Mathematics Policy

Created/Revised:	June 2019
By:	Jordan Mansell
Review Details:	Updates
Review Date:	June 2020
Approved by Governing Body:	19.11.19

Mathematics Policy
June 2019

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. 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 a Growth Mindset 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 Numeracy. In EYFS, teaching and progression in Maths is within the area of Number, Shape, Space and Measure. This is planned, delivered and assessed according to the Early Learning Goals.
In Key Stage One the principle focus 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. Number bonds and recall of addition and subtraction facts are vitally important. Practical resources should be used before 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
Statisitics
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 solve problems and apply their learning. 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.
Year 3
Number
Number and Place Value
Addition and subtraction
Multiplication and division
Fractions
Measurement

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
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. With this 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

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

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. The curriculum caters for those with Special Educational Needs, to the more able pupils. Teachers are all following the National Curriculum for Mathematics (2014) with its approach and areas, as outlined above.

Approaches to Teaching and Learning

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 challenge boxes.
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.
Pupils participate in class Maths Mondays (half-termly) and classes use this to showcase learning in Maths to the school.

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 classrooms have challenge boxes which allow pupils to access differentiated extension work.
Pupils are also given Arithmetic and Reasoning questions from resources, such as Testbase, 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.
Domino challenges in KS2 encourage pupils to improve their multiplication skills and improve recall time. This is done through friendly competition and is also modelled by staff participation.
Me vs Me (though not solely for Maths) allows pupils to develop a Growth Mindset and challenge themselves. 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 and classes access this on a rota system.

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 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.

Growth Mindset

All pupils are encouraged to develop a Growth Mindset. A Growth Mindset approach empowers learners to understand the importance of 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.
Cold Tasks are used at the beginning of a topic and progress is measured following a Hot Task at the end of the topic.
Differentiated Toolkits are used in each topic to support pupils and allow them, their peers and teacher to assess their progress against specific criteria.
Pupils use RAG rating to assess their own progress on a daily 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 Target Tracker 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
June 2019