

Thurnham C E Infant School



Mathematics Policy

This document is a statement of the principles, aims and strategies for the teaching of Mathematics at Thurnham CE Infant School

Member of Staff Responsible	Mrs Catherine Prior
Position	Maths coordinator
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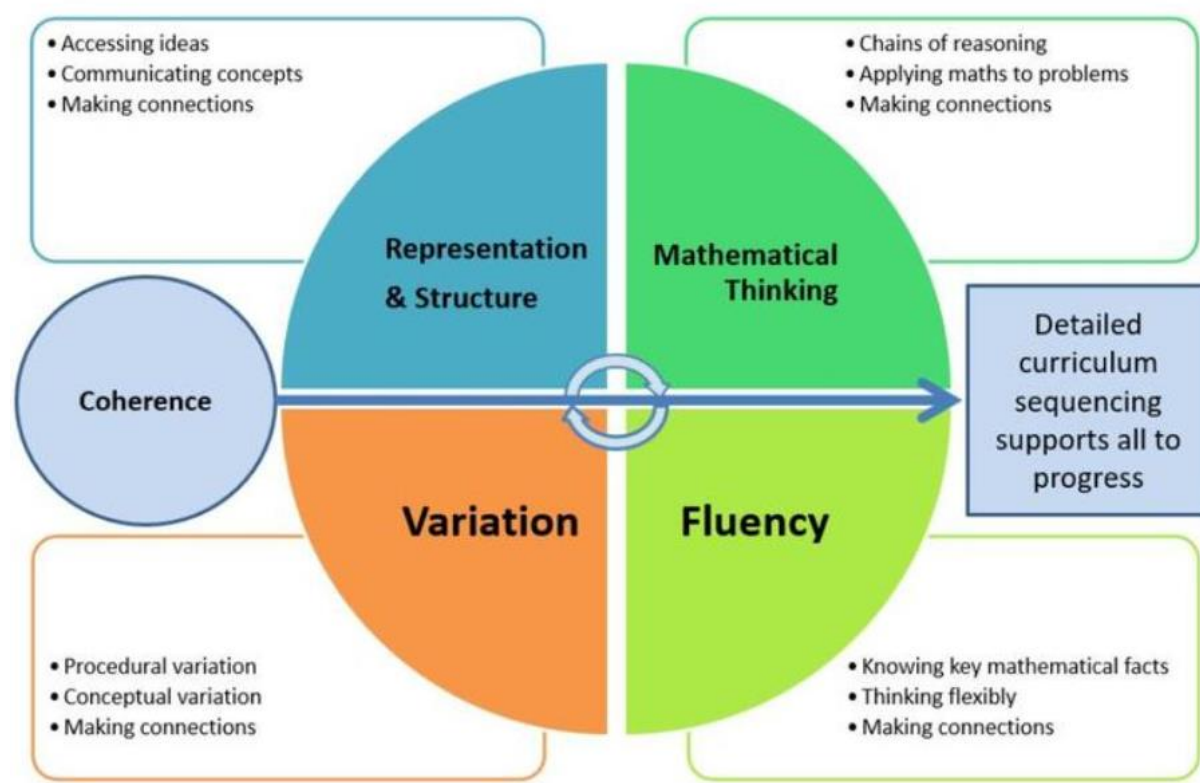
Our vision and aims

The National Curriculum, tells us that “Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organized into apparently distinct domains, but pupils should make rich connections across mathematical ideas. They should also apply their mathematical knowledge to science and other subjects”.

At Thurnham CE School our pupils study Mathematics so that they can become fully participating citizens in society who are able to think mathematically, reason and solve problems.

We adopt a mastery approach to the teaching and learning of Mathematics and we are currently on our Mastery journey in conjunction with the Kent and Medway Maths Hub.

Teaching for Mastery



Our teaching involves creating an appropriate environment in which pupils can respond to high levels of expectation and challenge. We also offer a variety of approaches to teaching and learning to engage and motivate pupils and

demand their active participation. We facilitate this using our three super powers of **brain power, resilience and independence**.

This policy is underwritten by our school Christian value of love. These all form an integral part of all Mathematics teaching.

This policy should be read in conjunction with the calculations policy

Our aims are:

- To ensure pupils become fluent in the fundamentals of mathematics.
- To ensure that pupils can reason mathematically
- To ensure that pupils can solve problems by applying their mathematics to a variety of routine and non-routine problems.

In both the Foundation Stage and Key Stage 1 there is a strong emphasis on maths through practical activities.

Equal Opportunities

Thurnham CE Infant School is committed to promoting the principles and practices of equality and inclusion. A whole school approach is used to ensure all children receive equality of opportunity - not only so that every child is included and not disadvantaged - but also so that they learn from the earliest age to value diversity in others and grow up making a positive contribution to society. We acknowledge and respond to the differing needs of all children, whatever their cultural or ethnic background and experiences and whatever their physical and educational needs. We understand the importance of providing a challenging and enjoyable programme of learning and development and we undertake to make reasonable adjustments to enable all to participate and feel valued and supported.

Thurnham CE Infant School is fully committed to avoiding all forms of discrimination as set out in the Equality Act 2010 (including February 2013 update). This applies to all pupils, parents and staff members and includes inappropriate discrimination on grounds of gender, age, religion or belief, physical ability or disability, learning ability, other special education needs or academic or sporting ability, race (including colour, nationality, ethnicity,

family, culture or linguistic background), marital status and civil partnership, sex, sexual orientation, gender reassignment, pregnancy and maternity.

This policy should be read in conjunction with the following school policies:

Safeguarding and Child Protection, School Accessibility Plan, Behaviour Policy and SEND information report and Policy.

Health and Safety

In line with the school's health and safety policy, children are instructed in the safe use of all equipment. Care needs to be taken when children are using scissors or small apparatus such as counting objects.

Mathematics in the Foundation Stage

During the first couple of weeks of starting school, the children will undertake the Baseline assessment, which is a short assessment designed to form a starting point for cohort-level school progress measures. It will assess the children in early Mathematics. It is not used to make judgements about Early Years provision.

The Educational Programme for Maths in the Early Years Foundation Stage:

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

Maths will be assessed at the end of the year against the Early Learning Goals. These are statements which state the level of development the children are expected to have attained by the end of the year. They are a best fit judgement.

Number:

Children at the expected level of development will:

- Have a deep understanding of number to 10, including the composition of each number;
- Subitise (recognise quantities without counting) up to 5;
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

Numerical Patterns:

Children at the expected level of development will:

- Verbally count beyond 20, recognising the pattern of the counting system;
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Teachers and teaching assistants support children in developing their understanding in a broad range of contexts in which they can explore, enjoy, learn, practise and talk about their developing understanding. This may be done in the classroom or outdoors.

Key Stage 1

The principal focus of mathematics teaching in Key Stage 1 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, including with practical resources [for example, concrete objects and measuring tools].

At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching

should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. By the end of Year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.

Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at Key Stage 1. (National Curriculum in England 2013)

Mathematics is taught in 3 (Year 1) or 4 (Year 2) programmes of study. These are:

Number – Number and place value, Addition and subtraction, Multiplication and division, Fractions.

Measurement

Geometry – Properties of shapes, Position and direction

Statistics - Year 2 only.

In line with the National Curriculum, Key Stage 1 Mathematics teaching will be based upon the National Curriculum (2013) and the expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. The class teacher will identify the most able pupils and work with the SENCO to ensure provision is in place that will challenge these pupils; possibly in the format of an intervention with an LSA (Learning Support Assistant) or TA (Teaching Assistant).

Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on. This will take the form of short daily intervention to help them catch up, in addition to their normal maths lessons. Children with an Individual Support Plan are given small, achievable targets which can be worked on in maths lessons and target-based interventions.

Planning

Long term planning will reflect school priorities and be agreed as a staff showing objectives over the year.

Medium term planning will be developed within year groups and reflect the needs each class, taking into account the appropriate programmes of study and non – statutory guidance. The school uses the Revised White Rose Maths Hub planning framework but Year 2 deviate from the prescribed format to ensure that all elements are covered before SATs, although these are now optional it is likely that we will still use SATs papers in addition to more formative assessment methods.

Short term planning will be produced weekly and may be written two or three days at a time. This flexible and responds the learning of the children.

Resources

Appropriate practical resources and models are used to enable pupils to gain a greater understanding of mathematics and to develop mental images. These resources, such as digit cards, number lines, 100 squares and dienes/base ten apparatus may be used by the teacher to demonstrate or by children for practise or to enable them to explain their ideas and methods. The use of manipulatives is encouraged throughout the Foundation Stage and Key Stage 1.

Assessment and Recording

Short term assessments are made by teachers during lessons to check that children have understood the main teaching points of the lesson or unit of work.

Targets are set for each maths group and reviewed regularly. In KS1 teachers use the WRMH end of block assessments and the results from these are used to identify any areas of common misconceptions and gaps and this will feed into future teaching and/or interventions.

Medium term assessments are made at the end of terms 2, 4 and 6. The children are currently assessed against National Curriculum criteria and their attainment levels are recorded.

Mathematics moderation across Key Stage 1 takes place internally three times a year.

Long term assessments are made at the end of the year against level descriptors and key objectives, reported to parents and passed on to the next teacher. In Year R evidence is gathered throughout the year for the Foundation Stage Profile. Year 2 children undertake end of key stage tests.

Monitoring

Numbers of pupils in a class at each level of the National Curriculum are reported at the end of terms 2, 4 and 6 to the Headteacher and these are discussed with the year group leaders and Maths Co-ordinator.

Observations of maths lessons are undertaken annually by the Maths Co-ordinator. These are discussed with teachers and the Headteacher. A written report is produced. Work sampling also takes place annually and is reported upon.

General issues from monitoring are discussed at staff meetings and any necessary action taken.

Homework

Year 1 and 2 have weekly maths homework tasks that are set using Seesaw this is linked to the maths being covered in class. Class teachers may ask parents to practise specific skills with particular children if they need extra support.

EYFS pupils are given a Maths task as part of their weekly home learning tasks. These are uploaded to Seesaw.

Homework is uploaded on to Seesaw on a weekly basis and children respond via this platform and teachers mark, assess and give feedback.