



Mathematics Policy

Created/Revised:	December 2023
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Review Details:	Updates
Review Date:	December 2024
Approved by Governing Body:	



Mathematics Policy

At The Village Primary we believe that Maths should be progressive, thorough, stimulating and allow all pupils to develop Mastery in Maths. Teachers strive to provide high quality teaching which is engaging, interactive, built on prior learning and, if appropriate, physically active (Tagtiv8 etc.). Lessons are brought to life with hands on maths equipment, with technology and a cross curricula approach, where suitable. Mathematics is made relevant and motivational by placing it within real life contexts (reading timetables, using money etc.). This equips children with the necessary skills for later life, as well as the reasoning and thinking skills associated with solving numeracy problems.

Teachers and support staff are actively engaged in helping children to acquire and develop mathematical language, skills, knowledge and understanding across the Maths curriculum.

Children are encouraged to make an active contribution towards their own learning by developing the skills of independence, enquiry and reasoned problem solving. Pupils are encouraged to develop our Village Values in all of their learning, in Maths this a key attribute as it allows learners to be resilient, persistent and determined as they acquire new knowledge and skills.

Curriculum Structure

Maths is a core subject with discrete skills and capability to be developed. Skills are also transferrable across the curriculum and this is recognised in the planning, teaching and assessment of Maths.

EYFS

In EYFS, teaching and progression in Maths is within the areas of Numbers, Patterns and connections and Spatial reasoning. This is planned, delivered and assessed according to the Early Learning Goals.

Key Stage 1

In Key Stage One the principle focus is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value and begin to develop reasoning and problem solving skills (using Gareth Metcalfe etc.). This should involve working with numerals, words and the four operations. Number bonds and recall of addition and subtraction facts are vitally important. Practical resources should be used frequently to support moving onto the abstract concepts. At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort shapes and use related vocabulary. Teaching should feature a range of measures to describe and compare different quantities such as lengths, mass, capacity, time and money.

Key Stage 1 Areas

Year 1

Number

Numbers and place value

Addition and subtraction

Multiplication and division

Measurement

Geometry

Property of shape

Position and direction

Year 2

Number

Numbers and place value

Addition and subtraction

Multiplication and division

fractions

Measurement

Geometry

Property of shape

Position and direction

Statistics

Lower Key Stage 2- Year 3 and 4

The principal focus 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 will underpin and develop efficient written and mental methods.

At this stage, pupils should aim to confidently solve problems and apply reasoning skills to their learning (Gareth Metcalfe etc.). Teaching should ensure that mathematical vocabulary is explicitly taught and that children have chance to use this to explain their reasoning. Teachers ensure that children use equipment, such as measuring equipment and make connections between measure and number.

During Year 3 and 4, multiplication tables are given great importance and are then used in a variety of concepts. Multiplication testing is built in to lessons to prepare Year 4 for the MTC in June.

Year 3

Number

Number and Place Value

Addition and subtraction

Multiplication and division

Fractions

Measurement

Length

Perimeter

Money

Time

Mass and Capacity

Geometry

Properties of shapes

Statistics

Year 4

Number

Number and Place Value

Addition and subtraction

Multiplication and division

Fractions including decimals

Measurement

Properties of shapes

Money

Time

Area

Geometry

Properties of shapes

Position and direction

Statistics

Year 5 and 6

The principal focus in Year 5-6 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 children make between multiplication and division with fractions, decimals and percentages. At this stage, pupils should develop the ability to solve a wider range of problems, including increasingly complex problems of shape and arithmetic. Such problems will demand an efficient grasp of written and mental methods of calculation, understanding of reasoning and problem solving skills. With a solid base in number, children are to be introduced to the language of algebra as a means of solving a variety of problems. Teaching in geometry and measures should consolidate, extend and compliment 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 such shapes.

Year 5

Number

Number and Place Value

Addition and subtraction

Multiplication and division

Fractions including decimals and percentages

Measurement

Properties of shapes

Converting units

Perimeter and area

Volume

Geometry

Properties of shapes

Position and direction

Statistics

Year 6

Number

Addition, subtraction, multiplication and division

Fractions including decimals and percentages

Ratio and Proportion

Algebra

Measurement

Properties of shapes

Converting units

Perimeter and area

Volume

Geometry

Properties of shapes

Position and direction

Statistics

Organisation and Timings

Across school, teachers deliver a daily Mathematics lesson that often lasts sixty minutes. Work is differentiated according to the needs of individuals and groups (Target Your Maths A, B and C etc.). The curriculum caters for those with Special Educational Needs, to the more able pupils. Teachers are all following our own Maths Curriculum which aligns to the National Curriculum for Mathematics (2014) with its approach and areas, as outlined above.

Approaches to Teaching and Learning

At Village we follow a 4 part lesson approach:

Starter: Retrieval activity revisiting previous learning and a Tables or Arithmetic Recap. SODA and Chanting

Main Input: Teacher Input and modelling for Main Objective and tasks. Me, We you.

Main Task: Children carry out differentiated activity. TYM A, B and C Year 1 to Year 6

End Task: Gareth Metcalfe, Progress Assessment, Testbase question and next steps or consolidation.

When delivering lessons, teachers employ a range of strategies and use professional judgement to decide on the most appropriate teaching and learning style for the class, groups or individuals. All teachers will engage in a daily counting session that aims to improve number skills. For example, this could be counting to ten in Nursery Class, to counting in decimals in Year 6.

Teaching strategies may include:

Whole class quality first teaching

Paired or group work

Individual enquiry

Guided work with a teacher or Teaching Assistant

Focused support work with a teacher or teaching assistant

Practical work with apparatus to reinforce Number concepts.

Active Learning (Maths of the day or Tagtiv8)

Opportunity to work with concrete, pictorial and abstract methods.

Access to challenges.

Clear demonstrations, modelling and explanations of how the Mathematics taught relates to everyday life.

Plenary sessions that address misconceptions, consolidate learning and move learning forward.

Teachers ensure pupils understand concepts and learning is embedded before moving on. This aids Mastery in Maths, makes applying learning in new contexts easier and guards against gaps in understanding forming.

Inclusion

All children have equality of access to Mathematics provision, regardless of gender or ethnicity. Children all engage with and are taught by a qualified teacher that provides quality first teaching. Children are taught in year groups and in each lesson Mathematics is related to a common theme and is differentiated appropriately with reference to children's prior attainment. Children who have Special Educational Needs in Maths may receive additional support from a teacher or teaching assistant. All pupils will have an opportunity for guided group work with the teacher at different stages in the teaching cycle. Intervention and support groups are to be used as appropriate. The school aims to allow all pupils to achieve some level of Mastery in Maths.

Challenge and Mastery

We aspire to allow all learners to achieve Mastery in Maths, to aid this approach teachers use TYM, Gareth Metcalfe and create challenges which allow pupils to access differentiated extension work.

Pupils are also given Arithmetic and Reasoning questions from resources, such as TYM, Testbase WRM and Gareth Metcalfe, which allow pupils to apply taught skills in different contexts. Weekly use of Arithmetic and Reasoning questions also helps to develop good test technique and reinforces key vocabulary.

SODA (Start of Day Activity) is done daily and hones key arithmetic skills allowing pupils to master skills through the use of focussed questioning.

TTR and Time Table Ninja books used across school encourage pupils to improve their multiplication skills and improve recall time. This is done through friendly competition and is profiled in class and assemblies.

EDD cards allow Maths skills to be rewarded: For example, a pupil may challenge themselves to increase speed of recall of number bonds.

Resources

Each class is equipped with a range of maths resources and apparatus that is relevant to that particular year group. These are stored in accessible and clearly labelled drawers and digital resources are stored on the Staff Shared file or accessed via the internet.

Tagtiv8 equipment is kept in the PE shed.

Home Learning

Home learning is much valued and encouraged as parents are seen as school learning partners. Maths homework should be distributed on a weekly basis and must be rooted in the topic of the week. Online activities such as Maths.co.uk and TT Rockstars are also used to differentiate homework and make learning anytime, anywhere focused. Written homework is also valued and gives children chance to extend, consolidate and expand their learning. Teachers also teach children Key Instant Recall Facts (Rapid Recall) and expect these to be studied at home.

Village Values

All pupils are encouraged to develop Village Values. Village Values empower learners to understand the importance of personal qualities (such as resilience and determination) as they learn new skills and develop Mastery in Maths. They understand that learning tomorrow is built on learning today.

Assessment

Assessment of children's progress in Mathematic is carried out in a variety of ways. Prompt marking and feedback is given to children in accordance with the school marking policy.

Teachers use assessment for learning to influence future planning and provision. This includes annotating planning and altering future teaching methods/approaches. Planned formal assessments provide summative evidence at the end of each half term and school year.

Pupils use RAG rating to assess their own progress on a regular basis.

After tests, teachers reflect on results and complete a teaching implication sheet.

This celebrates strengths and plans to address weaknesses within a class.

Teacher assessment is used to assess pupil progress. This can provide a more realistic and rounded view of a child's progress rather than a simple snapshot in a test.

Data is recorded in SONAR to allow Senior Leaders to analyse and track performance of individuals, groups and classes.

Parents are informed of their child's progress against national expectations at Parents' Evening and in the written school report in the Summer Term.

J. Mansell