WHITCHURCH COMBINED SCHOOL

Mathematics Policy 2025/2026

At Whitchurch, we strive to develop a true passion for mathematics. Through our rich and engaging curriculum, we encourage our children to become mathematical thinkers that thrive when problem solving. With mathematical talk as an integral part of our mathematics lessons, our children are encouraged to challenge answers and discuss alternative strategies, to help them to become masters of the subject. Each child is fully supported to develop at a level that is appropriate to them. Our lessons are structured to ensure children have the opportunity to showcase their fluency skills whilst also demonstrating their reasoning and problem-solving skills. Through the use of mastery techniques, we hope our children become confident and very capable mathematicians.

Intent

1. Provide a mastery curriculum that provides a deep, long term, secure and adaptable understanding of mathematics.
2. Support children to develop their conceptual as well as their procedural understanding; making links and spotting patterns that can be applied flexibly.
3. Provide varied and high-quality teaching and learning with a focus on fluency, problem solving and reasoning.
4. Provide challenge for all and develop children's understanding of how mistakes offer opportunities for learning.
5. Share maths mastery good practice within the school community and other local schools within the BBO Maths Hub.
6. Develop pupils' confidence in Maths with the principle that **all children are capable of succeeding** in mathematics.

We strive to ensure that our children:

- Develop a positive attitude and approach to mathematics.
- Become fluent in the fundamentals of mathematics in order to develop their conceptual understanding.
- Relish the opportunity to solve problems, reason mathematically and think critically.
- Become confident mathematicians, who are willing to take on new challenges.
- Are able to confidently use mathematical talk and stem sentences to consolidate their learning and enhance their understanding.
- Can confidently work independently, whilst also recognising the value of sharing ideas and working as part of a team.
- Are able to make links to real life mathematical scenarios.
- Develop a secure understanding of the objectives that they are taught.
- Begin to spot patterns and see the interconnected nature of many mathematical concepts.

Implementation

'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 mathematical education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the power and beauty of mathematics, and a sense of enjoyment and curiosity about the subject.' (DfE 2013)

The National Curriculum for mathematics aims to ensure that all pupils:

• Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems.

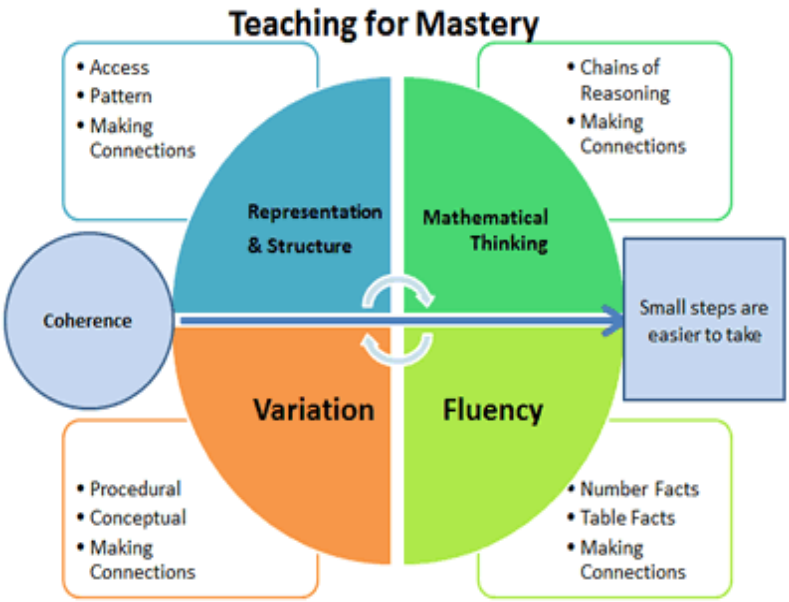
• Can **reason** mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

• 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.

For more information, please see our guide to Fluency, Reasoning and Problem-Solving.

At Whitchurch, we strongly believe the Mastery approach is the key to creating confident mathematicians. We have worked closely with the Maths Hub and continue to share best practise with other schools in the area. The mastery approach is a journey and as a school we recognise the importance of constantly striving to extend our knowledge, to provide the best possible education for our children. As a school, we use the White Rose Small Steps documents for our mathematics planning. Staff then use a variety of resources to plan in a way that is relevant to the class they are teaching. We believe that every child can achieve in mathematics and as we continue our mastery journey, we are delighted to see our children growing in confidence and developing their capabilities.

We centre our planning around the 5 principles of mastery:



***Coherence**:* Lessons are broken down into small connected steps that gradually unfold the concept, providing access for all children and leading to a generalisation of the concept and the ability to apply the concept to a range of contexts.

Representation and Structure - Concrete, Pictorial and Abstract (CPA): Our mastery approach to mathematics is supported by the use of a range of concrete, pictorial and abstract representations. All classes have access to a range of high-quality concrete resources, including things such as tens frames, double sided counters, place value counters, base ten etc. Concrete resources are not just a tool to support younger children or pupils deemed as lower ability; however they should be used by all year groups as a way of revealing a mathematical structure or concept. Once the mathematical structure is grasped, well-chosen pictorials are used to explore the structure further, before moving on to more abstract representations, often initially along- side the pictorial. Abstract maths relies on the children understanding a concept thoroughly and being able to use their knowledge and understanding in a variety of contexts. Please note all children should have access to concrete or pictorial resources if they or their teacher feels they need it as an extra scaffold. If this scaffold is required, the aim is to move children away from it as they become more secure so that they do not become over reliant on it and that they or the adult do not set a ceiling for their learning.

Mathematical Thinking and language: Mathematical thinking is central to deep and sustainable learning of mathematics. Taught ideas that are understood deeply are not just 'received' passively but worked on by the student. Throughout our curriculum, pupils are encouraged to think deeply about mathematics by being given opportunities to explore patterns and investigate relationships or connecting ideas so that pupils can see that concepts in maths are not just discrete. Pupils are given opportunities to think deeply about mathematics though activities such as: comparing standard, non-standard and non- examples; analysing what is the same or different about a structure, reasoning if a generalisation is true or false and justifying this. Throughout this and within every lesson, pupils are encouraged to explain their reasoning. This is an area that has been developed across the school with a focus on using a high level of mathematical vocabulary; providing high-quality sentence stems to scaffold pupils reasoning and discussion and through ensuring that pupils answer questions in full sentences.

Fluency: Fluency is a key component for pupils to be able to understand and access mathematics. We aims for pupils to be able to quickly and efficiently recall facts and procedures and apply them flexibly. This is achieved through focusing on fluency during lessons; practising Times tables and number facts through TTRS and The Ashley Down Times tables programme. Previously, EYFS and KS1 have taken part in the Maths Hub 'Mastering Number' working group

Variation - At Whitchurch, we are developing our maths teaching and learning through using variation. Teaching with variation is to highlight the essential features of a concept or process through varying the non-essential features.

- Procedural variation: Calculations are connected with a slight variation to unveil the mathematical structure. This provides an opportunity to focus on relationships, not just the procedure and to make connections between problems using one problem to work out the next.
- Conceptual variation: Activities are designed to draw attention to what a concept is and what it is not. Therefore teachers provide a range of opportunities to explore the concept in its standard form, non-standard form and through non-examples.

Our Lessons

Each class teacher is responsible for the mathematics in their class. Knowing the child holistically, teachers are best equipped to set work that both challenges and excites their class. With support from key documents such as the White Rose scheme, the NCETM progression maps and the new DfE Mathematics guidance, staff map out the mathematical journey and break it down into small steps. Each small step then builds on previous learning that is constantly revisited in our daily mathematics lessons.

Each lesson consists of:

A recap called 'Flashback 4' whereby the children recap on previous learning from the previous day, week, unit of work and year. This is to embed knowledge into children's long term memory.

Each lesson focusses on one clear learning objective which all children are expected to master. Children are involved in creating the success criteria and are able to follow simple steps in order to be successful. These are readily available throughout the lesson and something the children can look back on when working independently.

Lessons are well structured to include the following elements:

- Instruction – giving information and structuring it well;
- Demonstrating – showing, describing and modelling mathematics using appropriate resources and visual displays;
- Explaining and illustrating – giving accurate and well-paced explanations;
- Questioning and discussing - the children are encouraged to use accurate mathematical language to explain their answers. Using STEM sentences to justify their answers and further embed their learning.
- Consolidating;
- Reflecting and evaluating responses – identifying mistakes and using them as positive teaching points;
- Summarising – reviewing mathematics that has been taught enabling children to focus on next steps.

Each lesson can include elements of: fluency, to practise skills; reasoning, to deepen understanding; and problem solving, to apply skills depending on the objective being taught and the understanding of the children.

Children are supported through through the 'Aim high, Scaffold low' approach. All children will have access to manipulatives, both concrete and pictorial, to support their learning.

Lessons are well paced ensuring there are opportunities for group work, independent work and whole class discussion. Mini plenaries are used as a way to continuously track the learning throughout the lesson. Children who need extra support are quickly identified and intervention can then take place within the lesson, or if necessary through post or pre-teaching, to ensure all children are able to master the learning objective.

When introduced to a new concept, pupils are given the opportunity to build competency through the following approach: Concrete – children have the opportunity to use concrete objects and manipulatives to help them understand what they are doing. Pictorial – pupils then build on this concrete approach by using pictorial representations. These representations can then be used to reason and

solve problems. Abstract – with the foundations firmly laid, learners move to an abstract approach using numbers and key concepts with confidence.

EYFS

In the Early Years Foundation Stage (EYFS), we relate the mathematical aspects of the children's work to the Development Matters statements and the Early Learning Goals (ELG), as set out in the EYFS profile document.

Mathematics development involves providing children with opportunities to practice and improve their skills. They will have a deep understanding of numbers to 10, subitise up to 5, calculate simple addition and subtraction problems including number bonds and double facts. The children will also be able to count beyond 20, compare quantities and explore patterns, including evens and odds. The profile for Mathematics areas of learning are Number (ELG13) and Numerical Patterns (ELG 14).

We continually observe and assess children against these areas using their age-related objectives and plan the next steps in their mathematical development through a topic-based curriculum. In addition, we use the White Rose Maths resources to help ensure we use the most up-to-date resources and pedagogy available.

There are opportunities for children to encounter Maths throughout the EYFS (both inside and outside) – through both planned activities and the self-selection of easily accessible quality maths resources. Whenever possible children’s interests are used to support delivering the mathematics curriculum.

Cross Curricular Learning

Throughout the whole curriculum opportunities exist to extend and promote mathematics. Teachers seek to take advantage of all opportunities whether this be using graphing skills in Science or using shapes to make repeated patterns in Art. Specific Maths days are planned into support cross-curricular mathematics too.

Special Educational Needs and Disabilities

Within the daily mathematics lesson, all children are seen as able to succeed and are given equal opportunities to do so. Children with SEND are taught within the daily mathematics lesson and are part of the lesson with all of the children, apart from where extreme circumstances show that it is better for small groups and 1 to 1 teaching. Staff consider whether the class teacher or teaching assistant has the greater knowledge and ability to support SEND children and higher ability children. Where applicable, children’s Education plans incorporate suitable objectives from the national curriculum and teachers keep these objectives in mind when planning work.

Additional information can be found in our Special Educational Needs and Disabilities policy.

Equal Opportunities

We incorporate mathematics into a wide range of cross-curricular subjects and seek to take advantage of multi-cultural aspects of mathematics. The aim is to ensure that everyone makes progress and gains positively from inclusive lessons. Lessons adhere to a range of different learning styles involving lots of visual, aural and kinaesthetic elements which benefit all children, including those for whom English is an additional language (EAL).

Additional information can be found in our Equalities policy.

Impact

We would like our children to develop into Mathematicians as identified by the six points below:

1. Children can recall facts and procedures quickly and efficiently and apply them flexibly to a range of contexts.
2. Children can think deeply about mathematics, demonstrating conceptual as well as procedural understanding
3. All pupils are able to use a range of mathematical vocabulary to explain their reasoning
4. Pupils have an excellent understanding of mathematics that enables them to make good progress with a high percentage reaching age related expectations
5. Most pupil demonstrate a growth mind-set in maths and are aware that they can learn from their mistakes.
6. Pupils are confident to share their mathematical achievements with the school and wider community.

Marking and feedback

The children take an active role in their marking and feedback. The children themselves often mark exercises which involve routine practice with support and guidance from the teacher. We believe that this approach provides instant feedback to the children so that they can see where they have made an error and where they need to improve. It can also foster independence in the children, who can seek help if they are unable to locate and correct their errors. We also use a traffic light system where the children can identify how they have found the learning objective in that lesson. This self-assessment helps staff to create next steps and inform future planning.

More information can be found in the Feedback Policy.

Formative Assessment

Formative Assessment is an integral part of teaching and learning and is a continuous process.

Teachers make assessments of children daily through;

- regular marking of work
- analysing errors and picking up on misconceptions
- asking questions and listening to answers
- facilitating and listening to discussions
- making observations

These ongoing assessments inform future planning and teaching. Lessons are adapted readily and short-term planning evaluated in light of these assessments.

Summative Assessment

Years 1 to 6 are assessed at the end of each term using an NFER or previous SATS assessment and a summative judgement is made based on their attainment. This is recorded on our Sonar Tracking system, where the Maths Subject Leader will collate, analyse and report to SLT and Governors.

Monitoring and Evaluation

The mathematics subject leader is released regularly from his/her classroom in order to work alongside other teachers. This time is used to monitor and evaluate the quality and standards of mathematics throughout the school and enables the subject leader to support teachers in their own classrooms. Monitoring can take many different forms: from learning walks; book looks; pupil progress meetings or pupil voice discussions.

Findings are reported back to our dedicated mathematics Governor and shared in our Governors Curriculum Committee.

Times tables

Times tables are fundamental to many aspects of mathematics and it is therefore very important for children to work hard to learn their times tables. Times tables form an integral part of the learning in our mathematics lessons. The Government has set out the following times tables that children should know in each year group.

- Year 1 – count in multiples of 2, 5 and 10.
- Year 2 – count in multiples of 2, 5 and 10.
- Year 3 – recall and use multiplication and division facts for the 2, 5, 10, 3 and 4 times tables.
- Year 4 - recall and use multiplication and division facts for the 6, 7, 8, 9, 11 and 12 times tables.
- Years 5 and 6 – recall and use multiplication and division facts for all times tables up to 12×12.

The Government has requested that all pupils in Year 4 take a Times Tables Check to determine whether children can recall their times tables.

Homework

Our aim with mathematics homework is to give the children chance to consolidate a skill or facts through repetitive, fun games and activities or through practicing calculation strategies. We pride ourselves in setting homework tasks that complement the weekly learning objectives. Thus, ensuring children are able to showcase their skills at home and celebrate their successes.

Further information can be found in our Homework policy.

Resources and Displays

Each classroom is resourced with materials to support the delivery of Maths; such items might include number lines, multiplication tables, 100 squares, 2D and 3D shapes, multilink cubes, dice and other smaller items. Larger materials such as scales, trundle wheels and measuring cylinders are held centrally in the store cupboard. Children are encouraged to use resources that are available to them in order to support their learning.

Each classroom has a Learning Wall dedicated to mathematics. Knowledge Walls are interactive and can be used to record, visualise and assist learning.

Calculation Policy

We have a calculation policy for each year group to show progression in Addition, Subtraction, Multiplication and Division skills that accompanies this document

TT Rockstars

All children have access to TT Rockstars accounts. This program is designed to help develop fluency skills in a fun and interactive way. Through the repetition of number times tables facts the children become more confident in the application of number.

At the heart of our teaching lies our Whitchurch values, where the children are nurtured to become resilient and curious mathematicians. We encourage them to ask questions, challenge solutions and understand at a deeper level. These fundamental values that underpin everything we do at Whitchurch, are evident throughout our approach to creating a stimulating and engaging mathematics curriculum that the children enjoy.

KS2 Results 2025

Our KS2 Maths results show that 90% of pupils achieved the expected standard, with 36% working at greater depth. Further assessment information can be found below.

https://whitchurchcombinedschool.ovw4.juniperwebsites.co.uk/attachments/documents.asp?id=35