Mathematics Policy

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Policy: Curriculum

Governors: No

Maths Policy

This Maths Policy is implemented from Reception – 6. The children in Pre-School, Reception access the Early Years Framework.

Mathematics in Early Years is taught through child-initiated and adult led activities. Pupils receive daily Maths sessions, with direct teaching focusing on mathematical vocabulary, reasoning and developing problem solving. Continuous and Enhanced Provision allows pupils to explore each concept more fully through purposeful play and there is also opportunity for both adult and child led learning. Teachers and teaching assistants interact with each child through their play, developing their understanding further, through targeted questioning. The mathematical concepts that they explore are structured with the following topics:

- Number recognition
- One to one correspondence
- Numerosity of number
- Ordering numbers
- More or less than
- Addition
- Subtraction
- Halving
- Doubling
- Shape
- Position and Direction
- Measures

Our Whole School Curriculum Intent

At Finlay, we intend to teach a curriculum that is engaging, relevant and purposeful to all learners. We ensure that our curriculum allows all pupils to achieve and succeed in line with National expectations. We aim for our curriculum to allow all children to develop their knowledge, skills and understanding in line with the National Curriculum (Key Stage 1 and 2) and the Early Years Framework (Pre-School and Reception)

In addition to this, we have identified five core values which are integral to the learning experiences we provide for all of our children. We therefore aspire for our curriculum to allow pupils at Finlay Community School to leave with a **SMILE:** Social Awareness, Mental and Physical Health and Wellbeing, Independence, Life Skills and Excellent Aspirations.

1. Maths Intent:

At Finlay, we intend for our children to be equipped with a uniquely powerful set of tools, including mathematical fluency, logical reasoning and problem solving. It is integral to all aspects of life and we endeavour to ensure that children develop an enthusiastic and determined attitude towards Mathematics that will stay with them throughout their life. In Mathematics, we prepare children by, where possible, providing experiential opportunities, encouraging a love of learning and enthusiasm for Maths. Children progress effectively, learning skills and knowledge in a considered and planned order, making links with previous learning at an age appropriate level. We intend for children to be rounded Mathematicians and to be able to interpret the numerical world around them.

In line with our whole school curriculum intent, a structured, cohesive approach to teaching Maths, allows our children to develop basic life skills that allow them to achieve and succeed in later life.

2. Implementation:

2.1: What skills are taught in Maths?

Maths allows us to teach our children the following skills:

- critical thinking
- problem solving
- analytical thinking
- quantitative reasoning
- ability to manipulate precise and intricate ideas
- construct logical arguments and expose illogical arguments
- communication
- time management
- teamwork
- independence

The areas that we focus on are:

Key Stage 1

At KS1 children's learning will be structured with the following topics:

- Number and place value
- Addition and subtraction
- Multiplication and division
- Fractions
- Measurement
- Geometry – properties of shapes
- Geometry – position and direction
- Statistics – Year 2

Key Stage 2

At Lower KS2 the children will follow the topics above, whilst decimals will be introduced in Year 4.

In Upper KS2 the programme of study is as follows:

- Number and place value
- Addition, subtraction, multiplication and division
- Fractions, decimals and percentages
- Ratio and proportion – Year 6
- Algebra – Year 6
- Measurement

- Geometry – properties of shapes
- Geometry – position and direction
- Statistics

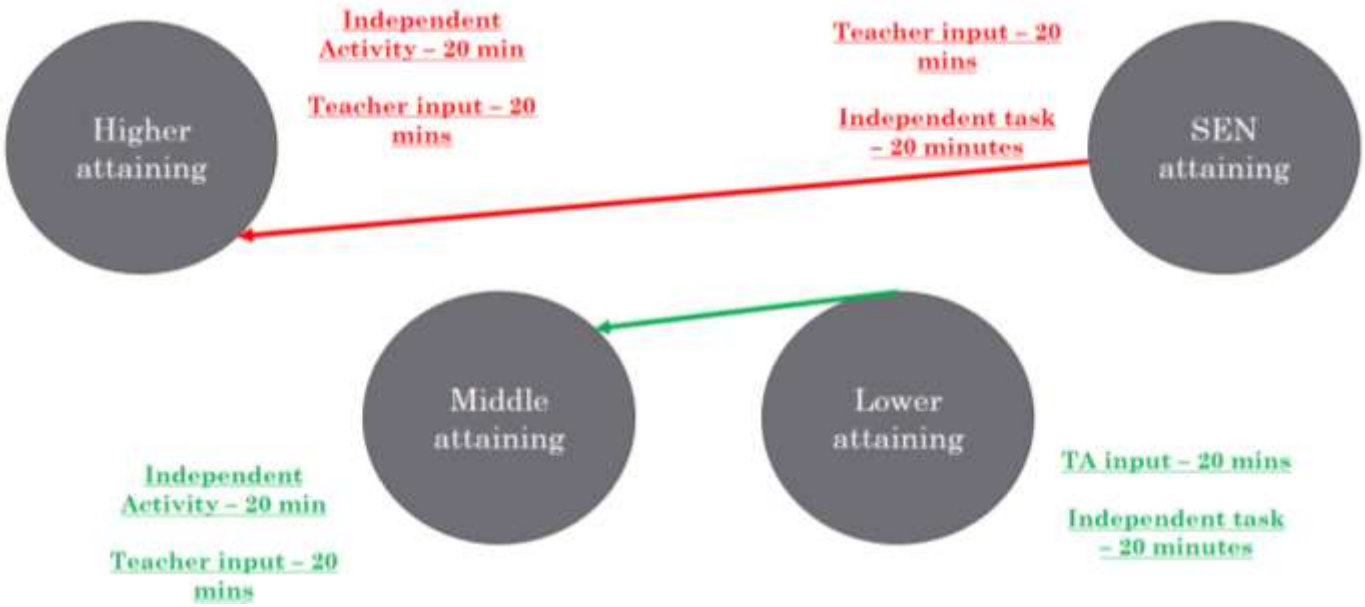
2.2: How often is Maths taught?

Maths is taught every day across the school. The children are discretely taught the skills required for approximately 45 minutes, five times a week.

2.3: How is Maths taught? What does this look like in the classroom?

Maths Lesson

Children are taught using a 'Precision Teaching' style model: this is the same as what is used in Reading and Writing. This means every child is taught every day for 15-20 minutes by the Teacher or TA. One group will work directly with an adult, whilst the other group completes an independent maths task, and then the groups will swap. The other adult mirrors this same approach. Teachers and TAs ensure they swap regularly, so they teach every child and are fully aware of each individual child's needs and progress. Children work on differentiated objectives linked to the same area of Maths. These objectives are taken from Target Tracker, and broken down into small steps to allow progress to be made. All children are expected to access a Reasoning style question/activity daily, as we believe all children can reason, this may just need to be differentiated to an accessible level.



Daily Maths

As well as a Maths Lesson, each class carries out a Daily Maths session. This is a set of arithmetic questions which are answered, marked and recorded daily. This gives the children the opportunity to work on these skills regularly and not just in week blocks. This allows them the opportunity for lots of repetition in learning and to support them with their natural recall and retention. This is a timed session and once children have completed a certain amount of questions, the amount of questions increase. Teachers are able to clearly see where the gaps are and these are either addressed at the end of each session or with a TA in the

afternoon. Children are also often extended with some reasoning questions as an application alongside their set fluency questions.

2.4: How is this recorded?

Every child has an exercise book for Maths, and an exercise book for Daily Maths. The children are encouraged, where possible, to write directly into their Maths book, thinking carefully about one number per square, and the presentation of their work. By writing directly into a book, children take ownership for laying out calculations using formal written method, rather than relying on this already set out for them on a worksheet. Children's books are marked daily, with green used to show what they did well, and pink to provide next steps. Every child should have access to a 'next step', which they respond to the following day. If every question is correct, this could be an application/reasoning style question to extend learning.

2.5: Times Tables Rock Stars

In either paper form or online, Times Tables Rock Stars is a carefully sequenced programme of daily times tables practice. Each week concentrates on a different times table, with a recommended consolidation week for rehearsing the tables that have recently been practised every third week or so.

We have a whole school TTRS Display to encourage healthy competition among the classes. We enter competitions and tournaments with other schools in the country and give out certificates to children and classes for taking part. TTRS allows the children to be able to challenge themselves and to beat their score and times.

2.7: Classroom Learning Environments

Each classroom should have a maths display relating to current work. The maths display should be presented to the pupils as a 'Maths working wall'. Displays should be accessible to both teaching staff and the pupils and should be updated regularly to reflect pace of learning. All teaching staff follow a list of 'non-negotiables' to inform them of what should be included on their 'working walls' to ensure that they are useful, purposeful and effective in promoting children's independence and progress in the subject. This list includes key vocabulary, resources and the four operations, (after they are known to the children), current learning objectives, (that should be updated at least weekly), examples of methods and calculations, higher order questions, challenges, examples of the children's work and interactive opportunities. Success Criteria is a non-negotiable within Maths, as we feel it is important for children to have access to the 'steps to success' needed for their current work. This can either be displayed in exercise books or on the working wall, however all children should know where to find it.

Resources

The effective use of resources is one of the essential elements in supporting children's mathematical learning. This idea is supported by the National Curriculum, and the growing emphasis on the need to develop children's thinking skills.

Our children have access to a variety of concrete resources (also referred to as manipulatives) and these objects and/or physical resources, aid their understanding of different maths concepts. Manipulatives can be almost anything – blocks, shapes, spinners or even paper that is cut or folded. Each class has a set of basic Maths equipment and then we also have a Maths resource cupboard for KS1 and KS2.

3. Impact

3.1: How do we measure impact?

The impact of our curriculum can be measured and monitored in a variety of different ways. As a school, we use Target Tracker to monitor and measure progress in the core subjects: Maths, Writing, Reading and Science. Target Tracker allows all class teachers to colour code statements using three different colours: red indicates a child is Working Towards the statement, blue shows they are secure and gold shows they are working at Greater Depth within the standard. Target Tracker teacher judgement then allows subject leaders and the curriculum lead to cross-reference statements to evidence in books. At the end of each term (Autumn 1 and 2, Spring 1 and 2 and Summer 1 and 2), class teachers will assess pupils' learning, by completing a data drop, indicating which level they feel the child is working at, backed up with the evidence they have colour coded. Subject leaders/ curriculum lead can then download progress reports to look at whether children are on track and making satisfactory/good progress. They are able to also look at attainment for different pupil groups.

In addition to summative assessment, we regularly monitor teaching and learning to see the impact that the learning experiences and opportunities are having for our children. To monitor the impact, the Curriculum Lead or Subject Lead could complete:

Lesson observations

Work sampling

Talking to staff/pupils (pupil conferencing)

Monitoring plans

Analysing data

Teacher evaluation/pupils

Display – visual evidence, photographs, ICT etc

Resources – audit use and accessibility

Questionnaires

External views from School Improvement Partner (SIP) or Teaching and Learning reviews.

Finally, we use published data to look at the impact of Maths across our school. We are able to use the end of Reception (% of Children achieving Good Levels of Development in Number and Shape, Space and Measure), KS1 assessment and the end of KS2 statutory assessment to look at the percentage of children achieving or exceeding the expected standard, as well as comparing ourselves nationally. We also use Ficher Family Trust to download detailed data analysis, looking at the attainment of different pupil groups.