



Maths Policy

Introduction

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries. It is essential to everyday life, critical to science, technology and engineering, and necessary in most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, and a sense of enjoyment and curiosity about the subject. This revised policy takes into account the new National Curriculum (2014)

Purpose:

The purpose of this policy is to describe our practice in Mathematics and the principles upon which this is based.

Aim(s):

We aim to develop lively, enquiring minds encouraging pupils to become self-motivated, confident and capable in order to solve problems that will become an integral part of their future.

The National Curriculum for mathematics 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 have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems
- **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.

Children deserve

- To be set appropriate learning challenges
- To be taught well and be given the opportunity to learn in ways that maximise the chances of success.
- To have adults working with them to tackle the specific barriers to progress they face.

Agreement date of policy:-

This policy was developed by the Maths curriculum leader October 2014

School Curriculum -Programme of Study

Foundation Stage

The programme of study for the Foundation stage is set out in the EYFS Framework.

Mathematics involves providing children with opportunities to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shape, spaces and measures.

Key Stage 1 and 2

The Programmes of study for mathematics are set out year by year for Key Stages 1 and 2 in the new National Curriculum (2014). The programmes of study are organised in a distinct sequence and structured into separate domains. Pupils should make connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Key Stage 1

The principal focus of mathematics teaching in Key Stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value.

This should involve working with numerals, words and the four operations, including with practical resources (e.g. concrete objects and measuring tools).

At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

By the end of Year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency. Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at Key Stage 1.

Lower Key Stage 2

The principal focus of mathematics teaching in lower Key Stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of Year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

Upper Key Stage 2

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. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, pupils should 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. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also

ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of Year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Pupils should read, spell and pronounce mathematical vocabulary correctly.

Cross curricular

Throughout the whole curriculum, opportunities to extend and promote Mathematics should be sought. Nevertheless the prime focus should be on ensuring mathematical progress delivered discretely or otherwise.

Teaching and Learning

The approach to the teaching of mathematics within the school is based on:-

- **A mathematics lesson every day**
- **A clear focus on direct, instructional teaching and interactive oral work with both the whole class and smaller ability groups.**

The curriculum is delivered by class teachers. All work is differentiated in order to give appropriate levels of work. Secure mathematical skills and conceptual understanding will be broadened and deepened through challenge, using and applying and investigative approaches.

Planning is based upon the new National Curriculum (2014) year group objectives. Programmes of Study should inform medium term plans and subsequently short term plans. Class teachers are responsible for the relevant provision of their own classes and individually develop plans which give details of learning intentions, success criteria (Steps to Success) and appropriate differentiated activities. Lessons that are planned in advance are adjusted on a daily basis to better suit the arising needs of a class and individual pupils.

Calculation Policies

The Written Calculation Policy (see appendix 1)

The Mental Calculations Policy (see appendix 2)

Inclusion and equal opportunities

All children are provided with equal access to the mathematics curriculum. We aim to provide suitable learning opportunities regardless of gender, ethnicity or home background.

Resources

Collins Busy Ant Maths and Big Maths schemes are available to support teachers as required. Resources which are not used or required regularly are stored centrally and accessed by teachers at the beginning of a topic.

Displays

All classrooms have a number line (relevant to year group). Each classroom should have a maths display/working wall relating to current work.

Assessment

Children in the Foundation Stage are assessed in accordance with the EYFS curriculum.

Formal assessment is carried out using the 2Simple programme to record and monitor progress. E-Profile is updated as a summative assessment at the end of each term. The children's EYFS profiles are completed in July each year.

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- Teachers will report pupil's levels termly.

• Assessment schedule below:

	term 1	term 2	term 3	term 4	term 5	term 6
Y1	teacher assessment	Formal assessment test	teacher assessment	Formal assessment test	teacher assessment	Formal assessment test
Y2	teacher assessment	Formal assessment test	teacher assessment	Formal assessment test	SATs	teacher assessment
Y3	teacher assessment	Formal assessment <i>optional SATs</i>	teacher assessment	Formal assessment <i>optional SATs</i>	teacher assessment	Formal assessment <i>optional SATs</i>
Y4	teacher assessment	Formal assessment <i>optional SATs</i>	teacher assessment	Formal assessment <i>optional SATs</i>	teacher assessment	Formal assessment <i>optional SATs</i>
Y5	teacher assessment	Formal assessment <i>optional SATs</i>	teacher assessment	Formal assessment <i>optional SATs</i>	teacher assessment	Formal assessment <i>optional SATs</i>
Y6	teacher assessment	Formal assessment <i>past SATs papers</i>	Formal assessment <i>past SATs papers</i>	Formal assessment <i>past SATs papers</i>	SATs	teacher assessment

• Targets – KS1 targets are chosen based on the learning for the term and displayed on classroom walls.

KS2 targets are taken from Big Maths, Beat That Tests and updated when mastered.

- Marking – See section below
- Big Maths, Beat That!
 - This is an assessment tool that allows teachers to see exactly what their children know and don't know.
 - It involves two quick tests, where the children are constantly challenged to increase their own score, and these are typically completed on a Friday.
 - One test is called 'The CLIC Test' and it asks children to answer 10 key numeracy questions that are tightly linked to APP attainment statements. There is no time limit and children may use pencil and paper jottings. Once children have scored 10 out of 10 in 3 consecutive weeks, they move on to the next level up.
 - The second test is called 'The Total Recall Test' and it asks the children to answer a set number of number fact questions in a set time. Children keep the same test all year and aim or write down all the facts required in the time available. Once they can complete it in the time available then they aim to complete it in a quicker time.

- SAT's – These take place in Years 2 and 6 and will be analysed to inform planning.

Marking and presentation

Teachers are expected to adhere to the schools marking policy when marking books and presentation policy when guiding children as to how to present their work.

Homework

KS1 will receive maths homework on a regular basis, but not every week; Year 3 every other week and Years 4/5/6 every week.

Monitoring and Evaluation

The Curriculum leaders and governors, alongside SLT, are responsible for monitoring and evaluating curriculum progress. This is done through book scrutiny, lesson observations, pupil interviews, staff discussions and audit of staff skills and resources.

Review

The mathematics policy will be reflected in our practise. The policy will be reviewed annually by subject leader and ratified by SLT and teacher.