

Subject:	Mathematics, Backwell Junior School
Intent	<p>Maths is an essential life skill in which we at Backwell Juniors passionately believe all children can be successful. We use the White Rose Maths scheme to shape our learning, which has been created by a group of teachers and mathematicians dedicated to developing maths education for everyone. In our maths lessons, our aim is not just to teach the acquisition of numerical facts and methods but also to teach a deeper understanding of the meaning and reasoning behind the ‘whys’ of maths. In this way children can make links, spot patterns and build upon their prior knowledge to explore new and challenging concepts, secure learning and make real progress. We use explicit teaching and a small steps approach to support children in gaining a deeper understanding of key mathematical concepts. We want our children to experience the creativity and connectivity of maths, both within itself and the wider areas of life.</p> <p>As a ‘Learning Without Limits’ school, we value children taking control of their learning through the self-selection of differentiated challenges and offer the opportunity (at every level) to secure fluency in arithmetic proficiency, alongside exploring reasoning and problem-solving. We want our pupils to become high quality mathematicians who are fluent in the fundamentals of maths; who can reason mathematically and solve problems. Like White Rose, we believe that everyone can do maths!</p>
Implementation	<p>Maths is taught discretely every day and focusses on the key areas of place value; the four functions (including with decimals, fractions and percentages in upper KS2); fractions; geometry; measures; and statistics, as identified in the 2014 National Curriculum and 2020 Ready to Progress Guidance. Our lessons encourage discussions and debate (including through our Talk 4 Ten discussion starters), with teachers supporting children to look for what else they can deduce based on what they see before them. This supports our aim of building and strengthening the links children are forging between the different areas of maths.</p> <p>Times tables are taught, practised and tested in all year groups every week, as the secure understanding of key multiplication and division facts is essential to accessing and understanding so much of maths in everyday life. Concrete (physical), pictorial and abstract resources are used in every classroom and at every level. We believe all three are essential parts of the learning journey and should not be seen as a linear path to move along and out of. Instead, they should be used as and when needed to guide and develop understanding. The consistent use of representations and key language across the year groups supports and consolidates learning, enabling children to progress and extend their knowledge, skills and understanding. Likewise, fluency and reasoning go</p>

	<p>hand in hand and both skills are taught simultaneously to secure the deeper mathematical understanding needed in life. Children are regularly challenged about 'why' a stage is needed in a process or asked 'how do you know' to elicit a response that shows their understanding rather than just the solution to a calculation. We believe the process is as important as the answer!</p> <p>Doodle Maths is a great resource we use to help children requiring additional support to fill the gaps in their understanding, knowledge and skills. Each child using the programme completes a series of baseline quizzes to determine where the gaps are going right from Year 1 to their current year. The computer then creates targeted questions and learning topic pages for the child to work through at their pace to fill-in the missing pieces using a 'little and often is best' approach. Completed sections are rewarded with stars and effort recognised and praised. Our teachers regularly monitor each child's progress, effort and understanding.</p> <p>Our Inspirational Maths days, where the whole school submerses itself in nothing but maths activities for 3 days, are a great opportunity to explore maths and ask questions that widen and deepen, support and strengthen the key concepts of the National Curriculum. We explore different number representations, the physical construction of 3d shapes, investigate 'what if' scenarios, tessellation, the 'golden ratio', 'prove the teacher wrong' questions and many more puzzles. The children really enjoy these intellectual challenges exploring the maths and as a result experiencing great learning at the same time as having fun!</p>
Impact	<p>As a result of our teaching, children are engaged and challenged in maths lessons, demonstrating confidence and enjoyment. The regular opportunities for reasoning, problem-solving and discussion mean our children can confidently talk about their maths and their learning. Children are able to show different ways of representing their answers and ideas through concrete resources, by using pictorial or abstract methods or through verbal or written reasoning. Our children work with confidence and enjoyment knowing it is safe to make and learn from mistakes, use trial and error, and to struggle and grapple with mathematical concepts and problems. We track and monitor our children's learning to support their progress and then celebrate their successes in displays, certificates and assemblies. The children are proud of their achievements and we are proud of them!</p>