



Maths at Thornton Primary School

Intent

Mathematics teaches children how to make sense of the world around them through developing their ability to use number, calculate, reason and problem solving. It helps children to understand relationships and patterns in both number and space in their everyday lives. The Mathematics curriculum should be bold, provide breadth and balance and be relevant and differentiated to suit the needs of all children in the modern world. It should be flexible, motivating all pupils, thus encouraging success at all levels.

Our curriculum design is based on evidence from principles of learning, on-going assessment and organisation and cognitive research (EEF research, Cognitive Science, Psychological Science).

These main principles underpin this:

- 'Start from a learner's existing understanding.
- Involve the learner actively in the learning process.
- Develop the learner's overview, i.e. metacognition – this requires that students have a view of purpose, have an understanding of the criteria of quality of achievement and self-assess (EEF Metacognition and Self-regulation of learning).
- Emphasis the social aspects of learning (i.e. learning through discussion) as these make a unique contribution to learning (EEF research Collaborative Learning).



Implementation

1. FS organisation

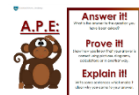
- Our Foundation Stage teachers use the Early Years Foundation Stage Curriculum to support their teaching of Mathematics in the Foundation Stage.
- The children have the opportunity to talk and communicate in a widening range of situations and to practise and extend their range of vocabulary and mathematical skills.
- The children explore, enjoy, learn about and use Mathematics in a range of personalised situations.
- Mathematics is planned on a weekly basis and assessed using the criteria from the Early Learning Goals.
- Mathematics is taught both as a discrete subject and within the whole Early Years Curriculum to give children opportunities to use their mathematical skills in real life situations.

2. The National Curriculum for Mathematics (Programmes of Study)

- Our KS1 and KS2 teachers use the National Curriculum and Symphony-On Track and White Rose, to support their planning of Mathematics teaching.
- Securing progression for all children and ensuring mastery of the curriculum is considered crucial. Teachers use the Symphony-On Track to follow a robust skills progression that outlines what skills children need to acquire and when, meaning all children are supported to access age related expectations. Prerequisites for learning are built into planning, mathematical building blocks which may be impeding understanding are identified and opportunities to ensure full mastery of concepts are provided before moving on to new concepts.
- The short term planning is done weekly, listing the specific learning objectives that are to be covered in each year group class for each lesson that week.
- Teaching and learning is differentiated to best match the needs of the class and the individuals within it.
- If the needs of the children are best met following an alternative plan, which deviates from the National Curriculum, then the class teacher and the Subject Leader discuss this and decide on a way forward.

3. KS1 and KS2 organisation

- Children in KS1 and KS2 are taught Mathematics for approximately 1 hour daily in mixed ability class groups.
- Regular (at least three times a week) Lemon Curd and Strawberry Jam sessions take place to improve pupils' mental arithmetic and pace. During KS2, children are introduced to Chocolate Spread as well, which supports children in rapid calculation of fractions, decimals and percentages. From Y1-Y6 children also have a Times Tables Rockstars account.
- In Y1-Y6 we complete two arithmetic sessions a week, as well as an active Maths session with our mascot Motty.
- Opportunities for reasoning about Mathematics are built in to each lesson. Children across the school are given opportunities to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification



or proof using mathematical language. To support children in structuring their reasoning responses, we use A.P.E (Answer it, Prove it, Explain it).

EYFS

Autumn term	Getting to know you (Take this time to play and get to know the children!) Contains overviews and frequently asked questions VIEW	Just like me! Match and sort Compare amounts Compare size, mass & capacity Exploring pattern VIEW	It's me 1, 2, 3! Representing 1, 2 & 3 Comparing 1, 2 & 3 Composition of 1, 2 & 3 Circles and triangles Positional language VIEW	Light & dark Representing numbers to 5 One more or less Shapes with 4 sides Time VIEW
Spring term	Alive in 5! Introducing zero Comparing numbers to 5 Composition of 4 & 5 Compare mass (2) Compare capacity (2) VIEW	Growing 6, 7, 8 6, 7 & 8 Combining two amounts Making pairs Length & height Time (2) VIEW	Building 9 & 10 Counting to 9 & 10 Comparing numbers to 10 Bonds to 10 3-D shapes Spatial awareness Patterns VIEW	Consolidation
Summer term	To 20 and beyond Build numbers beyond 10 Count patterns beyond 10 Spatial reasoning 1 Match, rotate, manipulate VIEW	First, then, now Adding more Taking away Spatial reasoning 2 Compose and decompose VIEW	Find my pattern Doubling Sharing & grouping Even & odd Spatial reasoning 3 Visualise and build VIEW	On the move Deepening understanding Patterns & relationships Spatial mapping (4) Mapping VIEW

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y1	Place Value	Addition and Subtraction Geometry	Place Value Addition and Subtraction	and Place Value Length and Height Mass and Volume	Multiplication and Division Fractions Geometry: Position and Direction	Place Value Measurement: Money Measurement: Time
Y2	Place Value	Addition and Subtraction Shape	Money Multiplication and Division	and Length and Height Mass, Capacity and Temperature	Fractions Time	Statistics Position and Direction
Y3	Place Value	Addition and Subtraction Multiplication and Division	Length and Perimeter	Fractions Mass and Capacity	Fractions Money	Time Shape Statistics
Y4	Place Value Addition and Subtraction	Area Multiplication and Division	Multiplication and Division Perimeter	Fractions Decimals	Decimals Money Time	Shape Position and Direction Statistics

Y5	Place Value Addition and Subtraction	Multiplication and Division Fractions	Multiplication and Division Fractions	Decimals and percentages Perimeter and area Statistics	Shape Position and Direction Decimals	Negative numbers Converting Units Volume
Y6	Place Value Addition, Subtraction, Multiplication and Division	Fractions Converting Units	Ratio Algebra Decimals	Fractions, Decimals and Percentages	Area, Perimeter and Volume Statistics	Shape Position and Direction

Impact

The impact of our curriculum is measured in terms of the extent to which pupils have developed new knowledge, understanding and skills and that they can use and recall this with fluency.

This will be measured by:

- Outcomes in KS1 and KS2 tests
- In school attainment tracking of both core and foundation subjects
- Attendance data
- Behaviour Logs
- Engagement in enrichment activities
- Route to Resilience activities
- Pupil voice – questionnaires, pupil book and learning reviews
- Subject Leader monitoring – Lesson visits, scrutiny of books, assessment, pupil interviews and questionnaires
- Governor monitoring

