

Sandwich infant School



Where everyone is valued and learning is fun

Maths Policy

Aims

- To provide a high quality mathematics education that equips the child to be numerate in everyday life and for most forms of employment.
- To provide a high quality mathematics education that provides an understanding of the world, an ability to reason mathematically, an appreciation of the power of maths and an enjoyment and curiosity for the subject.
- To ensure that all pupils become fluent in the fundamentals of mathematics through varied and frequent practice.
- To ensure that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- To ensure that all pupils reason mathematically, seeing relationships and generalisations, applying strategies and using mathematical language.
- To ensure that all pupils can solve problems by applying their mathematics to a variety of routine and non- routine problems.

Leadership

The school has appointed Miss H Jackson as Maths Subject Leader. It is her role, alongside the SLT, to support class teachers and ensure pupils receive their full entitlement to the Maths Curriculum. The Curriculum in Mathematics has been implemented into Key Stage 1 from September 2014. The Leader is also responsible for ordering relevant resources. All staff are responsible for keeping those resources in good order either within the classroom or in the resources room.

Staffing

Class teachers are responsible for the planning, delivery and assessment of maths for pupils in their care. CPD is provided as and when required either to Teachers or TA's. This

is identified through appraisals, the needs of the Curriculum, the needs of the teachers and the school subject focus.

Programmes of study

These are organised in distinct domains but children need to be taught to make connections across mathematical ideas to develop fluency, mathematical reasoning and competence to solve increasingly difficult problems. Mathematical knowledge also needs to be applied to science and other curriculum areas. There is an expectation that the majority of pupils will move through the programmes of study at broadly the same pace. The school is aware of the need for flexibility and creativity in teaching and learning styles in response to the needs of individual children. Progression should always be based on the security of a child's understanding and their readiness to move on. **Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems rather than an acceleration through new content. Those who are not sufficiently fluent with concepts must consolidate their understanding before moving on.**

The Curriculum puts an emphasis on the importance of the spoken language in pupil's development across the whole curriculum, cognitively, socially and linguistically. Pupils need to hear varied, quality language to develop their own mathematical vocabulary. The programmes of study are set out year by year. **Schools are required to teach the relevant POS by the end of the Key Stage so there is some flexibility to introduce content earlier or later than set out in the POS.** All schools are required to set out their curriculum for maths on a year to year basis and make this information available online.

EYFS

Mathematics within the EYFS is developed through purposeful, play based experiences and will be represented throughout the indoor and outdoor provision. The learning will be based on pupil's interests and current themes and will focus on the expectations from Development Matters, the Early Learning Goals and with supporting guidance from the NCETM. Mathematical understanding can be developed through stories, songs, games, imaginative play, daily counting, subitising games, use of manipulatives, child initiated learning and structured teaching. As pupils progress, they will be encouraged to record their mathematical thinking in a more formal way.

Key Stage One

The principle focus is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This involves working with numbers, words and the four operations with the full support of manipulatives appropriate to the child's needs.

Styles of Teaching and Learning

- Dedicated maths lesson daily
- Mental recall and fluency of number facts included in every lesson
- Use of Learning Objective, Success Criteria and steps to success to focus children on what they are learning and why
- Direct teaching and interactive oral work with the whole class and groups
- An emphasis on mental calculation; knowledge and applying maths
- Opportunities for children to develop their reasoning skills
- Use of Learning Objective stickers and Marking for Improvement
- Controlled differentiation, with all pupils engaged in maths relating to a real life problem or situation
- Lessons to include whole class work, group teaching and individual work making the most appropriate use of the TA to support where greatest impact will be achieved.
- In KS1 daily lessons will be of at least 45 minutes, although in Term 1 of Year 1 transition allows for working up to this amount of time.

CPA Approach

It is important that children are allowed to explore Maths and present their findings not only in a written form but also visually and verbally; to that end the school will adopt the CPA approach: concrete, pictorial, abstract. This will allow the children to experience the physical aspects of Maths before finding a way to present their findings and understandings in a visual form before relying on the abstract numbers. The CPA approach will be used to inform planning and should be visible in children's work. The Calculation Policy lays out the CPA approach for each area of maths.

Curriculum Planning

Yearly overview is on Sharepoint and available to parents on the school website.

Medium-Term Plans

In Key stage One, teachers use the 2014 Curriculum and incorporate objectives from NCETM and Nrich when planning lessons. The school's termly progression grids are used to assess children's knowledge and skills within Maths to move the children's learning forward. Lessons include Oral and Mental Calculations as well pictorial, abstract and concrete approaches.

In the Foundation Stage the Medium Term plans link closely to Development Matters and are developed from close assessment and observation of the children's next learning step. NCETM, Numberblocks planning and White Rose Maths materials are used to support Teacher subject knowledge and planning where appropriate. The outline is decided at the beginning of the term and teachers have begun to adopt a mastery approach to mathematics.

Medium-term plans identify what will be taught across the term and when. They are the basis for more detailed short-term plans.

Short-Term Plans

These are developed from the Termly Progression Grids and placed on planning grids that include, oral/mental starter, National Curriculum objectives and Success Criteria, main teaching and group activities and resources. Planning is done collaboratively across the Key Stage with all teachers planning the subject at least every third term.

Cross-Curricular Links

Maths contributes to many subjects, often in practical ways and this is reflected in teachers' subject and topic plans. Meaningful links between subjects helps children make connections, develop their maths language and apply their maths to real life situations.

Assessment

Short-term

Formative assessments are an informal part of every lesson. They do not need to be recorded unless the teacher decides to keep informal notes to feed into future planning and Provision Mapping. In Foundation Stage the teacher comments on individual pieces of work and annotates the weekly plans to inform assessment and next steps for the children.

Medium-term

The children are assessed at the end of every term using Aquila's data progression grids. Here, teachers make clear judgements of the children's abilities using evidence from books. In Key Stage One, children are assessed as being 'beginning, beginning+ developing, developing+, secure or secure+' within the year group's knowledge and skills. The following details end of term expectations:

	Year 1	Year 2
Term 1	Beginning (1B)	Beginning (2B)
Term 2	Beginning+ (1B+)	Beginning+ (2B+)
Term 3	Developing (1D)	Developing (2D)
Term 4	Developing+ (1D+)	Developing+ (2D+)
Term 5	Secure (1S)	Secure (2S)
Term 6	Secure+ (1S+)	Secure+ (2S+)

Medium-term assessments help identify children's strengths and weaknesses in the most important areas of the key objectives. Tracking and levelling of the children is done completed each term and recorded on SIMS at the end of Terms 2,4 and 6.

Any children working below Key Stage One expected standards will be assessed using the following criteria:

P4	P5	P6	P7	P8	ELG1	ELG2
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In Reception, termly formative assessment take place whereby each child is assessed against the relevant statements in the Development Matters Document. At the end of Reception children are assessed against the Early Years Goals and then teachers work alongside Year One colleagues to determine where the children are based on Aquila's Data Progression Grids.

Long-term

Towards the end of each school year, teachers will assess the children to show the progress they have made. To inform the teachers in the following year group, this data is

shared so that the next steps can be put in place. At the end of Key Stage One, children are assessed using the Statutory Teacher Assessment Framework and will be judged according to whether they are PKS (Pre Key-Stage), WTS (Working Towards), EXS (Expected) or GDS (Greater Depth). It is statutory in Foundation Stage that the children are assessed against the Early Years Learning Goals.

Early Years

The statutory Early Years Foundation Stage framework (EYFS) sets the standards that all early years providers must meet to ensure that children learn and develop well and that teachers promote teaching and learning and children's school readiness. It gives children the broad range of knowledge and skills that provides the right foundation for good future progress through school and life. (September 2021)

The statutory framework for the foundation stage (September 2021) has seven areas of learning and development that must shape the educational programme. All areas of learning and development are important and inter-connected. Of these there are three prime areas of learning and four specific early learning goals of which one specific area of learning is mathematics. This involves providing children with opportunities to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to develop their spatial reasoning skills across all areas of mathematics including shapes, 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. (September 2021)

Assessment at the end of the EYFS

The Early Years Foundation Stage Profile must be completed for every child by the end of June in that Reception Year. It provides a well-rounded picture of a child's knowledge, understanding and abilities, their attainment against expected levels, and their readiness for Year 1. Each child's level of development must be assessed against the Early Learning Goal to show whether they have achieved expected levels or have not yet reached expected levels and are 'emerging'. This is statutory and is sent off to the LA.

Standards to be Achieved

By the end of EYFS most children will have achieved the expected level for the mathematics ELG.

By the end of Key Stage One children will be expected to have achieved 'Secure+' to be working at the expected standards.

Extension Opportunities

All children will be given the opportunity to evidence mastery in mathematical concepts through their recording in their books. More able children will be extended through rich and sophisticated problems and given the opportunity to demonstrate mastery in greater depth. These activities are identified in the teacher's short-term plans and marked with a red star in children's books. When working with the whole class, individually targeted and extended questioning will take place for the more able.

SEN

Differentiation will also be used to help children with SEN. Teacher and TA support will be identified in short-term plans and in Provision Mapping where specific targets are given.

Equal Opportunities

All pupils, regardless of race, gender or ability will have equal opportunity to participate in maths activities. Further, staff need to be aware of current issues in equal opportunities that may influence learning. For example: gender differences in attitudes to maths; the performance of boys and girls throughout the curriculum; access to resources such as construction and small manipulative work. Staff should at all times be a positive role model - showing their own confidence in maths work.

Resources and Display

Resources are kept in the resources area in the link room. Each class has a bank of their own resources appropriate to the age of the children that can be independently accessed by the children. The Curriculum places great emphasis on the importance of manipulatives to support learning.

Each classroom will be resourced with materials to support the delivery of Maths; such items might include Numicon, number lines, multiplication tables, 100 squares, 2D and 3D shapes, multilink cubes, dienes, dice and other smaller items.

Children should be encouraged to use whatever resources are available to them in the classroom and which they feel would be beneficial to help them when completing Maths work.

Each classroom should have a display dedicated to Maths; this should be in the form of a working wall, and pupil voice should be evident.

Health and Safety

All maths activities must fulfil the safety criteria set out in the Health and Safety Policy, during maths lessons and outings.

Parent and Community Links

Visits may be made in the local environment.

Parents will be asked to support ongoing work in maths through targets agreed at parent/teacher consultations. They are also made aware of objectives covered over the year so that they can offer appropriate support.

In EYFS, parents will be kept informed of their children's current learning and next steps through the use of Tapestry with both whole class, group and individual observations and maths challenges.

Review

This policy was reviewed by Hannah Jackson, Maths Subject Leader, 6th January 2022