



# Mathematics Action Plan

Autumn 2023 – Autumn 2024

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## Whitchurch Values are British Values



### British Values



#### Rule of Law

The rules help us to stay safe and fair. They apply to everyone, no matter who you are.



#### Individual Liberty

Everyone has the right to be themselves and express their opinions. We respect each other's differences.



#### Democracy

Every voice counts! We all have a say in making decisions that affect us.



#### Mutual Respect

We treat others as we want to be treated. We celebrate diversity and show kindness to everyone.



#### Tolerance

We respect and learn from each other's beliefs and traditions. We live together in harmony.

## Section One: Statement of Intent for Mathematics at Whitchurch

At Whitchurch, Mathematics is an important creative discipline that helps us to understand and change the world. We believe that Mathematics is a gateway for children to understand number, reasoning, thinking logically and problem solving with resilience so that they are fully prepared for the future. It is essential that these keystones of Mathematics are embedded throughout all strands of the National Curriculum. We foster 'can do' attitudes and believe that learning from mistakes and misconceptions as an essential part of learning and provide challenge through rich and sophisticated problems. By adopting a Mastery approach, it is also intended that all children, regardless of their starting point, will maximise their academic achievement and leave Whitchurch with an appreciation and enthusiasm for Maths, resulting in a lifelong positive relationship with number.

We feel Mathematics teaches our children:

- To become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- To be able to solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios.
- To reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.
- To have an appreciation of number and number operations, which enables mental calculations and written procedures to be performed efficiently, fluently and accurately to be successful in **Mathematics**.
- To apply their mathematical knowledge to science and across other subjects in the whole curriculum.
- To know that **Mathematics** is necessary to everyday life.
- To be confident mathematicians who are not afraid to take risks.

## Section Two: Mathematics Key Priorities

KEY PRIORITIES	
<b>To improve the quality of education in Mathematics for all groups of children.</b>	To review and evaluate the effectiveness of the MATHEMATICS curriculum to ensure it is in-line with National Curriculum statutory requirements, as well as aligned with the school's curriculum key drivers
	To review and evaluate the quality of teaching linked to the use of representation and structure to develop pupils' conceptual and procedural understanding
	To review and evaluate the purpose, use and impact of teacher assessment framework for MATHEMATICS to track and monitor pupils' progress and attainment
	To embed more opportunities for children to use physical mathematics resources across different mathematical topics to develop greater conceptual understanding.
<b>To develop the leadership of Mathematics</b> <b>To ensure ALL groups of pupils receive a good quality of education</b>	To deliver CPD training to class teachers to develop their subject knowledge and pedagogy within <b>Mathematics</b>
	To use data analysis of teacher assessment framework to inform future planning opportunities, address misconceptions in pupils' learning and accelerate progress
<b>To develop links within the wider curriculum to provide enrichment opportunities for pupils linked to Mathematics</b>	To work collaboratively with middle leaders to make cross-curricular links that enable pupils to make deeper connections within their learning and develop their understanding and interest in <b>Mathematics</b>
	To host <b>Mathematics</b> -related clubs, theme days and events/competitions to promote an enthusiasm and passion for <b>Mathematics</b> across the school

## Section Three: Development Planning

Key Priority 1: To improve the quality of education in Mathematics for all groups of children.		Lead: Deputy Headteacher & Mathematics CL		RAG
<b>Key Priority: Quality of Teaching</b> 1. To review and evaluate the effectiveness of the MATHEMATICS curriculum to ensure it is in-line with National Curriculum statutory requirements, as well as aligned with the school's curriculum key drivers 2. To review and evaluate the quality of teaching linked to the use of representation and structure to develop pupils' conceptual and procedural understanding 3. To review and evaluate the purpose, use and impact of teacher assessment framework for MATHEMATICS to track and monitor pupils' progress and attainment 4. To embed more opportunities for children to use physical mathematics resources across different mathematical topics to develop greater conceptual understanding.				Behind Not achieved Underway Completed
Outcome – What? <i>What are we aiming to achieve?</i>	Actions – How? <i>What will happen to achieve the outcome?</i>	Who/when?	Resources Costs Budget Code CFR	Success Criteria and Evaluation <i>What will we see when we have achieved the outcome?</i>
1. Mathematics SL, SLT, YTLs and CTs have a sound understanding of what is being taught, how it is being taught and why it is being taught across the half-term/topic leading to at least GOOD QOE in subject areas for all pupils.	Discussions with class teachers on how they plan MATHEMATICS and understand what training/CPD they may require to develop their subject knowledge and pedagogy linked to MATHEMATICS  Throughout the year, subject leader (SL) to monitor: <ul style="list-style-type: none"> <li>- Is there coverage from the POS/NC?</li> <li>- Are the skills progressive from previous years?</li> <li>- Is planning differentiated for ALL groups of children to learn and make good progress?</li> <li>- How is the calculation policy interpreted and applied?</li> <li>- What is the impact of pupil conferencing? Do pupils get the chance to develop their target over time?</li> <li>- How well linked are units of mathematics to the wider curriculum?</li> <li>- Are there opportunities for children to receive real life experiences?</li> <li>- To review and update a whole school curriculum map that aligns with the school's curriculum key drivers</li> </ul>	Ongoing throughout the year – half termly	Leadership time	All children can verbally express what they have learnt during the lesson.  All groups of children will show progression in their learning by achieving their targets set with their teachers in their books.  Evidence of attainment by all groups of children from summative assessments.
2. Mathematics SL, SLT, YTLs and CTs will have clarity around the areas of strength and development in their subjects across the	Evaluate triangulation of what has been taught, adapted teaching and progression from LTPs/MTPs planning.  Discussions with CTs how this triangulation is evidenced in pupils' progress and attainment.	Ongoing throughout the year – half termly	Leadership time	Outcomes from the lesson observations (focusing on staff who need targeted support), book looks, pupil discussions and pupil conferencing.

<p>school. Identified areas of strengths will be utilised to support where AOD have been identified.</p>	<p>Complete pupil interviews to gather soft data on pupils' perspectives and experiences linked to MATHEMATICS</p> <p>Discussions with class teachers on how they plan MATHEMATICS and understand what training/CPD they may require to develop their subject knowledge and pedagogy linked to MATHEMATICS e.g. completion of a mathematics skills audit for staff to identify areas of development across the school to focus on during CPD</p> <p>Feedback to year team leaders, SLT and governors with points to celebrate and areas of development.</p>	<p>DHT/CL</p> <p>CL/DHT</p> <p>CL/DHT</p>	<p>Leadership time</p>	
<p>3. Mathematics SL, SLT, YTLs and CTs will have an assessment framework that can track and monitor pupils' progress and attainment in <b>Mathematics</b> and identify areas of strength and areas of development that can be used to refine the education offer at Whitchurch linked to Mathematics</p>	<p>Review staff's understanding of the mathematics teacher assessment framework and gather feedback on how it is currently devised, used and the impact it is having on planning, teaching and learning?</p> <p>SL to analyse of data identifies groups of pupils who are not attaining national expectations in <b>Mathematics</b>. CL to work alongside class teachers to identify next steps that can be addressed for individuals and/or groups of pupils.</p> <p>Review of the mathematics TAF across each year group and identify the non-negotiables that pupils need to know in reference to knowledge and skills so that they have the pre-requisites needed to move onto the next stage of their learning</p>	<p>Spring 1/2</p> <p>DHT/CL</p>	<p>Leadership Time</p>	<p>Teachers will be succinct in using a whole school assessment tool for Mathematics relating to the NC objectives that will lead to accurate formative and summative assessments (when the latter resumes) of children's progress and attainment across the whole school.</p>
<p>4. Mathematics CL, SLT, YTLs and CTs will have an understanding of how to use mathematical apparatus and model using physical resources in different mathematical topics. This will enable pupils to conjecture their</p>	<p>Baseline assessment to get an idea of how CTs and LSAs feel about using different manipulatives e.g. staff skills audit, staff interview/survey</p> <p>Audit of mathematics resources and how this links to the units taught as part of the ambition of the National Curriculum</p> <p>Identify the different areas to focus on (CPD opportunities) ensuring that all staff are aware and understand the progression outlined within the school's calculation policy</p>	<p>Ongoing throughout the year – half termly</p> <p>CL/DHT/YTLs</p>	<p>Leadership Time</p>	<p>Teachers to build on their own confidence and knowledge of manipulatives.</p> <p>Children to be able to confidently and independently choose and use a range of manipulatives.</p>

mathematics learning and 'dig deeper' into their conceptual understanding.	<p>CTs and YTLs to review lesson sequence and identify areas where mathematical resources could be used</p> <p>Modelling to children how to use a resource in different topics in reference to the school's calculation policy</p> <p>Providing classes with their own maths resources in classrooms</p>			
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<b>Key Priority 2: To develop the leadership of Mathematics</b> To ensure ALL groups of pupils receive a good quality of education			<b>Lead:</b> Deputy Headteacher & Mathematics SL	<b>RAG</b>
<b>Key Priority: Leadership &amp; Management</b>				<b>Behind</b> <b>Not achieved</b> <b>Underway</b> <b>Completed</b>
<ol style="list-style-type: none"> <li>To deliver CPD training to class teachers to develop their subject knowledge and pedagogy within Mathematics</li> <li>To use data analysis of teacher assessment framework to inform future planning opportunities, address misconceptions in pupils' learning and accelerate progress</li> </ol>				
<b>Outcome – What?</b> <i>What are we aiming to achieve?</i>	<b>Actions – How?</b> <i>What will happen to achieve the outcome?</i>	<b>Who/when?</b>	<b>Resources Costs</b> Budget Code CFR	<b>Success Criteria and Evaluation</b> <i>What will we see when we have achieved the outcome?</i>
1. Class teachers have secure subject knowledge of what they are teaching and how they teach <b>Mathematics</b> to support pupils' outcomes and ensure at least a GOOD quality of education in the subject	<p>Construct a new calculation policy based on principles of Teaching for Mastery.</p> <p>Deliver INSET training to all staff- covering the following:</p> <ul style="list-style-type: none"> <li>- Do teachers understand the principles behind the Teaching for Mastery?</li> <li>- Implementing a consistent method of calculation across the school</li> <li>- Do teachers understand how Teaching for Mastery enhances the children's learning by deepening and widening their knowledge and skills?</li> <li>- Do teachers understand the importance of developing children's mathematical thinking and reasoning?</li> <li>- Importance of intelligent practice and variation to secure mathematical concepts</li> <li>- Importance of investigations and problem solving opportunities</li> <li>- Dissemination of skills from Mastering Number (EYFS and KS1) across the school</li> </ul>	DHT/CL  DHT/CL	Leadership Time  CPD Budget E08	<p>Teachers will know when and how to use concrete resources, pictorial and abstract approach to enhance their teaching and deepen the understanding of their pupils' learning. Teachers can use manipulatives/resources effectively.</p> <p>Pupils can explain their learning using the correct mathematical language.</p> <p>QOE for <b>Mathematics</b> will improve across the school as we see the implementation of actions from the</p>

				CPD session and the impact upon pupil outcomes.
2. Subject leader can use the data analysis of the teacher assessment framework to inform future planning opportunities, address misconceptions in pupils' learning and accelerate progress.	<p>MATHEMATICS SL will analyse the collection of data regularly. This will ensure:</p> <ul style="list-style-type: none"> <li>- Identification of pupils who are not attaining national expectations in MATHEMATICS. Subject Leader to work across the whole school in sharing good practice on ideas around planning, teaching, assessment and questioning linked to the new curriculum to raise pupil outcomes.</li> <li>- Pupils who are exceeding in MATHEMATICS and can be challenged through school-based projects/competitions.</li> <li>- Identification of areas in Mathematics children may have gaps in so that more opportunities are provided throughout the year (e.g. time and money) and utilizing question level analyses</li> </ul> <p>Use of data analysis to identify trends and use this as a focus for developing the quality of teaching and learning linked to MATHEMATICS</p> <p>Evaluate data from teacher assessment framework:</p> <ol style="list-style-type: none"> <li>1) To action into planning</li> <li>2) To clarify pupils' misconceptions in learning</li> <li>3) To accelerate the progress</li> </ol>	Half termly basis - DHT  Termly-throughout the year - DHT	Leadership Time	<p>Medium Term plans are dynamic to address misconceptions in learning and create adapted learning to all groups of pupils.</p> <p>QOE for <b>Mathematics</b> will improve across the school as we see the implementation of actions and the impact upon pupil outcomes.</p>

<b>Key Priority 3: To develop links within the wider curriculum to provide enrichment opportunities for pupils linked to Mathematics</b>		<b>Lead:</b> Deputy Headteacher & Mathematics SL		<b>RAG</b>
<b>Key Priority: Personal Development, Behaviour &amp; Attitudes</b>				<b>Behind</b> <b>Not achieved</b> <b>Underway</b> <b>Completed</b>
1. Work collaboratively with curriculum leaders to make cross-curricular links that enable pupils to make deeper connections within their learning		2. Host <b>Mathematics</b> -related clubs, theme days and events to promote an enthusiasm and passion for <b>Mathematics</b>		
<b>Outcome – What?</b> <i>What are we aiming to achieve?</i>	<b>Actions – How?</b> <i>What will happen to achieve the outcome?</i>	<b>Who/when?</b>	<b>Resources Costs</b> Budget Code CFR	<b>Success Criteria and Evaluation</b> <i>What will we see when we have achieved the outcome?</i>
1.	Evaluate through year group LTPs/MTPs and continue to liaise with year team leaders for more information on how cross-curricular links can be made.	Half-termly	Leadership time	Pupils are able to make connections within their learning through a



<p>Mathematics subject leader, all teachers, SLT and link governor all understand what is being taught, when it is being taught and how it is being taught. They understand how the curriculum is designed to build upon skills and knowledge and how links are made in pupils learning. These links also extend to key drivers and school ethos and vision.</p>	<p>Continue to link elements of <b>Mathematics</b> with wider curriculum across the year.</p>	<p>Half-termly</p>	<p>Leadership time</p>	<p>thematic approach to curriculum design.</p> <p>Pupils can apply knowledge and skills to real-life scenarios and are able to commit learning to their long-term memory</p> <p>Staff are able to design and teach a dynamic curriculum that sets high expectations and provides real life experience</p>
<p>2. SL and all stakeholders are invested in giving pupils opportunities to develop their talents and interests</p>	<p>Continue to provide a range of opportunities within mathematics to support pupils and nurture their talents and interests.</p> <ul style="list-style-type: none"> <li>- e.g. Maths Surgery (in-school provision by staff), Maths Week (24<sup>th</sup> – 28<sup>th</sup> June), Primary Maths Challenge (year 5 &amp; 6), First Maths Challenge (year 3 &amp; 4), Maths National Championship – Maths quiz (external) and 24 (year 5 and 6).</li> </ul> <p>Liaise with governors – what experiences can they offer the pupils with regards to <b>Mathematics</b></p>	<p>Half-termly</p>	<p>Leadership Time</p>	<p>Pupils become aware of potential career paths they can undertake linked to <b>Mathematics</b></p>

## Section Four: Monitoring

### Leaders' Monitoring Schedule School Development Plan Monitoring 2023/2024

Priority	Responsible Staff	Monitoring Leader	Monitoring Date
1. To improve the quality of education in Mathematics for all groups of children.	Martin TL (DHT) Mariama Osman (CL)	Joseph Pine (HT) Martin TL (DHT)	Autumn
2. To develop the leadership of Mathematics To ensure ALL groups of pupils receive a good quality of education	Martin TL (DHT) Mariama Osman (CL)	Joseph Pine (HT) Martin TL (DHT)	Autumn 2
3. To develop links within the wider curriculum to provide enrichment opportunities for pupils linked to Mathematics	Martin TL (DHT) Mariama Osman (CL)	Joseph Pine (HT) Martin TL (DHT)	Termly