# Maths

## Summer term 2019

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| **Review frequency:** | Every three years | **Review date:** | Summer term 2022 |
| **Governing committee responsible:** | | Pupils, Strategy & Resources committee | |
| **Governor approval:** | No | **Website:** | Yes |
| **Staff responsible:** | Head Teacher<br>Subject Lead | **Date produced:** | Summer term 2019 |

## Introduction:

**Purpose:**
The National Curriculum states that, 'Mathematics is a creative and highly inter-connected 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.' At Clarborough Primary School, we aim to provide the pupils with a mathematics curriculum and high quality teaching to produce individuals who are numerate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical skills to the full.

**Aims and principles:**
To fulfil the requirements of The School Curriculum in Maths we aim to:

- Ensure our pupils are successful learners by being included and respected.
- Help pupils to know they are safe and nurtured so they can be the best they can be.
- Ensure our pupils stay active and healthy.
- Show pupils to become effective contributors, confident citizens and to become globally aware.

The National Curriculum sets out year-by-year programmes of study for key stages 1 and 2. This ensures continuity and progression in the teaching of mathematics.

The EYFS Statutory Framework 2014 sets standards for the learning, development and care of children from birth to five years old and supports an integrated approach to early learning. This is supported by the 'Development matters' non statutory guidance.

The EYFS Framework in relation to mathematics aims for our pupils to:

- Develop and improve their skills in counting
- Understand and use number
- Calculate simple addition and subtraction problems
- Describe shapes, spaces, and measures

To fulfil the requirements of The National Curriculum in Maths we aim to teach our pupils to:

- Become fluent in the fundamentals of mathematics through varied and frequent practice with complexity increasing over time.
- Develop conceptual understanding and ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically; follow a line of enquiry, conjecture relationships and generalisations.
- Develop an argument, justification and proof by using mathematical language.

- Problem solve by applying knowledge to a variety of routine and non-routine problems. Breaking down problems into simpler steps and persevering in answering.

**Consultation:**
In order to implement the Maths curriculum, all teaching staff were consulted and agreed to maintain the aims and principles set out within this policy. The Head Teacher and Governors were consulted and encourage the use of the wider community to embed learning experiences.

**Sources and references:**
- National Curriculum for Maths: Programmes of Study
- Early Years Foundation Stage (EYFS) Framework
- White Rose Maths Hub

**Procedures and practice:**

**Intent:**
Through careful planning and preparation our intention when teaching the Maths curriculum we endeavour to ensure that all children develop a positive and enthusiastic attitude towards Mathematics that will stay with them throughout their lives. Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is important in everyday life. Maths is integral to all aspects of life and it is our intention to provide children with a wide variety of opportunities to communicate their understanding of maths so that it clarifies their thoughts. The acquisition of number skills is of the utmost importance to us here at Clarborough and therefore the teaching of all aspects Maths is given a high priority within school. It is vital that a positive attitude towards mathematics is encouraged amongst all our pupils to foster confidence and achievement in a skill that is essential in our society.

**Implementation:**
Maths at Clarborough builds from a concrete understanding of concepts where children are manipulating objects. When children are able to see concepts this way, they then need to understand the same concepts represented pictorially. Children are then ready for abstract representation before being able to apply their knowledge to different situations.

When delivering a Maths lesson our teachers ensure that it creates a lively, exciting and stimulating environment in which the children can learn.
- The children are given a broad range of opportunities to apply their subject knowledge:
- Practical activities and games using a variety of resources
- Problem solving to challenge thinking
- Individual, paired, group and whole class learning and discussions
- Purposeful practise where time is given to apply their learning
- Open and closed tasks
- A range of methods of calculating

Through our creative approach to teaching and learning we also seek to explore and utilise further opportunities to use and apply mathematics across all subject areas.

Our Calculation Policy details methods used to teach calculation and progression in addition, subtraction, multiplication and division. (This can be found on the school website).

**Impact:**
We strive to ensure that our children's attainment is in line with or exceeds their potential when we consider the varied starting points of all our children. We measure this using a range of materials, whilst always considering the age-related expectations for each year group. Children will make at least good progress in Maths from their last point of statutory assessment of from their starting point in Nursery. We intend the impact of our Maths curriculum will ensure our pupils are academically prepared for life beyond primary school and throughout their educational journey.

**Roles and responsibilities**

**Governors:**
The Governors ensure this policy links to the whole school approach to teaching and learning and have approved this policy.

**Head teacher:**
To ensure staff adhere to and uphold the policy.

**Teachers:**
The teaching of Maths is in line with The National Curriculum and all teachers should develop pupils' spoken language, reading, writing and vocabulary as integral aspects of the teaching of every subject. Maths is both a subject in its own right and the medium for teaching; for pupils, understanding the language provides access to the whole curriculum. Teachers use a range of teaching and learning styles including; whole class teaching, talk partners, mixed ability groups, key questioning to promote higher order thinking and discussions and debates. Each year, time is set aside to review standards and monitor curriculum provision to ensure training and resources are up to date.

**Pupils:**
To demonstrate a conscientious attitude towards their learning of Maths with an aim to be the best they can be.

**Parents and carers:**
To support the teaching and learning of Maths, parents and carers are welcomed and invited in to lessons to share their experiences through the use of photographs, video links or resources.

**Aspects:**

**Equal opportunities:** The Maths curriculum is differentiated to suit the needs of all children, including those with special educational needs and disabilities. We take into account the

targets set for individual children in their Individual Support Plans (ISPs). All necessary adaptations will be made to enable all children to access the curriculum. Maths provides excellent opportunities to enhance the learning of more able pupils through the development of higher order thinking skills, creativity and self-expression. Pupils who show a particular talent for Maths will be identified by the class teacher and will be included in our 'Incredibles' display and the Maths subject leader will be informed. We know that children learn best when they are healthy, safe and engaged. In order to engage all children, our Maths Curriculum is taught using a concrete, pictorial, abstract approach to teaching that develops a deep and sustainable understanding of maths in pupils.

**Health and Safety:**
Visits and visitors are an essential part of the Maths Curriculum in supporting learning in other areas. Children learn best when the learning environment is ordered and they feel safe, any visit should be well organised and provide a stimulating and valuable experience. The pupils should prepare well for the visit and, on their return, use the experience to good effect in the classroom. The class teacher, or leader, should plan the visit meticulously using Evolve and liaising with the Education Visits coordinator. The pupils' safety and welfare is paramount. Please see the Policy for Educational Visits for detailed information.

**Planning:**

**Teaching and organisation:**
Long term planning
The National Curriculum for Mathematics 2014, Development Matters and the Early Learning Goals (Number, Shape Space & Measure) provide the long term planning for mathematics taught in the school.

Medium term planning
Years 1-6 use the White Rose Maths Hub schemes of learning as their medium term planning documents. These schemes provide teachers with exemplification for maths objectives and are broken down into fluency, reasoning and problem solving, key aims of the National Curriculum. They support a mastery approach to teaching and learning and have number at their heart. They ensure teachers stay in the required key stage and support the ideal of depth before breadth. They support pupils working together as a whole group and provide plenty of time to build reasoning and problem solving elements into the curriculum.

Short term planning
The above schemes of learning support daily lesson/flipchart planning. Lessons are planned using a common planning format and are monitored at intervals by the mathematics subject leader.

EYFS planning is based on the medium term plans and delivered as appropriate to individual children with thought to where the children are now and what steps they need to take next.

All classes have a daily mathematics lesson where possible. In key stage one lessons are 45-60 minutes and in key stage two at least 60 minutes. Teachers of the EYFS ensure the

children learn through a mixture of adult led activities and child initiated activities both inside and outside of the classroom. Mathematics is taught through an integrated approach.

Special educational needs & disabilities (SEND)
Daily mathematics lessons are inclusive to pupils with special educational needs and disabilities. Where required, children's IEP's incorporate suitable objectives from the National Curriculum for Mathematics or development Matters and teachers keep these in mind when planning work. These targets may be worked upon within the lesson as well as on a 1:1 basis outside the mathematics lesson. Maths focused intervention in school helps children with gaps in their learning and mathematical understanding. These are delivered by trained support staff and overseen by the SENCO and/or the class teacher. Within the daily mathematics lesson teachers have a responsibility to not only provide differentiated activities to support children with SEND but also activities that provide sufficient challenge for children who are high achievers. It is the teachers' responsibility to ensure that all children are challenged at a level appropriate to their ability.

**Homework/ involving wider community:**
Teachers will set homework, as and when it is appropriate, for each year group. This will include learning their times tables using Times Tables Rock Stars.

**Resources:**
Each class has a stock of core resources that are age appropriate. Additional mathematical equipment and resources are stored centrally in the resources room.

**Assessment:**
As good practitioners we are continually assessing our pupils at Clarborough Primary School. All teachers are responsible for monitoring standards using the assessment procedures described in this policy. This is overseen by the Maths co-ordinator termly and follows our Assessment Timetable. Teachers will assess the children's learning in one of two ways: formative and summative assessment.

Formative assessment may include:

- Marking (including live marking in class)
- Discussion with individuals or groups of pupils
- Collaborative work
- Self and peer marking
- Times tables games and tests
- Interventions

These ongoing assessments inform future planning and teaching. Lessons are adapted readily and short term planning evaluated in light of these assessments

Summative assessment may include:

- EAZMAG
- Past SATs papers (Y2 and Y6 complete the national tests (SATs) in May)
- Yearly end of term/year assessments
- Year 4 Multiplication Check

Pupil Progress meetings are timetabled each term for all classes. Progress of pupils is discussed and appropriate intervention considered and put in place where appropriate.

**Monitoring and evaluation:**
The Maths Co-ordinator is responsible for the ongoing monitoring cycle. Every term they will carry out book scrutiny, monitor planning for coverage and pupil voice interviews. Here feedback will be collected, evaluated and then shared with staff to help inform their planning.

**Conclusion:**

**Monitoring and review:**
The Maths co-ordinator is responsible for the production and implementation of the action plan. The Maths co-ordinator is responsible for the curriculum mapping for the subject and for providing the detailed resources.

**Other documents and appendices:**
Please see the school website for example of SATs papers and the calculation policy.