



**BROADWATER**  
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PRIMARY SCHOOL

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# Mathematics Policy 2024-2028

Turn your ear to wisdom and apply your heart to understanding (Proverbs 2:2)

Broadwater is a Christian School. We will enable children to become wise, confident, successful learners with the motivation, skills and responsibility to make a positive difference in God's world. Our vision is underpinned by the values we live by.

*The Holy Spirit produces this kind of fruit in our lives: love, joy, peace, patience, kindness, goodness, faithfulness, gentleness, and self-control. There is no law against these things! Galatians 5:22*

It is this fruit that, in partnership with parents, we will instil in the children of our school.

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## **INTENT**

### Aims of this subject

The national curriculum for mathematics 2014 has three overarching aims.

To ensure that all pupils:

- 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.

(National Curriculum in England, DfE 2013)

### Our vision for mathematics

At Broadwater we aim to teach the mathematics national curriculum in a creative and meaningful way. We provide opportunities for pupils to use their skills creatively through problem solving and investigations, which encourage curiosity, interest and fascination. We enable our pupils to become fluent in the fundamentals of mathematics: number bonds, multiplication tables and mental calculations with regular opportunities provided to consolidate, practice and apply these skills to reasoning scenarios.

## **IMPLEMENTATION**

### School curriculum

The school mathematics curriculum is planned using the objectives from both the National curriculum in England

([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/335158/PRIMARY\\_national\\_curriculum\\_-\\_Mathematics\\_220714.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/335158/PRIMARY_national_curriculum_-_Mathematics_220714.pdf)) and, for our early years

children, the Statutory framework for the early years foundation stage

([https://assets.publishing.service.gov.uk/media/65aa5e42ed27ca001327b2c7/EYFS\\_statutory\\_framework\\_for\\_group\\_and\\_school\\_based\\_providers.pdf](https://assets.publishing.service.gov.uk/media/65aa5e42ed27ca001327b2c7/EYFS_statutory_framework_for_group_and_school_based_providers.pdf) effective from 4<sup>th</sup> January 2024).

Teachers use the objectives within the programmes of study for each year group as the building blocks of their long, medium- and short-term planning. Teachers support their planning for the curriculum using a range of resources, from a variety of sources to ensure that our school's mathematics curriculum is as personalised, appropriate and engaging as possible. Teachers model correct mathematical vocabulary use in their lessons and recognise the importance of spoken language in mathematics, right from the earliest opportunities in the early years. Problem solving and reasoning opportunities feature heavily in our mathematics curriculum. Teachers plan for 'reasoning every day' to ensure that every mathematics lesson requires pupils to problem solve, challenge their thinking and provide justification for their views.

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## Early Years Foundation Stage

Since January 2021 (updated January 2024), the Statutory framework for the Early Years Foundation Stage (EYFS) has set out the standards expected for learning in mathematics in the early years. Developing a strong grounding in number is essential for children so that they can develop the necessary building blocks to excel mathematically in later years. Mathematics in the early years at Broadwater encourages the youngest pupils to experience the wonder of mathematics in the world around them through play and exploration.

The Early Years teachers plan daily maths lessons, making links, with current topics and across all areas of the EYFS to include real life experiences. To help the children build confidence and begin to apply their understanding, we provide opportunities for them to independently explore what they have learnt, in both the indoor and outdoor environments, for example; manipulating a variety of resources, using ten frames to organise their counting and exploring patterns. There is a key focus on using and understanding mathematical language, which enables the children to build a secure base and develop a mastery of mathematics. The deep and rich curriculum includes opportunities to continue their spatial reasoning development in shape, space and measure.

We encourage all children to have a positive attitude in mathematics. They are able to make connections by developing and experimenting with their own ideas and strategies, in a safe environment.

The enabling environment and teaching and support from adults, allows us to target individual needs and interests to build on their learning through the year. Pupils are encouraged to verbalise their ideas and share their explanations and understanding with their peers and the adults in school and at home. By providing active learning opportunities across the environment, we encourage the children to keep on trying to overcome difficulties and misconceptions and enjoy success.

## Key Stage One

In key stage one, the principal focus for teaching of mathematics at our school is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. Teachers plan mathematics opportunities through a daily mathematics lesson and, where possible, they make explicit the links to both cross-curricular topic work and the pupils' everyday experiences. Mathematics in key stage one involves pupils working with numerals, words and the four operations, including with physical objects and measuring tools. Pupils will develop their ability to recognise, describe and draw different shapes, using the related vocabulary and will describe different quantities of measure. The focus on the importance of language and discussion from the early years, continues into key stage one. Pupils are encouraged to verbalise their thinking and develop their explanations for others to demonstrate their understanding. Pupils are supported to probe and question each other about their mathematical thinking through discussion, which enables them to secure their understanding and remedy their misconceptions. At our school, we recognise that the links between concrete, pictorial and abstract representations are crucial to full understanding of the mathematical domains. In key stage one, teachers use a wide variety of representations in their teaching and pupils are encouraged to move between physical resources and informal 'jottings' and images which helps support these important links.

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## Lower Key Stage Two

In lower key stage two, the main focus of mathematics is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. At this stage, pupils will develop their ability to solve a range of problems, including with simple fractions and decimal place value. The focus in teaching shifts to developing efficient written and mental methods and performing calculations accurately with increasingly large whole numbers. In lower key stage two, teachers plan a daily maths lesson and incorporate discrete teaching of times tables and arithmetic methods.

In addition to this, teachers plan for 'guided maths' sessions at least twice a week. The focus of these sessions is to develop fluency across a range of mathematics domains. Teachers use this time in small groups to support revisiting learning, pupil conferencing, personalised learning to address misconceptions and time for pupils to consolidate learning. The learning of times tables is a key focus in lower key stage two. In line with the expectations of the national curriculum, all children are expected to have memorised their multiplication tables up to and including the 12 times table. They must also show precision and fluency in their work by the end of year 4.

## Upper Key Stage Two

The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers, negative numbers and decimals. Pupils will develop their understanding of the connections between multiplication and division with fractions, decimals, percentages and ratio. In upper key stage two, pupils will develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. As the pupils solve problems they will experience a variety of important mathematical processes; understanding the starting point, trying examples, recording results, pattern spotting, working systematically, devising strategies, writing explanations and generalising through the use of algebra.

As in lower key stage two, teachers plan for 'guided maths' sessions twice a week. The focus of these sessions is to develop fluency across a range of mathematics domains. Teachers use this time in small groups to support pupils to revisit learning, hold pupil conferencing, use personalised learning to address misconceptions and time for pupils to consolidate learning. In upper key stage two, arithmetic is taught in discrete lessons in addition to the daily mathematics lesson. This allows teachers to focus their teaching on developing fluency of these arithmetic skills.

## Links to other policies

This mathematics policy is closely linked to the written calculation policy (updated 2024) which details the methods and strategies taught for all four operations through the school. This policy is also linked to the homework policy. All year groups in the school are set homework for mathematics on a weekly basis.

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## Parental involvement

We keenly encourage parental involvement in mathematics at Broadwater CE Primary School. Starting from the first term of school in early years, parents are regularly invited into school to learn more about how we teach mathematics. Key stages one and two hold annual parent information meetings for mathematics so that parents feel empowered to support their children at home in the same methods that we use in school. The mathematics policy and the calculation policy are both readily available on the school website. The calculation policy is shown in detail, with example videos of the written methods to support parents further. <https://www.broadwater.w-sussex.sch.uk/361/Maths-Calculation-Policy>. This policy has been written in conjunction with teachers and is reviewed regularly to ensure that our practices and methods are up to date.

## Inclusion and Equal Opportunities

At Broadwater C of E Primary School, we are committed to offering an inclusive curriculum to ensure the best possible progress for all of our pupils whatever their needs or abilities. We work hard to enable all pupils to have equal access to mathematics opportunities and to experience success in work that is appropriate and challenging to their level. Teachers know their pupils very well and adapt their provision to meet the needs of all of the children in their class. This may be in the form of differentiated tasks, scaffolding of a task by support, extra support or small group teaching by a teaching assistant or teacher. Where appropriate, teachers may use objectives from a lower year group to plan for pupils working below the level of their year group.

As detailed in the national curriculum, the expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress will always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly will be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material will be supported to consolidate their understanding, including through additional practice, before moving on.

Broadwater C of E Primary School has a broad and varied mathematics intervention programme, led by highly trained staff, which is tailored to meet the individual needs of pupils across the school.

## Mathematics Intervention Programmes:

Becoming 1st Class @ Number- Year 1  
1st Class @ Number – Year 2 and Year 3  
Talk 4 Number – Year 3  
Number Sense – Year 4  
Success @ Arithmetic – Year 5

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## Resources

The school subscribes to a number of electronic resources to support teacher planning and pupil learning. Planning is broadly based on resources from Hamilton Trust <https://www.hamilton-trust.org.uk/>, although teachers use a variety of high-quality resources to ensure our curriculum is engaging and appropriate for our pupils.

Quality resources are used to support this, such as those from:

- Nrich (Nrich Project, University of Cambridge) <https://nrich.maths.org/>,
- NCETM (National centre for excellence in the teaching of mathematics) <https://www.ncetm.org.uk/>
- White Rose Maths <https://whiterosemaths.com/>
- MyMaths <https://www.mymaths.co.uk/>
- Times Table Rock Stars <https://trockstars.com/>
- Numbots <https://play.numbots.com/#/intro>
- Prodigy Education <https://www.prodigygame.com/main-en/>

Each classroom throughout the school has a maths display area, which includes key vocabulary and resources linked to the current focus and age-appropriate practical resources including counting resources, measuring resources, dice, counters, and number lines. Some larger resources are centrally stored in shared areas between classrooms.

Numbots is used in years 1 and 2 both in class and for homework to support the learning of number facts, number bonds and mental addition and subtraction strategies. Times Table Rock Stars is a follow-on resource, which is used in all key stage two classes to support the learning and practise of multiplication tables. Regular intra-school competitions are run to help keep pupil engagement high and achievements are celebrated in assemblies and through reward stickers and certificates.

## Responsibility for the subject

To understand the requirements of the National Curriculum for Mathematics;

To keep up to date with current initiatives within maths and to attend appropriate courses;

To lead in the preparation and review of policy documents, curriculum plans and schemes of work for mathematics;

To provide support in the development of schemes of work, medium term plans, assessment and differentiation;

To manage purchasing, collection, evaluation and organisation of resources;

To annually prepare an action plan for the development of mathematics;

In partnership with the Headteacher and Senior Leadership Team, be responsible for monitoring and evaluating of mathematics;

To lead INSET and staff meetings as and when necessary on aspects of the development in mathematics;

To liaise with other phases and fellow co-ordinators from other schools within the cluster about mathematics;

To provide exemplar lessons for teachers to watch in mathematics.

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## **IMPACT**

### **Assessment**

A weekly target or focus is set for the pupils, which is linked to the learning of the specific mathematics domain for that week. Clear learning intentions and success criteria are used to give specific, measurable and achievable goals to each lesson. Success criteria are used to scaffold the learning process and allow pupils to effectively self- and peer- assess their learning. Pupils are encouraged to reflect on their successes and challenges in each lesson to inform formative teacher assessment. This allows teachers to adapt their planning to suit the needs of individual children as a result of the outcomes of the previous lesson. Personalised learning is used across the school to support individuals or small groups of children who are identified as needing extra support as a result of ongoing formative assessment. Summative teacher assessments are recorded onto our school assessment systems in accordance with the guidelines in the staff handbook. Detailed assessment data and gap analysis of the results helps support teachers to identify pupils who may need further extra support.

### **Monitoring and review**

Monitoring and review of mathematics teaching and learning takes place in accordance with the guidance in the staff handbook. The subject leader is involved with the Headteacher and senior leadership team in this process.