Heatherlands Primary School

Curriculum statement for Maths

Intent **Purpose**	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 is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich 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. Through building up a body of key foundational knowledge and concepts, the intent is that pupils follow a mastery curriculum rooted in consolidation of prior learning and development of new skills. Children should be encouraged to understand and consolidate their maths by working on the essential areas of Mastery: fluency, representation and structure, variation and mathematical thinking in order for them to build coherence.

Intent **Aims**	At Heatherlands, the intent is that all children: • **Become fluent** in the fundamentals of mathematics, including varied and frequent practise with increasingly complex problems over time. • Develop their **conceptual understanding** and the ability to recall and apply knowledge rapidly and accurately. • **Reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing argument, justification or proof using mathematical language. • To **solve problems** by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

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Implementation What planning looks like	In the Foundation Stage, lessons are planned in accordance with the Development Matters Mathematics with children working towards the Early Learning Goals of number and numerical pattern. From Years 1 to 6, all lessons follow the small mastery steps of the White Rose programme. Maths lessons are planned by year teams with the maths subject leader overseeing the implementation and monitoring the impact of learning. All plans are in accordance with the new National Curriculum objectives, to ensure continuity and progression throughout the school and are differentiated to meet the needs of all learners. Links between Maths and other subjects are highlighted, including ways in which ICT can be applied to the subject. All planning is available on the school server. Weekly homework is sent home to support the children to consolidate the knowledge and skills learnt in school. Times table Rockstars is also used to support out times table development and the school has regular competitions. Maths lessons are carefully planned to contain the following elements: • Times table or counting • fluency of arithmetic questions and consolidation of previous learning • Maths displayed within real life contexts • Discussion • Guided and paired practise. • Direct teaching and modelling • Practical tasks or investigative work • Recording based on fluency, representation and structure, variation and mathematical thinking • Problem solving and reasoning for all • Communicating • Reflecting and evaluating **SEND** At Heatherlands Primary School we provide strong mathematical opportunities to all children regardless of their academic strengths. We provide learning opportunities matched to the needs of children with learning difficulties and we take into account the targets set for individual children in their Individual Education Plans (IEP's). All children have the opportunity to develop their fluency and apply their mathematical skills and knowledge to reasoning and problem solving problems. If required, carefully planned targeted interventions are put in place to help children master the curriculum. We use the Ready To Progress document to help

	support with differentiating the curriculum. Children who require additional support in the learning of mathematics will receive one or more of the following in addition to the quality first teaching practise. - Power of one or two Maths intervention. - Precision teaching - Targeted intervention to address a particular need. - Pre-teach - Re-teach - Additional support in lessons - Conferencing with the class teacher. Teachers take account of the three principles of inclusion that are set out in the National Curriculum: • Setting suitable learning challenges. • Responding to the diverse learning needs of pupils. • Overcoming potential barriers to learning and assessment for individuals and groups of pupils. Staff at Heatherlands use a 'ways in for SEND' document written for all curriculum areas. This offers suggestions and activities to support the needs of all children in accessing the broad and balanced curriculum. In year six children are placed in ability sets for Mathematics. This is to support their transition to secondary school.
Implementation What teaching looks like	In the Foundation stage, Maths exploration is an integral part of the Early Years Curriculum and teachers support children to make sure links are made to other subjects so that pupils can start to develop and apply their Maths skills. Teachers plan activities around the use of manipulatives to enable children to make and explore numbers and allow children to work in a thematic approach where possible to support development. The use of concrete manipulatives is encouraged throughout the school to help all children to explore maths and cross curricular links are made where possible. In EYFS, Year 1 and Year 2, teachers deliver a daily 15 minutes Mastering Number programme to help to support their pupils recall of number facts and fluency. All year groups have 5 lessons of Maths per week and as a core subject it is taught in the morning. The average time spent on Maths is four hours in EYFS, five hours in Key Stage 1 and six hours

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	in Key Stage 2. In Maths lessons, teachers focus on introducing the learning in context. Children then have the ability to apply previous learning and build upon their knowledge through teachers careful questioning. Teachers encourage children to share ideas and explain why and how they came to their answers. Teachers should encourage the children to lead the learning. <u>Maths lesson follow the below structure:</u> - All year groups use the CAR to respond to previous learning. - All year groups begin their lessons with times table practise or counting. These are represented in a variety of ways as shown in the calculation policy - EYFS and KS1 use Mastering Number. In KS2 times table and counting are followed by fluency of arithmetic questions and consolidation of previous learning. In KS2 fluency focuses around number operations and is recorded in maths books. - The focus for the lesson is introduced. - Teachers provide the mathematical concept linked to a real life context/problem and give children opportunities for discussion. - Teachers will use key questioning to assess learning and move learning to suit the needs of the children. - Adults with then support guided and paired practise to explore learning. This will often have manipulatives to support. - Where appropriate, direct teaching and modelling will be shown to support children. - Teachers will then facilitate work in their books. Based on AFL, Adults will work with a focus group where appropriate. Recording based on fluency, representation and structure, variation and mathematical thinking. Where appropriate, this will involve practical tasks or investigative work. - Teachers provide All children will have the opportunity to reason and problem solve. - Teachers provide feedback and mark to inform the next day's planning and response tasks.

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Impact What learning looks like	In Maths lessons, children follow the mastery approach and each lesson is closely linked to one or more of the White Rose small steps. The core learning is gained through a question presented in a context and children working in paired and guided work to develop a secure understanding of the knowledge. Children are regularly asked how and why they chose to use a certain method and explain their reasoning to their peers. Children start each lesson by completing the CAR. Children review their learning from the previous lesson and respond to teacher marking. This is followed by children counting in multiples or practising times tables through strategies outlined in the school's calculation policy. Children in Key Stage 2, then complete 4 fluency questions and 4 flash back 4 questions in their books to support them to develop their fluency. Children will then be presented with their learning in context and they are encouraged to apply previous learning and work with their partners to solve it. They respond to teacher questioning and feedback to their peers allowing all children to learn from their peers. Questioning and paired/ guided practise are vital for gaining mastery. Independent practise - children then work through a task independently to apply the skills and knowledge learned through their class discussion. This task will be applicable to the child and allow them to achieve. Some children may work in a guided group with an adult. Children will work on a reasoning and problem solving task to support them to apply their learning to a variety of representations and contexts. This may be verbally or in books. Finally, children are encouraged to self-assess their learning using the self-assessment faces on their learning slips.
Impact What assessment looks like	In Maths, teachers use multiple assessment for learning opportunities to adapt teaching immediately to suit the needs of the class. Teachers use differentiated questioning and assessment for learning strategies to help all children to master the curriculum and change the direction of learning to suit all children. The White Rose steps are followed with a degree of fluidity to enable all teachers to spend additional time on a step if assessment for

	learning shows this is needed. Same day intervention is put in place to address a misconception from the previous lesson. At the end of the lesson, teachers will assess the children's work and further tailor planning to suit the individual needs of the children. If children are not ready to move on, immediate intervention is put in place. This may be in the form of a pre or re-teach; a catch up intervention with the class teacher or TA; a supported group in a follow up lesson or supported CAR tasks. Whole classes can stay on the small step for a larger duration of time should this be required. This prompt intervention ensures that all children are ready to progress. Teachers ongoing assessment allows them to accurately adapt learning to suit the needs of all children. This means that all children should have a starting point relevant to their individual needs. In Maths, formal assessment takes place at the beginning of each unit in the form of a cold task test. The scores are recorded on the children's progress checkers at the front of their books. At the end of the unit, the children retake the test and their progress is recorded on their progress checker. If children do not make positive progress, despite ongoing assessment in lessons, precise intervention is put in place to support based upon question level analysis. Termly progress tests are completed using the NFER tests. Children undertake these in test conditions and their standardised scores are recorded on DC Pro. QLA (Question level analysis) is conducted to ensure that targeted interventions can be set and teachers can adapt planning to ensure that pupil needs are met. In addition, teachers assess pupils based on their scores and work in books. Children will be assessed as 'B' (below), 'W' (working towards the expected standards), 'N' (age related expectation) meeting expected standards or 'A' (greater depth standard) exceeding expected standards. Children who are achieving above the national level for their age may be identified as more able and put onto the school's more able register where the children can be directed towards local clubs to continue and further their skill. In Early Years Foundation Stage (EYFS) observational assessments are completed throughout the year and an on-entry number assessment takes place to assess learning in order to personalise the curriculum.

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	Review The curriculum will be kept under review and evaluated regularly. This will require discussion between the Head Teacher, Maths leader and all teaching staff, to ensure appropriate coverage of the knowledge within the curriculum and that the teaching of key skills are being implemented. At Heatherlands, we work alongside the Partnership school improvement team to ensure robust quality assurance and continued professional development.