**Maths Curriculum**

**Statement**

**Intent – What we are trying to achieve?**

* When teaching mathematics at Ashleigh, we intend to provide a curriculum which caters for the needs of all individuals and sets them up with the necessary skills and knowledge for them to become successful in their future journeys.
* We believe that our maths curriculum will create enthusiastic, creative and articulate mathematicians. Through a varied and inspiring curriculum, we aim to develop the children’s problem solving, resilience and reflective skills – skills that can easily transferrable across the curriculum.
* Our approach to maths is both skills and knowledge based. In order for children to develop into well rounded and passionate mathematicians, we aim to encourage the children’s understanding of the world around them and arm the children with the skills to approach everyday problems.
* As a school, we believe that fluency is key. Children need to have a secure understanding of basic principles in order to deepen their knowledge of the maths curriculum further. Through our rigorously planned curriculum, children are encouraged to challenge themselves through the use of critical thinking and efficient and effective approaches to problems which they may face.
* All pupils are encouraged to develop deep thinking and question the way in which the world works, promoting the spiritual growth of our pupils. In maths lessons, children are always encouraged to delve deeper into their understanding of mathematics and how it relates to the diverse world around them. Sequences, patterns, measures and ultimately the entire study of mathematics was created to make more sense of the world around us and our aim is to enable all of our pupils to use maths as a tool to explore these possibilities through the use of rich, inspiring and challenging mathematical tasks.
* Children are encouraged to make mistakes in a safe and supportive environment. They are supported to discuss these misconceptions with their peers and staff alike.
* We place oracy at the heart of our learning through shared work and class discussions. Use of appropriate vocabulary is modelled throughout lessons by both staff and children, allowing everyone to ‘talk like a mathematician’.
* We intend for all pupils to become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
* We intend for all pupils to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
* We intend for all pupils to 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.
* We intend to create a vocabulary rich environment, where talk for maths is a key learning tool for all pupils. Pre teaching key vocabulary is a driver for pupil understanding and develops the confidence of pupils to explain mathematically.

**Implementation – How do we translate our vision into practice?**

* Every class from EYFS to Y6 follows the White Rose scheme of learning which is based on the National Curriculum. Lessons may be personalised to address the individual needs and requirements for a class but coverage is maintained.
* In order to further develop the children’s fluency, reasoning and problem-solving, we use a range of planning resources including those provided by the NCETM and NRICH to enrich our children’s maths diet.
* We have starter activities in each class whereby children are set a maths task at the start of the day to ensure general maths knowledge and fluency are maintained and developed; these may take many forms, for example: 4 a day, tough ten, arithmetic, specific times tables or several questions about a mixture of maths topics. While the class are solving the questions, the staff are able to support children with consolidation or pre-teaching ensuring they are confident with skills required for the upcoming session.
* We incorporate sustained levels of challenge through varied and high quality activities with a focus on fluency, reasoning and problem solving.
* Learning is broken down into small, connected steps, building from what pupils already know. The lesson journey should be detailed and evident on the classes interactive whiteboards (Smart Notebook or PowerPoint) and within teacher’s plans.
* Difficult points and potential misconceptions are identified in advance and strategies to address them planned.
* Key questions are planned, to challenge thinking and develop learning for all pupils.
* Contexts and representations are carefully chosen to develop reasoning skills and to help pupils link concrete ideas to abstract mathematical concepts.
* The large majority of children progress through the curriculum content at the same pace. Differentiation is achieved by emphasising deep knowledge and through individual support and intervention.
* Teaching is underpinned by methodical curriculum design and supported by carefully crafted lessons and resources to foster deep conceptual and procedural knowledge. Practice and consolidation play a central role. Carefully designed variation within this builds fluency and understanding of underlying mathematical concepts.
* Teachers use precise questioning in class to test conceptual and procedural knowledge and assess children regularly to identify those requiring intervention, so that all children keep up. Children’s explanations and their proficiency in articulating mathematical reasoning, with the precise use of mathematical vocabulary, are supported through the use of stem sentences provided by the teacher.
* Concrete Pictorial Abstract (CPA) - We implement our approach through high quality teaching delivering appropriately challenging work for all individuals. To support us, we have a range of mathematical resources in classrooms including Numicon, Base10 and counters (concrete equipment). When children have grasped a concept using concrete equipment, images and diagrams are used (pictorial) prior to moving to abstract questions. Abstract maths relies on the children understanding a concept thoroughly and being able to use their knowledge and understanding to answer and solve maths without equipment or images.
* In order to advance individual children’s maths skills in school and at home, we utilise Times Tables Rock Stars for multiplication practise, application and consolidation.
* Through our teaching we continuously monitor pupils’ progress against expected attainment for their age, making formative assessment notes where appropriate and using these to inform our teaching. Summative assessments are completed at the end of each maths unit and then at the end of each term half term; their results form discussions in termly Pupil Progress Meetings and update our summative school tracker. The main purpose of all assessment is to always ensure that we are providing excellent provision for every child.
* Maths is taught across the curriculum ensuring that skills taught in these lessons are applied in other subjects. We also have whole school maths themed days e.g. Problem Solving Days & TTRockstar Launch Day.

**Impact – What is the impact of our curriculum on the students?**

* Upon completion of Year 6, our curriculum enables pupils to be fully prepared and equipped to successfully continue their mathematical learning journey at secondary school and in their later lives.

We aim to ensure that they:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop 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 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.

****Ashleigh Maths Team