

MATHEMATICS POLICY



Policy Document Status			
Date of Policy Creation	December 2023	Chair of Governors	Gill Stubbs
Adoption of policy by Governing Board	13 December 2023	Executive Headteacher	Denise Garner
Inception of new Policy	14 December 2023	Governor/Staff Member Responsibility	Gill Stubbs
Date of policy review	December 2026	Day Care Manager	Shelley Thursfield

A POLICY FOR MATHEMATICS

To be read in conjunction with our Calculating Policy.

Why Learn Mathematics?

The National Curriculum Mathematics programme of study (2021) states that:

“Mathematics is a creative and highly interconnected 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”.

Mathematics provides a way of viewing and making sense of the world and is essential to everyday life. It is used to analyse and communicate information and connect ideas and to tackle a range of practical tasks and real-life problems. Our high quality, direct teaching is creative, interactive, and lively.

Mathematics is a two-way process in which children play an active part developing higher order thinking skills, asking, and answering questions, solving problems, contributing points to discussion and explaining, reasoning and demonstrating their methods to the class.

Curriculum Intent

Mathematics is essential to everyday life. We have designed our curriculum to give children a sense of enjoyment and curiosity about mathematics as well as an understanding of how it fits into the world. We link the mathematics curriculum with other subjects such as science to provide children with real life experiences so that they can apply what they know and can do with increasing fluency and independence.

When planning our curriculum, we wanted children to have opportunities to gain a strong grounding in number which is essential so they can develop the necessary building blocks to excel mathematically. Our aim is to ensure children can count confidently and develop a deep understanding of numbers, so they are able to look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes. Spatial reasoning skills in shape, space and measure are essential also so children gain an understanding of the location and dimension of objects and how objects are related.

Our curriculum has a strong emphasis on spoken language because we believe that the quality and variety of language that children hear and speak are key factors in developing their mathematical vocabulary. Mathematical reasoning is the bridge between fluency and problem solving so children need the language to present a mathematical justification, argument, or proof. We are eager that children learn how to reason and make sense of mathematics so that they are able to use it in meaningful ways.

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The Curriculum for Mathematics at Wrockwardine Wood Infant School and Nursery aims to ensure that all pupils:

- Become **FLUENT** in the fundamentals of mathematics.
- Gain **conceptual understanding** and be able to recall and apply their knowledge rapidly and accurately to problems.
- **REASON and EXPLAIN mathematically** by following a line of enquiry, justifying or proving outcomes using mathematical language.
- Can apply their mathematics to **SOLVE PROBLEMS across the curriculum**, breaking down problems into simpler steps and persevering in seeking solutions.
- Can remedy **misconceptions** through discussion.

Curriculum Implementation

- Through professional development, working closely with a mathematics consultant, all staff gain the necessary subject knowledge to teach mathematics to a high standard.
- We will develop children’s understanding of mathematical concepts through high quality teaching and carefully thought-out sequences of lessons which build on prior learning.
- We will ensure children understand mathematics by exploring concepts using concrete equipment before moving onto pictorial and then abstract representations.
- We will teach children appropriate mathematical skills to enable them to become fluent mathematicians and to be able to apply their skills and knowledge to solve problems and reason and explain mathematically.
- We will ignite children’s enthusiasm and curiosity enabling them to think as a mathematician and understand it’s place in the world we live in.

Substantive and Disciplinary Knowledge in Mathematics

Children need substantive knowledge in mathematics (e.g., number facts, times tables) and disciplinary knowledge (how to work things about, reason and problem solve). They will be taught to make links across different mathematical components to build this knowledge in their long-term memory.

The mathematics curriculum focuses on three key teaching principles:

- Fluency and Facts (Substantive knowledge)
- Problem Solving (Disciplinary knowledge)
- Reasoning and Justification (Disciplinary knowledge)

Attitudes we wish to foster and encourage include:

- Interest and motivation and the willingness to ‘have a go’.
- Talk confidently about maths work.
- Satisfaction derived from a sense of achievement.
- The ability to work independently and also to co-operate within a group.
- A willingness to check and monitor their work, developing systematic work habits.
- Flexibility and creative thinking in overcoming difficulties and developing new approaches.
- To develop a confident and positive attitude to mathematics at an appropriate level.

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The programmes of study are organised in a distinct sequence and structured into separate domains. Pupils should make 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.

Fluency Of Mathematical Understanding

Children's understanding of Mathematics is progressive. Children learn not only in different ways but at different rates. Mathematical experience progresses through a sequence of abstraction. This sequence is:

- 1) Experience with physical objects.
- 2) Spoken language that describes that experience.
- 3) Pictures that represent the experience.
- 4) Written symbols that generalise the experience.

Children need to progress through these stages to attain mathematical understanding and competence. A maths textbook or sheet however carefully planned can be concerned with only points 3 and 4 of the sequence - pictures and symbols. We realise the importance of children having practical experiences and using language to talk about and analyse their experiences as well as recording their findings. Research has shown that children need the complete sequence of experiences at all stages if they are to understand the processes they are using and be able to apply them. (Early Childhood Development and Education by Donaldson, Grieve and Pratt)

Our Mathematics Curriculum

Our Key Stage 1 programmes of study for mathematics is set out year-by-year for Years 1 and 2. We provide a mastery curriculum for all learners which means:

- Pupils are taught through whole-class interactive teaching, enabling all to master the concepts necessary for the next part of the curriculum sequence.
- In a typical lesson, the teacher leads back and forth interaction, including questioning, short tasks, explanation, demonstration, and discussion, enabling pupils to think, reason and apply their knowledge to solve problems.
- Use of precise mathematical language enables all pupils to communicate their reasoning and thinking effectively.
- If a pupil fails to grasp a concept or procedure, this is identified quickly, and gaps in understanding are addressed systematically to prevent them falling behind.
- Significant time is spent developing deep understanding of the key ideas that are needed to underpin future learning.
- Key number facts are learnt to automaticity, and other key mathematical facts are learned deeply and practised regularly, to avoid cognitive overload in working memory and enable pupils to focus on new learning.

Our Mathematics Environment

We recognise the important role displays have in the teaching and learning of mathematics by

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having a mathematics working wall displayed in every classroom and mathematical learning displayed around school. These working walls provide visual support to promote and enhance mathematical thinking and discussion using correct mathematical vocabulary. Every class has an interactive display which enables children to access mathematical activities throughout the day. Each class is well resourced to support the learning of mathematical skills and concepts within a language-rich environment.

Calculating (Read in conjunction with Calculating Policy)

- As children’s counting knowledge develops, they acquire skills that are the foundations of calculation.
- Every child develops their understanding of calculation in different ways and at different times.
- Children are naturally curious about their world and will be able to solve problems for themselves with an increased knowledge of calculation.

We are encouraging children to develop their skills of mental calculations through the playing of maths games. These not only develop and practise existing methods of mental calculation but also encourage them to learn new alternative strategies. Sensitive intervention by the teacher can introduce children to an alternative way of calculating. As children begin to calculate there is a progression of strategies that can occur:

1. COUNTING STRATEGIES

During this children may:

- Recognise the quantity of a small number of objects by the pattern (ie 2/3).
- Count everything to calculate.
- Start with one quantity and counts the rest.
- Start with a larger quantity and count the rest.

When children have used these strategies confidently they may then commit some number facts to memory:

2. STOCK OF KNOWN FACTS

e.g. Calculating by doubling number.

These stages (1 and 2) provide the foundation for children to create their own strategies which may involve the transformation of numbers:

3. TRANSFORMATION STRATEGIES

- Recalls a useful fact e.g. a double.
- Extracts "fives" from one or both numbers.
- Extracts a "ten" (s) by shifting across.

Early Years Foundation Stage (Read in conjunction with the EYFS Policy)

The Statutory Framework for EYFS (July 2023) states:

‘Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.

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In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, ‘have a go’, talk to adults and peers about what they notice and not be afraid to make mistakes’.

Mathematics is one of the specific areas in the EYFS curriculum and includes a clear focus on both **Number and Numerical Patterns**.

Through the mathematics curriculum we foster the characteristics of effective learning. These are:

- **Playing and exploring** - children investigate and experience things, and ‘have a go’;
- **Active learning** - children concentrate and keep on trying if they encounter difficulties, and enjoy achievements;
- **Creating and thinking critically** - children have and develop their own ideas, make links between ideas, and develop strategies for doing things.

Planning in the EYFS

Teachers plan using the Early Years Foundation Stage document (EYFS) and the White Rose Mastery document. The four themes of the EYFS underpin all teaching and learning in Mathematics. They are:

- **Learning and Development**
- **A Unique Child**
- **Enabling Environments**
- **Positive Relationships**

Mathematics is made up of the following aspects:

Number:

Children at the expected level of development at the end of their reception year will:

- Have a deep understanding of number to 10, including the composition of each number;
- Subitise (recognise quantities without counting) up to 5
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

Numerical Patterns:

Children at the expected level of development at the end of their reception year will:

- Verbally count beyond 20, recognising the pattern of the counting system
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Effective learning builds on and extends what children know and can already do. Our planning is informed by observations we have made of the children in order to understand and consider their current interests, experiences, development and learning needs.

There are three stages of planning the curriculum:

Long Term Planning

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The Nursery and Reception Long term planning allows for a clear sequence of learning over time and clearly planned opportunities for children to deepen their understanding of mathematical concepts.

Medium Term Planning (Termly)

Learning objectives, assessment opportunities, and activities and experiences for each area of learning and development are identified on the medium term planning.

Short Term Planning (Daily)

The daily planning is informed in two ways. Firstly, through ongoing observation of child initiated, adult initiated and adult directed activities both indoors and outdoors. This allows for flexibility in response to individual children’s needs and interests and for revision and modification of plans. It is informed secondly by referring to the medium term plans containing objectives and activities/experiences which are sequenced effectively and revisited to build and deepen knowledge and understanding.

Teaching and Learning in EYFS

- Children are given the opportunity to access activities and puzzles to support their development of mathematics and adults engage with children to model mathematical language and to develop skills. They use careful questioning to extend children’s thinking.
- Children are given time, space and encouragement to discover and use new words and mathematical ideas, concepts and language during child initiated activities in their own play.
- During Child Initiated Learning (CIL), there is always an indoor and outdoor area where children can access mathematics activities. Observations of children during this time inform the next steps for learning and this is addressed and planned for during adult directed time with children working in differentiated groups.
- Children are supported who use a means of communication other than spoken English to develop and understand specific mathematical language while valuing knowledge of maths in the language or communication system they use at home.
- Children’s interests can provide a strong starting point to support and extend their mathematical thinking.

Practical Mathematics and Real Life Experiences

The very nature of the EYFS promotes the need for children to experience mathematical ideas through play. Both the indoor and outdoor environments are used to explore real life problems and allow children to discover things for themselves.

- Mathematical understanding is developed through all children’s early experiences and interests including through stories, songs, games and imaginative play.
- A range of activities are provided, some of which focus on mathematical learning and some which enable mathematical learning to be drawn out.
- Mathematical terms are modelled and used during play and daily routines.

Resources

- Children in our school work in a rich learning environment providing them with countless opportunities to develop their increasing skills.
- The Nursery and Reception classrooms and their respective outdoor areas are fully equipped with a wide range of apparatus for children to select and use. All small equipment is clearly labelled with words and photographs which allows all children to access them.

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- The outdoor environment enables children to use much larger equipment to support their learning. This is enhanced through the use of natural objects.

Talk for Mathematics/ Questioning

- In the EYFS, adults work alongside children, modelling the correct vocabulary and demonstrating new ideas. Children are encouraged to describe what they are doing as they work. Knowing the everyday language of mathematics allows children to talk about and explore their ideas.
- Mathematical vocabulary is set in purposeful contexts.
- Children are given opportunities to talk with others during CIL which allows them chances to share and negotiate which are key mathematical skills.
- Children’s shared talk when solving problems is extremely valuable.
- Adults use open ended questioning to encourage and support children’s problem solving, reasoning and creative thinking in mathematics.
- During adult directed time, children are encouraged to talk about their learning.

Recording in EYFS

Adults model a variety of ways for children to record their work. Children are encouraged to select their own way of recording, using marks that they can interpret and explain. This may include:

- numbers
- symbols
- pictures
- finger marks

Evidence is also recorded by adults in the form of:

- Observations
- Photographs
- Annotations

Children’s own graphic and practical explorations of Mathematics are valued and shared.

Assessment in EYFS

Teachers use the **Progression in Knowledge and Skills** document for Mathematics which sets out what each child is expected to learn and by when.

We analyse and review what we know about each child’s development and learning, and then make informed decisions about supporting the child’s progress. This enables us to plan the next steps for individuals and groups of children by providing challenging but achievable activities and experiences to extend the children’s learning. All practitioners who interact with the child contribute to the assessment process. Formative assessment may take the form of planned or significant child initiated observations, targeted assessments and annotated examples of work. Photographs and information from parents is also used. Many observations made in the Early Years are recorded on ‘Evidence Me’ which is an online tool. All observations are held in childrens’ individual electronic folders which are shared with parents each term and form the basis of our school reports.

We track children’s progress half termly by highlighting children’s individual tracking grids in their Early Years Foundation Stage Profile.

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Children's next steps are then identified for each area of development and individual target boards are completed.

The school uses a tracking programme which helps us to ensure all children are making progress from entry to exit.

Staff review the tracking data half termly with the Subject Leader/ Assistant Head Teacher/Senior Leadership Team, monitoring rates of progress and identifying strategies that will address learning and teaching priorities and next steps.

Key Stage 1

The principal focus of mathematics teaching in Key Stage 1 is:

- to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value.
- work with numerals, words and the four operations,
- working with practical resources (e.g. concrete objects and measuring tools).
- develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary.
- use a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

Planning In Key Stage 1

The National Curriculum for Mathematics, together with the White Rose Mastery documents form the basis for our planning in Mathematics.

Lessons include opportunities for children to:



Long Term Planning

On our long term plan we have a programme for:

- **Number** – Number and Place Value, Addition, Subtraction, Multiplication, Division, Fractions, Statistics (year 2)
- **Geometry** – Properties of shapes, Position and Direction
- **Measurement**- Length/ Height, Mass/ Weight, Capacity/ Volume, Time, Money

These areas of maths are set on a yearly overview with an approximate duration for each unit of work. Assessment for learning helps to shape this.

Medium Term Planning (Half termly)

- The medium term planning in Key Stage One uses the White Rose guidance as a base to inform the sequence of lessons taught. Although we utilise this quality scheme which ensures that all the National Curriculum objectives are covered teachers have the freedom

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to use their professional judgements to adapt planning and tailor the curriculum to address the needs of the children they teach.

- This includes the objectives from the National Curriculum 2014 along with smaller objectives which can be achieved within individual lessons. This planning includes samples of questions and activities which could be further planned to support children to develop their mathematical knowledge by developing their fluency in maths, their reasoning and problem solving skills and enhancing the talk for mathematics in the classroom.
- We've designed our planning so that we revisit each concept regularly to ensure that children consolidate and remember new mathematic knowledge and skills.

Short Term Planning

- We have a weekly planning sheet for mathematics. This planning document ensures that there is a clear sequence of lessons throughout the week and assessment for learning informs this.
- Each day the teacher records the focus for oral/mental starter, the objective for the main activity along with the success criteria and details of how the activity is adapted between groups. A note is made of the key vocabulary, games, exercises and investigations to be carried out and the focus for the plenary session. Opportunities for 'Assessment for Learning' are also marked on this plan.

Teaching And Learning In Key Stage 1

Practical Mathematics and Real-Life Experiences

We encourage our children to take part in practical maths. Working practically:

- Enables children to see the visual picture which encourages them to find different ways of calculating and to develop their own individual way of working.
- Supports all learning styles.
- Allows them the opportunity and time to explore and become familiar with different apparatus and equipment.
- Enables children to talk about their work.
- A mathematics working wall in every classroom which enhances children's knowledge and use of mathematical vocabulary.
- A mathematics interactive display is in every classroom or outside area which allows children to access and solve everyday mathematical problems on a daily basis.
- 'Everyday Maths' is an important part of our maths planning. Children are encouraged to see the importance of maths in everyday situations.
- We plan a range of experiences - open, closed, long, short, practical, oral and written tasks. We also plan tasks to develop problem solving skills and those that develop knowledge, skills and understanding and allow children the opportunity to apply what they have learned.

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Resources

- Each class is equipped with a full range of maths equipment. Some larger resources and additional equipment to support children with SEN are held centrally in the maths cupboard.
- Children become familiar with the different apparatus, its correct name and its range of uses. They are encouraged to make a choice of which apparatus they are going to use and which apparatus is best for a given task. Thus children are taught the importance of decision making and independence.
- Children checking their work with alternative apparatus provides an additional challenge.
- We use Numicon throughout school to support and enhance mathematical learning.

Talk For Mathematics/ Questioning

- Open ended questioning is vital to encourage children to take their work as far as they can. By careful questioning and encouragement teachers can help children to clarify their thoughts and to successfully complete a task.
- Children need language to talk about and analyse problems. There is a wealth of mathematical vocabulary for the children to acquire and this needs daily reinforcement. The mental/oral starter to each lesson is an ideal time to reinforce and extend children's mathematical vocabulary.
- They can develop their skills of reasoning and communicating through carefully planned activities and having these skills modelled for them.
- Careful pairing of children can promote a partnership where children help one another and discuss their learning.
- Talking with children when they are involved in exploration of apparatus and tasks helps to clarify their understanding and develop their powers of communication.
- Talking with children also gives the teacher an opportunity to discuss and address any misconceptions the child may have.

Recording In Key Stage 1

When children record mathematical findings they are clarifying their understanding, developing their powers of communication and sharing their conceptions. Children are encouraged from this early age to find their own ways of recording their mathematical work. Time should be taken to share children's work, so that other children can see the different ways chosen to record findings or to present work. Different ways to record work may include:

- Talking
- Using symbols (children's own symbols and universal symbols for mathematics)
- Diagrams
- Constructing models
- Writing
- Graphical representation
- Pictorial and photographic records
- Informal and more formal jottings to show working's out

Each child has an individual maths book where the majority of work is kept. This is dated and commented upon.

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ASSESSMENT AND FEEDBACK IN KEY STAGE 1

(Read in conjunction with our Responding to Children’s Work Policy)

- We believe that our response to children’s work in their maths books provides the best possible record of an individual child’s development. Comments will include the calculating strategies being used as well as an assessment against the lessons learning objective and success criteria.
- The use of ‘Brilliant Blue’ and ‘Chance to Shine’ enable children to quickly see where they can make improvements to their work to enhance their learning and where they have been successful in meeting the objective.
- A written response can provide excellent evidence of ongoing teacher assessment and focus on ways forward for individual children. The use of challenges such as ‘Convince me.. , Prove that... , Is this true? How do you know? allow children the opportunity to reason mathematically and solve problems.
- Children are encouraged to practice and learn number facts at home to develop fluency.

The school uses a tracking programme which helps us to ensure all children are making progress across each half term from entry to exit.

Teachers review the tracking data half termly with the Mathematics Subject Leader/ Assistant Head Teacher/ Senior Leadership Team, monitoring rates of progress and identifying strategies that will address further teaching priorities. Where there are children who need further support developing their understanding and use of the language associated with mathematics.

Moderation Meetings

- Teachers meet together each term to monitor and moderate the work of children in each class. This enables teachers judgements to be secured through a good understanding of our assessment system using individual trackers. These are located at the back of each child’s mathematics book.
- Teachers use their notes, planning and the children’s books to discuss children’s progress and attitude. The work of these children is studied and moderated across year groups to ensure a consistency of standards and approach.
- It is also a valuable opportunity to identify the next steps for individual/groups of children.
- These moderation meetings also provide valuable professional development for all teachers. In every class there are children working at all levels and teachers are able to discuss children’s attainment and next steps across all year groups
- These meetings enable us to group and target children more effectively and to review their progress.

Termly Reports To Parents

- Termly reports give details of children’s strengths in mathematics and their attainment in comparison with National Expectations.
- They also include a target for children’s mathematical development.
- Parents are asked to share the reports with children and praise their progress over the year. We welcome comments from parents on their children’s reports.

Parental Involvement

- Parent Consultation evenings are held in the Autumn Term and Spring Term to allow time to discuss the progress a child is making along with their areas for development. In the Summer

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term, parents are invited to respond to their child's mathematical achievement on their end of year report.

- Parents are invited to share the learning in their child's maths books during parent consultation meetings.
- Parents are encouraged to support their child's mathematical learning at home using the online programme 'Mathletics'. Teachers allocate online games and activities for individuals to log into their own accounts to consolidate and extend their learning.

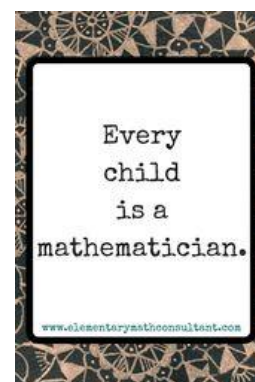
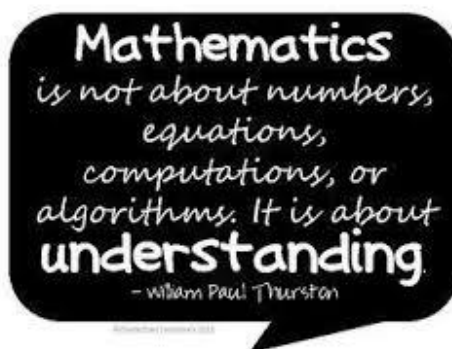
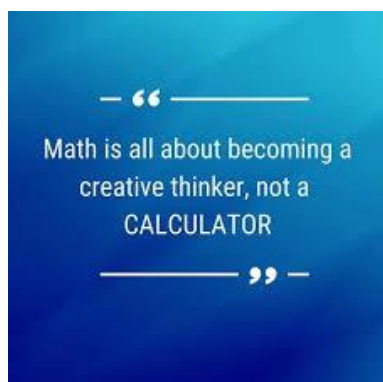
Monitoring And Evaluation

The Governor's take responsibility for overseeing the teaching of Mathematics. They meet each term to discuss curriculum developments. The governor with named responsibility for maths is invited to observe teaching and learning throughout school with the Head teacher and Subject leader. The Governing body review the policy for Mathematics every 3 years.

Role Of The Subject Leader

The role of the subject leader is to:

- develop good working relationships, to instil confidence by sharing expertise and knowledge and to be open to suggestions.
- have an overview of maths in the Early Years Foundation Stage and Key Stage 1 and monitor the implementation of the National Curriculum
- learning walks
- lesson observations
- moderate to secure judgements
- lead staff professional development so they have the knowledge to teach Mathematics
- support teachers with planning and assessment
- attend professional development and read research articles to keep up to date with developments in teaching maths in early years and primary.
- review long, medium- and short-term planning to ensure it is relevant.
- Analyse data and feedback standards to School Improvement Partner.
- update and manage resources.
- Speak with children to measure the impact of the curriculum.
- work with other professionals and establishments
- Devise an action plan in response to monitoring and keep a PowerPoint portfolio of how maths is taught in school and the standards achieved.
- keep parents and governors informed about standards in Mathematics.



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Appendix 1

Long Term Plan Nursery

AUTUMN	Selects a small number of objects from a group when asked, for example, 'please give me one', 'please give me two'.	Selects a small number of objects from a group when asked, for example, 'please give me one', 'please give me two'.	Recites some number names in sequence.	Recites some number names in sequence.	Notifies simple shapes and patterns in pictures.	Landmark Knows that a number name means a value (cardinality) Begins to make comparisons between quantities.	Landmark Knows that a number name means a value (cardinality) Begins to make comparisons between quantities.	Landmark Knows the names of some shapes such as square and circle Beginning to categorise objects according to properties such as shape and size	Knows that a group of things changes in quantity when something is added or taken away	Knows that a group of things changes in quantity when something is added or taken away	Begins to use the language of size. Landmark Uses descriptive words like 'big' and 'taller' in everyday play situations and through books and stories.	Creates and experiments with symbols and marks representing ideas of number.	Understands some talk about immediate past and future, e.g. 'before', 'later' or 'soon'. Anticipates specific time-based events such as mealtimes or home time.
SPRING	Uses some number names and number language spontaneously. Uses some number names accurately in play.	Shows an interest in shape and space by playing with shapes or with objects.	Recites number to 10. Shows curiosity about number by offering comments or asking questions. Shows an interest in number problems	Shows an interest in shape and space by playing with shapes or with objects.	Landmark Can say number names in order and self-correct. Knows that numbers identify how many are in a set.	Shows awareness of similarities of shapes in the environment. Shows interest in shapes in the environment	Realises that not only objects, but anything can be counted, including steps, jumps and jumps.	Shows awareness of similarities of shapes in the environment. Shows interest in shapes in the environment	Compares 2 groups of objects, saying when they have the same number.	Shows interest in shape by sustained construction activity or by talking about shapes or arrangements. Uses shapes appropriately for tasks. Landmark Knows the names of some shapes.	Separates a group of 3 or 4 objects in different ways, beginning to recognise that the total is still the same. Landmark Recognises the quantities of 1, 2, 3 on their own without counting.	Shows interest in shape by sustained construction activity or by talking about shapes or arrangements. Uses shapes appropriately for tasks. Landmark Knows the names of some shapes.	Begins to represent numbers using fingers, marks on paper or pictures.
SUMMER	Shows an interest in representing numbers	Uses positional language. Landmark Knows some positional language.	Shows an interest in numerals in the environment. Landmark Recognises some numerals accurately	Uses positional language. Landmark Knows some positional language.	Sometimes matches numeral and quantity correctly.	Beginning to talk about the shapes of everyday objects, e.g. 'round' and 'tall'. Landmark Shows an understanding of comparison.	Counts up to three or four objects by saying one number name for each item. Landmark: Counts reliably to 5. Recognises 5 fingers on each hand	Beginning to talk about the shapes of everyday objects, e.g. 'round' and 'tall'. Landmark Shows an understanding of comparison.	Counts actions or objects which cannot be moved	Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes. Selects a particular named shape. Landmark Knows the names of some solid shapes.	Recognises number structures to 5.	Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes. Selects a particular named shape. Landmark Knows the names of some solid shapes.	Counts objects to 10, counting beginning to count beyond 10.

Long Term Plan Reception

	WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7	WK 8	WK 9	WK 10	WK 11	WK 12	WK 13
AUTUMN	Getting to know you	Getting to know you	Just like me Match and Sort Compare amounts	Just like me Compare size, mass and capacity	Just like me Exploring pattern	It's me 1, 2, 3 Representing 1, 2, 3	It's me 1, 2, 3 Comparing 1, 2, 3	It's me 1, 2, 3 Composition of 1, 2, 3	It's me 1, 2, 3 Circles and triangles	It's me 1, 2, 3 Positional language	Light and dark Representing numbers to 5	Light and dark One more and less	Light and dark Shapes with 4 sides Time
SPRING	Alive in 5 Introducing zero	Alive in 5 Comparing numbers to 5	Alive in 5 Composition of 4 and 5	Alive in 5 Compare Mass	Alive in 5 Compare Capacity	Growing 6, 7, 8 6, 7, 8	Growing 6, 7, 8 Making pairs	Growing 6, 7, 8 Combining two groups	Growing 6, 7, 8 Length and Height Time	Building 9 and 10 9 and 10	Building 9 and 10 Comparing numbers to 10	Building 9 and 10 Bonds to 10	Building 9 and 10 3D shape Pattern
SUMMER	To 20 and beyond Building numbers beyond 10	To 20 and beyond Counting patterns beyond 10	To 20 and beyond Reasoning: Match, Rotate, Manipulate	First, then, now Adding more	First, then, now Taking away	First, then, now Reasoning: Compose and Decompose	Find my pattern Doubling	Find my pattern Sharing and Grouping	Find my pattern Even and Odd	Find my pattern Reasoning: Visualise and Build	On the move Deepening understanding	On the move Patterns and Relationships	On the move Reasoning: Mapping

Number Shape Measurement Numerical pattern

'Love, Laugh, Learn'

Resourcefulness, Reciprocity, Reflectiveness, Resilience

Long Term Plan Year 1

	WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7	WK 8	WK 9	WK 10	WK 11	WK 12	WK 13
AUTUMN	Counting	Addition and Subtraction	Addition and Subtraction	Addition- totals to 20	Geometry – Properties of shape	WHITE ROSE ASSESSMENTS Money – coin recognition	Addition and Subtraction to 20	Counting, ordering and number sense	Place Value	Mental strategies for addition	Subtraction as take away and difference	Measurement: Time	Addition and Subtraction using money
SPRING	Counting- Number patterns	Doubles and Near Doubles	Multiplication and Division (Grouping and Sharing)	Fractions	Measurement: Length and Height	WHITE ROSE ASSESSMENTS Money – coin recognition & ordering	Addition and Subtraction to 20	Counting, Ordering and number sense	Geometry – 2D and 3D	Mental strategies Addition	Subtraction as take away and difference (counting on and back)	Measurement: Mass	Multiplication and Division using money
SUMMER	Addition & subtraction to 20	Fractions	Multiplication & Division Arrays	Measurement: Time	Geometry – position & direction	WHITE ROSE ASSESSMENTS Money – counting in multiples using coins	Counting, ordering and comparison, visualising quantities	Addition and subtraction: trios and equality	Geometry: Properties of shape	Calculation – all four operations	Measurement - Capacity	Problem solving week	AFL

Place value Number Shape Measurement

Long Term Plan Year 2

	WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7	WK 8	WK 9	WK 10	WK 11	WK 12	WK 13
AUTUMN	Number & Place Value	Addition & Subtraction	Multiplication & Division	Geometry: Properties of shape	Measurement: Length	WHITE ROSE ASSESSMENTS Money – coin recognition	Number & Place Value	Addition & Subtraction	Multiplication & Division	Fractions	Geometry: Position, movement and motion	Measurement: Time	Measurement: Money
SPRING	Number & Place Value	Addition & Subtraction	Addition & Subtraction	Multiplication & Division	Geometry: Properties of shape, symmetry	WHITE ROSE ASSESSMENTS Money – counting in multiples using coins	Measurement: Mass	Fractions	Geometry: Position & Direction	Measurement: Time	Statistics	Calculation	Measurement: Capacity
SUMMER	Number & Place Value	Addition & Subtraction	Multiplication & Division	SATS ASSESSMENTS	SATS ASSESSMENTS	SATS ASSESSMENTS Time	Fractions	Measurement: Length, Mass, Capacity linked to fractions	Geometry: Properties of shape	Geometry: Position & Direction	Statistics	Calculation	Measurement: Money

Place value Number Shape Measurement