



Mathematics Policy

1 INTRODUCTION AND INTENT:

A 'high-quality' mathematics education 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. (National Curriculum September 2013)

Curriculum Vision:

All children at St Anne (Stanley) will be challenged and supported in developing their love of maths and in understanding how it will help them to embrace challenges in everyday life. Through secure and thorough sequencing, children will be taught to apply their knowledge and skills when solving more complex activities. Children will understand that maths is not taught in isolation but can be applied across the curriculum and will be able to see and articulate these links confidently.

Aims of subject:

We aim to enable pupils to:

- **develop mathematical fluency** through daily practice with increasingly complex activities over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** through investigation, challenge opportunities, articulation and reflection.
- **solve problems** by applying their mathematics to a variety of real life situations with increasing sophistication, including breaking down problems into a series of simpler steps building resilience and confidence.
- **understand that maths has a history** through investigating past events within a mathematical context.

School Values:

Our school values are: Honesty, Friendship, Understanding, Hope, Confidence, Family. These underpin and are embedded across the curriculum. In Maths this means:

- we encourage children to ask for help when needed
- work in collaboration
- celebrate each other's understanding, knowledge and achievements
- developing perseverance and resilience
- building self-confidence, self-esteem and seeing challenge as a positive
- involving families in maths activities and events

Cultural Capital:

Cultural Capital can be defined as the skills and knowledge which an individual can draw on to give them an advantage in social life.

We will teach children to appreciate that maths has a cultural context and has no international or social barriers. All children will be offered the same quality of teaching within a mathematical framework.

2 IMPLEMENTATION (Planning and sequencing):

Planning and Resources:

The Liverpool maths plans are used as the main structure for planning. Other resources that may be used include; calculation policy, calculation sequence, an agreed supplementary maths scheme, text books and resources that support investigative/problem solving work. Progression through the year group and through the years follows the National curriculum pathway.

Basic Skills:

Knowledge of the basic skills is fundamental in helping pupils move towards procedural efficiency. Basic skills sessions give teachers the opportunity to link with previous, current or future learning so that the prerequisite skills of an objective can be regularly practised and rehearsed.

A typical basic skills session could include; counting, recall of facts and practise of a skill linked to current learning. Jotters alongside whiteboards will be utilised to record basic skills work.

Calculation Policy:

There is an agreed calculation policy that should be followed. For each operation there are four or five stages, starting with practical methods that support conceptual understating moving through to methods that allow children to demonstrate efficiency in procedural approaches.

The calculation sequence provides an opportunity for pupils to practise the skills of calculation through a range of application activities including the use of inverse, missing box, word problems and investigations.

Times Tables:

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. (National Curriculum in England, July 2014.) Teachers will ensure children practise times tables daily to enable them to meet this requirement. In 2020, Year 4 children will participate in the National Multiplication Times Tables Check.

Curriculum Map:

The curriculum map details how skills are developed and teaching is sequenced throughout each Key Stage. See Appendix 1.

Schematic Links:

Planning will ensure children are able to make links between maths and other subjects to embed knowledge and understanding. Children will be confident in explaining these links.

3 IMPLEMENTATION (High quality teaching and learning):

At St. Anne (Stanley) Maths will be taught through the Programmes of Study as outlined in the National Curriculum in England (DfE 2013) and Early Years Foundation Stage.

Supporting Teachers:

We are committed to offering our children the highest quality of teaching. Teacher's subject knowledge and classroom practise remains current through targeted CPD and seizing opportunities to develop best practice.

Daily Maths Lesson:

All pupils have a daily maths lesson. The structure of each lesson is flexible and will vary depending on the needs of the children and the content of the lesson.

Typically, a maths lesson will include; a learning objective, activities that provide challenge for each ability group, key questions and the use of additional adults. Other areas for consideration include, steps to success, teacher modelling and the structure of the lesson (chunking, show and go, staggered input)

Marking and Feedback:

Consistently high quality marking and constructive feedback from teachers ensures pupils make progress in their learning.

Teachers will follow the agreed marking key and regular feedback to children will be given in writing and or verbally.

Children will respond to teacher's comments in writing in their books (answer challenge questions or explain how they arrived at their answers). Younger children's responses can be captured by teachers and recorded in books.

Children will be given time to reflect on prior learning at the beginning of each lesson. This will include partner/whole class discussion, 1:1 feedback with the teacher/ other adult and individual responses in books.

Marking and feedback will include next steps marking where appropriate.

Presentation:

Pupils should be reminded to take pride in their work. Children will follow DUMTUMS (date, underline, miss a line, title, underline, miss a line) across the curriculum. In maths books, this will require children to use the short date and record the learning objective. (In years 5 and 6, children will also record the date using Roman Numerals). In squared books, children will follow the 1-square, 1-digit rule, use a pencil when calculating and use a ruler correctly. 1cm by 1cm squared books will be introduced from Year 1, Spring term for higher achieving children with larger squared books introduced for children who need more support with the 1 digit, 1 square rule.

Homework:

Opportunities for pupils to practise and consolidate their skills and knowledge are extended through the regular setting of homework. Teachers should set homework that matches pupil's needs accurately. Homework will be set at least once a week. Where teachers wish to consolidate/ accelerate specific learning this can be increased.

Interventions and Use of Additional Adults:

Interventions are used to support pupils who have been identified through teacher assessment as having gaps in mathematical understanding. Interventions will be reviewed termly by the subject leader/SENCo to assess impact. Interventions will be monitored and reviewed via the agreed Provision Map resource.

Additional adults are used to support learning in class and in interventions.

Opportunities to Develop Subject Specific Literacy – Oracy and Vocabulary:

Key vocabulary will be visible to all children within classrooms and around the school environment. Teachers will ensure that vocabulary, associated meanings and spellings are part of every lesson. Associated curricular links will be seized upon when they arise to enable children to be vocabulary proficient.

Progress: Knowing More and Remembering More

The teaching sequence will ensure children embed knowledge and understanding. Teachers are aware of prior years' learning and will build upon this while introducing new concepts. The cycle of review, teach practice and apply are part of the teaching protocol. Children are given the opportunity to deepen their knowledge, building confidence and understanding. They will develop self-assurance and mathematical poise in their own abilities.

Developing Links Across the Curriculum:

Our focus for Mathematics is ensuring that we constantly use opportunities in all areas of our curriculum to develop children's mathematical understanding. For example how data is recorded in science through graphs and tables and then analysed to ascertain results; how reasoning skills can be used in everyday life to solve problems such as budgeting for a holiday or special event or comparing the size and shape of trees on a school trip that is focusing on the local environment in geography or history.

Challenging Children:

Opportunities for children to be challenged and to deepen their understanding further will be created and include challenge, games and problem solving clubs and workshops. Teachers will work with the subject leader to identify children who would benefit from additional challenges.

Assessment and Moderation:

Assessment is an integral part of teaching and learning and is a continuous process. It is the responsibility of the class teacher to assess all pupils in their class.

Assessment information can be gathered in various ways including by; pupil - teacher discussions, observations, through marking, questioning etc.

Whole school formal assessment will take place at the end of each term. Results, alongside teacher assessment, will be used to inform planning for interventions.

Moderation- termly year group meetings will moderate teacher judgements against agreed criteria.

Monitoring and Evaluation:

Monitoring is important as it allows leaders to have an accurate understating of pupils performance.

Monitoring exercises will be undertaken across the year and will include; book reflections or 'book looks', observations, lesson drop-ins, learning walks, pupil interviews and moderation meetings.

4 LEARNING ENVIRONMENT:

Working Walls and Maths Displays:

The learning environment is key to supporting pupils learning and a maths working wall is a key part of this.

A working wall is the public display of the learning process and may include; objectives, success criteria/steps to success, models and images, challenge, vocabulary and examples of children's work.

A maths display is an opportunity to celebrate pupils' success and as such can be found inside or outside of the classroom. Any display that includes a maths element should be highlighted to show those true cross-curricular links.

Teaching and learning resources (posters etc.) that reflect age related objectives will be displayed within the classroom and beyond to support children's learning.

The love of maths will be nurtured as children move around school by challenge posters which enable them to use basic skills to solve problems and evoke an exciting maths environment.

Reading:

We will develop a love of reading through all subjects taught. In maths this means encouraging children to recognise spelling patterns (and phonemes for younger children) in mathematical vocabulary. Children will be encouraged to value the importance of reading within a mathematical context and to develop their reading prowess through all lessons. In maths, children will utilise their reading skills to underpin writing when writing their own maths problems for example.

Inclusion

We are a fully inclusive school where all children are encouraged to contribute and participate in learning. Our emphasise on 'wellness' and 'personal best' will be visible within all maths lessons, encouraging children to focus on their own progress, feeling good when they meet and surpass their learning targets.

5 PERSONAL, SOCIAL, HEALTH EDUCATION AND CITIZENSHIP: SMSC & BRITISH VALUES

Mathematics is a tool that can teach children how to make sense of the world around them through developing their ability to calculate, to reason and to work together as well as independently to solve real life, everyday problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and

understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

Good teaching in mathematics will make links with real life and help prepare children for life beyond school.

6 ROLE OF THE SUBJECT LEADER:

The subject leader is responsible for leading mathematics throughout the school.

This will include:

- Monitoring, evaluating and supporting teaching and learning
- Leading CPD
- Writing action plans
- Assessing the impact of interventions
- Resources
- Analysing data and providing constructive next step guidance to all year groups

Parents:

Parents are important influences on pupils' attitude and attainment. We will actively encourage and involve them in school life by:

- Making available curriculum content
- Homework
- Parent Workshops
- Family Days
- Information giving sessions
- Parent helper days
- Parent's evenings
- Newsletters

Reporting to Parents:

Reporting to parents is undertaken on a termly basis through parent's evenings and annually through a written report. Further meetings/information for children with additional needs will also be available.

Inclusion and Equal Opportunities:

All pupils have equal access to the curriculum regardless of their race, sex, religious belief or ability. This is monitored by analysing pupil performance throughout the school to ensure that there is no disparity between groups.

IMPACT:

The impact of this policy will be monitored by the Senior Leadership Team. Children's progress will be assessed through agreed assessment testing and Teacher Assessment. It is expected that children who are assessed at working within age related expectations by the end of KS1 will achieve at least age related expectations by the end of KS2. Where children are recognised as falling behind the expected standard, they will be supported via targeted intervention. Parents/carers will be involved informed and updated via parents/carers meetings – as scheduled in the general calendar or

arranged as required. Children who require support at any point in their journey through the school will receive it via intervention/in-class support.

Review of Policy:

This policy was written by Vicki Nurse (Mathematics Subject Leader). The policy will be reviewed in July 2021.

