtraction, Multiplication and Division				Number: Fractions				Geometry: Position and Direction	Consolidation
Spring	Number: Decimals		Number: Percentages		Number: Algebra		Measurement: Converting Units	Measurement: Perimeter, Area and Volume		Number: Ratio		Consolidation
Summer	Geometry: Properties of Shape		Problem Solving			Statistics		Investigations				Consolidation