CATHEDRAL SCHOOLS TRUST

Hotwells Primary School

Curriculum Statement for Mathematics

INTENT - What do we aspire for our children?

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.

National Curriculum 2014

What is our Rationale for Maths?:

At Hotwells we follow the National Curriculum for Mathematics and, alongside this, we aim to ensure that all learners:

- Become fluent in the fundamentals of mathematics such as times tables and formal written calculations in order for them to develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Are able to reason mathematically, by proving or justifying their thinking.
- Can solve problems by applying their mathematical knowledge and do this in a variety of ways.
- Understand the practical advantages of mathematics and its purpose in the real world.
- Develop a positive attitude towards mathematics and demonstrate resilience in their learning.

What are our aims for Maths at Hotwells?:

At Hotwells, our overarching aims are:

We are Ambitious:

- Our maths curriculum is a cumulative curriculum where key concepts are introduced, revisited and deepened over time.
- Sequencing of teaching and rehearsal, including spaced retrieval practice, allows children time to commit concepts, rules and principles to store in their long-term memory.
- Children take pride in their maths learning and presentation.

- Children's learning is developed through the Concrete-Pictorial-Abstract (CPA) approach in order to build on their existing understanding and to develop their conceptual understanding.
- Mathematical thinking is developed and scaffolded with sentence stems both in oracy and writing.
- Scaffolding supports all learners - we use a small steps approach, deepening the concept over the lesson.
- All children have the opportunity to reason on a regular basis.

We are Creative:

- Teachers look for opportunities where mathematical learning can be delivered in a creative way.

We are Local and Global Citizens:

- Children's learning is celebrated at school and at home.
- We encourage children to collaborate within maths and share their processes with talk partners and as a whole class. Children will listen respectfully to others and be thoughtful in their responses.

What will our children learn at Hotwells?

COVID response:

At Hotwells, we will continue to follow the White Rose Maths progression of learning which has interwoven the previous year groups' summer learning to ensure children are fully equipped with the skills to access the curriculum for their year group.

Since the Covid-19 pandemic, the White Rose progression documents have been updated accordingly: to enable key teaching points to be highlighted, essential content that the children may have forgotten to be recapped and to flag any content that might not have been covered during the school closures period.

These areas are indicated by an  in the small steps of each progression document and the updated schemes of learning can be accessed here.

Progression Documents:

- We follow the White Rose Progression for Years 1-6 which can be found by clicking here..
- The progression document details how each topic is developed over time so that teachers and children are clear about what learning has already happened and where it will continue the next year.
- In Reception we use the White Rose Guidance documents to underpin the planning and supports the delivery of a curriculum which embeds mathematical thinking and talk. It allows for key mathematical concepts to be revisited and developed further across the year. This can be found here.
- Number Sense is used in EYFS-KS1 to support a deep understanding of number and number relationships, and to fluency in addition and subtraction facts. More information about Numbersense can be found through this link.

IMPLEMENTATION - How will we deliver the curriculum?

- During their time at Hotwells, children will study a broad and balanced mathematics curriculum. They will cover areas including number and place value, addition and subtraction, multiplication and division, fractions, decimals and percentages, shape and space, statistics and algebra appropriate to their age.
- White Rose Maths is a cumulative curriculum, so that once a topic is covered it is met many times again in other contexts.
- Children will be taught using a 'Mastery' approach which allows for all learners to move together through content, flexibly accessing support or challenge as needed.
- Children will have access to physical resources to support in embedding their understanding. Manipulatives and pictorial representations are carefully chosen by teachers and used in lessons to reveal the underlying structure of the mathematics (Concrete, Pictorial, Abstract).
- Children are encouraged to work collaboratively using mathematical language in their discussions.
- Children are encouraged to work independently and consider making mistakes as a positive opportunity for learning.
- Teachers create an environment where mathematical vocabulary is woven into the fabric of the learning and is visible in the classrooms. Children are able to use mathematical vocabulary to discuss and reason about concepts using appropriately challenging verbal and written scaffolding.
- Times Tables are taught weekly using a consistent approach and children use Times Tables Rock Stars to embed this knowledge.
- We will broaden children's awareness of how mathematics is used in the wider world.

What will Maths look like in EYFS?

- In Early Years, Maths lessons are taught daily and are structured in a similar way to the rest of the school using the "I do, We do, You do" approach.
- Number Sense is used as a starter at the beginning of each lesson to embed fluency skills.
- Consistent mathematical vocabulary and methods are used in line with the rest of the school and lay the foundations for all their future learning.
- Number formation rhymes are used regularly.
- Concrete resources are used to teach all mathematical concepts.
- A range of pictorial representations are used in the teaching, such as part-part whole models, five and tens frames.
- Children are then encouraged to draw their mathematical thinking.

What will Maths look like in Key Stage 1 and Key Stage 2?

In Key Stage 1 and Key Stage 2, we teach Maths as daily whole class lessons so that all children have access to the age-related skills and knowledge contained in the National Curriculum. Within lessons, teachers and teaching assistants target and differentiate support for SEND learners. This may involve a greater level of scaffolding and access to additional support materials such as concrete resources, sentence stems or additional modelling.

Lesson design follows a similar lesson structure to the CUSP model used at Hotwells: the CEEAAC model. In Maths lessons, we use the language, "I do, We do, You do" to structure the lessons.

- All lessons in Years 1-6 will start with 'Fluency Five'. This is a time to **Connect** to the prior learning and recap on key fluency skills which, in Key Stage 2, are chosen dependent on the needs of the class. This may be written in books, on whiteboards or verbal practice.
- In Key Stage 1 and EYFS, the fluency time is increased to 15 minutes per day and follows a more structured approach through the use of Number Sense. This is to ensure that the children have secured the basic facts as early as possible.
- "I do" is where the Teacher will **Explain** the concept and demonstrate Examples.
- "We do" enables the children to try an **Example** for themselves, with a partner, or in groups.
- "You do" is where the children will **Attempt** and **Apply** their knowledge in independent learning.
- Children are then encouraged to deepen their thinking and understanding through **Challenge**. We use an approach for this called the '6 Challenge Statements' where children will either: Explain it, Draw it, Story it, Prove it, Rule it, Correct it. For further challenge children may also be given Challenge questions to complete.
- When appropriate, children present their work using the Real Story/ Maths Story. This allows them to draw a pictorial representation of the calculation alongside the abstract method.

How will we support our learners with SEND in Maths?:

First and foremost, we support our pupils with SEND through **Universal Quality First Teaching**. High quality teaching is the first step in responding to pupils who have special educational needs (SEND Code of Practice, 2015: 6.36-6.37). We aim to ensure that *all* pupils access a broad and balanced curriculum and that this curriculum is not narrowed in any way for our pupils with SEND:

Some pupils will need support that is **additional to** high quality teaching. For this, we focus our support using the strategies from the Education Endowment Fund SEND guidance (EEF, 2021). This is included in the following table:

Explicit Instruction	Cognitive and Metacognitive Strategies	Scaffolding	Flexible Grouping	Using Technology
Provide clear instructions using the 'I do' and 'We do' phases. Allow children longer to attempt the questions. Use a range of visual aids, pictorial methods and concrete resources to support with their understanding. Teachers will give guided practice to those children who need it.	Children will use retrieval practice to connect to the prior learning. Teaching in Maths will be broken down into small steps. Children may be provided with checklists of instructions. Children may be given one question at a time so as not to overload their working memory. Worked examples will be provided to support with their independent learning.	Scaffolding will be temporary support that is removed when no longer required. Scaffolding can be verbal, visual or written. Reminders and suggestions of what equipment may support their learning will be given. Differentiated questions may be provided which are accessible for the child.	Groups are allocated temporarily, based on the current level of mastery. Children can access more or less support given the area of maths that they are learning. Pre-teaching can be used as a technique here to support.	Technology can assist in the teacher modelling through demonstrating worked examples. Quizzes and apps can be used to support the learning. For example: for the teaching of times tables.

Furthermore, a very small number of pupils will require **Specialist** provision whereby they will have a high level of support, and carefully considered targets, in order for them to be able to access the curriculum alongside their peers.

How will we use Assessment?:

We will use ongoing assessment to ensure that our pupils make progress in Maths. This will include:

- Standardised assessments: EYFS Baseline, Key Stage 1 and Key Stage 2 SATs and the Year 4 MTC.
- Formative assessment ongoing during lessons and across units of work.
- PiXL assessments and QLAs which are used to identify gaps in learning and directly inform planning.
- Rapid recall of multiplication and division facts which are assessed through daily practice.
- EYFS and Key Stage 1 being assessed daily on their number facts calculation strategies.

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IMPACT - How do we know our curriculum is effective?

Pupil Voice:

We understand that pupils are the best way to show how effective our curriculum is. Pupil voice will demonstrate:

- The correct use of mathematical vocabulary.
- The ability to reason mathematically.
- How they can apply their prior knowledge in their learning.

High Quality Outcomes:

We will monitor our curriculum through book studies and discussions with pupils. These will:

- Demonstrate pride and effort.
- Show accuracy in their written calculations.
- Show the use of concrete and pictorial representations to support their understanding of a concept.
- Include a use of the 6 Challenge Statements to deepen their understanding.
- Demonstrate a clear sequence of learning.
- Include vocabulary that is clearly seen and used correctly.
- Show that learners make progress regardless of starting points.