



Common Road Infant School

MATHEMATICS POLICY 2020 - 2021

RATIONALE / AIMS

To provide a rich mathematics curriculum that lays the foundations for the future. To foster positive attitudes, build confidence and enable each child to experience success. We believe that **all** children should be given opportunities to:

1. Develop a positive attitude to mathematics and an understanding of mathematics through fluency, reasoning and problem solving along with enriching enquiry and experience.
2. Make rich connections across mathematical domains and ideas to develop fluency, problem solving and mathematical reasoning.
3. Develop confidence and mental fluency, accompanied by the quick recall of basic facts.
4. Develop an ability to use and apply mathematics through the curriculum and real life.
5. Develop the ability to solve problems, to reason, to think clearly, logically and confidently in mathematics.
6. Develop the ability to talk about mathematics with assurance, and use mathematical language and facts readily.

‘The Framework for Teaching Mathematics’ and the domains for mathematics comprise the matters, skills, and processes that are required to be taught to all pupils during EYFS and Key Stage 1. All practitioners will follow the 2014 ‘Mathematics programmes of study key stages 1, using both statutory and non statutory guidance for teaching.

FS1 and FS2 follow the Foundation Stage Curriculum / Development Matters.

DELIVERING THE MATHEMATICS CURRICULUM

Children are taught in their mixed ability classes with T.A. support.

Year group teachers plan the mathematics curriculum on a weekly basis using the White Rose Maths Hub as a core scheme of work with supplementary work planned for and provided by class teachers. The scheme is used to support with achieving the National Curriculum objectives for EYFS and KS1.

It is our aim to deliver:

- A daily dedicated mathematics lesson lasting approximately 45-60 minutes.
- A range of pedagogic approaches, including direct fluency, inductive, experiential activities for reasoning and enquiries surrounding problem-solving approaches.
- Flexibility to encourage teachers and practitioners in applying their teaching approach according to the needs of learners. Exploring a concrete, pictorial and abstract approach to mathematics.
- Plenary and mini-plenary to reinforce learning and deepen understanding.
- Group, guided and independent work to secure greater understanding of their newly acquired knowledge through its application.
- An emphasis on mental/ arithmetic calculation.
- Controlled differentiation with all pupils engaged in mathematics relating to a common theme.

The potential contribution of mathematics to the whole school curriculum is considerable and pupils are also given experience of using mathematics in a wide range of contexts relating to cross-curricular studies both inside and outside the classroom. This is included on our topic based approach to the curriculum.

Foundation Stage

Nursery children are given experiences of number and practical work in mathematics in the context of the nursery environment by using objects and materials they are familiar with. Children are encouraged to sort, match, order and count objects through practical activities. Children are able to develop a 'beginners' language of mathematics and develop an idea of addition and subtraction through play situations. Through exploratory play children are encouraged to explore pattern work, capacity, weight, length and shape.

Reception Children are given a wide variety of practical experiences in mathematics. The teacher will direct the whole class every day for the first fifteen minutes of a session. This time will include a mental and oral starter. A group of children will then work on an adult focussed activity. Other children choose from a wide range of activities. Maths activities are part of the continuous provision and enhancements put in place weekly and may be classroom or outdoor based. These provision activities will be enhanced surrounding a weekly curriculum objective and modelled by an adults, through whole class teachings or images and examples within provision areas. Suggested activities: -

- Sorting
- Matching
- Ordering
- Counting
- Classifying/patterns

- Number games
- Bead threading in sequence
- Shapes
- Drawing
- Timing activities using sand timers
- Comparing lengths, heights etc.

Key Stage One Children in Y1 and Y2 have a daily mathematics lesson that is National Curriculum led and linked to the WRM scheme, adapted and enhanced to the needs of the pupils. The lesson lasts approximately 45 minutes to one hour. Summative and formative assessment are used to identify the next steps in learning and monitor the progress made.

TEACHING AND LEARNING STYLES.

The focus is on direct teaching that is oral, interactive, lively and challenging for ALL children.

- We expect pupils to play an active part in their own learning by answering questions
- Contributing points to discussions
- Explaining and demonstrating their methods.

The range of activities will include

- Concrete, practical and abstract work, fluency, problem-solving, investigations involving reasoning.
- Oral and written tasks

There will be opportunities to use

- Practical resources (for example, concrete objects, scaffolds and measuring tools)
- ICT

CHILDREN RECORDING THEIR WORK.

Children need to record and present their work in order to:

- Help clarify their own thinking
- Communicate and explain their ideas to others
- Provide evidence of their work in mathematics.

Nursery and Reception - When children have successfully completed a range of practical activities they begin to record their work. Recording will take different forms and may be: -

- Symbolic
- Graphical

- Diagrammatic
- Pictorial
- Written
- Constructed (a model)
- Verbal
- Annotated pictures

Key Stage One - Y1/Y2 children will be taught to record their mathematical thinking in a variety of ways using for example, diagrams, graphs, pictures, models, and writing. During these opportunities all children will be increasingly expected to choose the most appropriate methods to display their understanding.

SPECIAL EDUCATIONAL NEEDS/ INCLUSION

Provision for pupils with special needs is planned, with any support staff, in order to ensure full access to the National Curriculum. Teachers plan to match work to pupils' capabilities and are always aware of those pupils who have special needs. Relevant targets from 'support plans' will be taken into account during weekly/daily planning. The appropriate curriculum for mathematics is taught to pupils in ways appropriate to their abilities, all pupils are encouraged to show achievement and progression in those strands they can access.

This is achieved by considering the following three areas.

1. Access to the curriculum.

Teachers may need to adjust schemes of work to cater for the needs of individual pupils. In some cases material may be selected from earlier or later key stages where this is necessary to enable pupils to progress and demonstrate achievement. Teachers will ensure that such materials are presented in contexts suitable to the pupil's age.

2. Physical improvements to increase access to education.

Teachers will plan for full participation in learning and in all physical and practical activities through, for example:

- adapting environments
- using aids or adapted equipment to allow access to practical activities within school.

3. Information in a range of formats for disabled pupils.

Teachers would provide support for those pupils who need help with communication, language and literacy where necessary for example by:

- using alternative and augmentative communication, including signs and symbols
- using visual and written materials in different formats, including large print and symbol text, using ICT, other technological aids and taped materials

- using materials and resources that children can access through sight, touch, sound and smell.

EQUAL OPPORTUNITIES

The mathematics curriculum takes into account the school's policy for equal opportunities and is delivered without bias regarding race, gender, culture or ability.

RECORD KEEPING AND ASSESSMENT.

Ongoing, mostly observational assessment in Foundation stage allows practitioners to assess children against the Foundation Stage Profile (FS2) and Nursery Developmental Matters (FS1). Assessment is based on what practitioners see children saying/doing in child initiated activities.

FS profiles are passed on to Y1 teachers in order that they can plan next steps in learning.

Assessment in KS1 is a continuous process and is based upon the teacher's judgement. Assessing 'Pupil's Progress', materials are used to judge pupils' attainment and an "accurate fit" description is used. These records begin in Y1 and are passed to Y2. This allows for an overview of an individual's progress throughout his / her time in the school..

Individual targets for pupils are set half termly and reviewed as required. Targets are based on common objectives which are then differentiated for individual pupils.

Other targets are set as required.

SAT's are taken at the end of Key Stage 1 in accordance with the national requirements. A copy of the results and scores are passed to KS2.

The assessment process ensures continuity and progression throughout the key stages.

Mathematics is formally assessed and moderated 3 times yearly (termly) in each year group with additional moderation done half termly if required by that of the EYFS, KS Lead or Maths lead. At each termly moderation meeting each key stage will generate examples of work that meet/adhere to the agreed outcomes for each milestone of 'WTS' 'EXS' – Age related national/secure' and 'GDS- above'. This exemplification material will be used as an agreed expected standard against said milestones. Where possible end of EYFS and KS1 statutory exemplification materials will be used to confirm and clarify other year groups key milestones/outcome, to create consistency of levelling throughout school.

Each pupil's level of achievement is judged by the level descriptor, which matches the pupil's performance. In EYFS the framework for Early Years is used. In KS1 and KS2 national statutory assessments along with the schools assessment of Otrack B, D, S, S+ (Beginning, Developing, Secure and + to denote children working at Greater Depth), which incorporates both the statutory assessment criteria/requirements for end of EYFS and KS1 to be used.

The marking of children's work daily will inform 'Feedforward' assessments and next steps, as half termly objectives/ outcomes will be set for children on an individual crib-sheet both in mathematics, which staff will mark against, creating informative assessments in relation to gathering evidence throughout the year against the end of year national curriculum outcomes, alongside any required statutory assessments for the end of EYFS and KS1. This evidence will all create an individual profile of the child's attainment and progress throughout each year's teaching of the whole subject of mathematics.

OTRACK software is used throughout school to document assessments and analyse attainment and progress of all groups (Disadvantaged/Boys/Girls/SEND/EAL etc.) KS1 -The assessment and recording of pupils' development is documented on the OTRACK software. Maths will be presented at half termly pupil progress meetings where the progress of all groups/individuals are measured against school targets and National Averages. Provision Maps will then be produced to support next steps in learning (which include interventions/SEN considerations. (EYFS also). Records should be stored in the class assessment folder.

EYFS – We use the observation, assessment and planning cycle (see EYFS Assessment Policy). Key Workers build individual learning journeys on 2Simple which is available online for parents to view and upload further evidence from home.

The EYFSP is a summative assessment tool for end of KS, this is reported to parents. On a daily basis staff will make informal assessments by reading and marking 'feedforward' what pupils have written and produced; listening to what pupils say about their work; watching pupils at work, individually and in groups; looking at what pupils have produced.

ICT

ICT provides good opportunities to enrich work in mathematics, and for mathematics to be enriched by other areas of the curriculum. Information can be easily stored and accessed using databases, spreadsheets and graphical representation. Programmes relating to modelling, communicating information, handling information, measurement and control, and other mathematical skills are also used to enhance the curriculum.

Interactive whiteboards are installed in all classrooms and are an integral part of the Collins scheme.

MONITORING AND EVALUATION

These are regularly undertaken by the Head, SLT and Maths Co-ordinator as part of the school's 'Self Evaluation' and 'School Development' actions, this can involve,

- Lesson observations
- Scrutiny of planning/schemes of work
- Scrutiny of children's work.
- Analysis of assessment data.

- Interviews with pupils.

The co-ordinator writes an annual report to the Head Teacher following monitoring and evaluation and develops an action plan aimed at continually improving standards.

The mathematics co-ordinator's role is outlined in the job description and the subject leader's handbook. The supply of resources and the mathematics scheme of work are regularly reviewed and evaluated.

The Mathematics coordinator has responsibility for a budget/specific funds and if new or replacement items are needed this should be discussed with the coordinator and SLT.

HOME – SCHOOL LINKS AND REPORTING

- Two termly consultation meetings
- End of year report, comparing their progress to the national expectations for Mathematics; this will be couched in terms of BEGINNING, DEVELOPING AND SECURE learning across YEAR GROUP STATUTORY REQUIREMENTS, where appropriate individual targets will be given to parents/carers.

The annual report to parents contains a written statement about each child's progress in mathematics, and is based upon the teacher's observation and assessment.

The daily mathematics lessons will provide opportunities for children to practice and consolidate their skills and knowledge, to develop and extend their techniques and strategies, and to prepare for their future learning. Maths homework linked to what has been taught that week will go home weekly in Year 1 and Reception to allow pupils to practise these skills at home. Additional homework is set when needed to reinforce class work. In Year 2 learning and understanding will be extended through weekly activities linked to class learning of additional SATS intervention work. These activities will be short and focused and will be referred to and valued in future lessons.

Parents/carers of KS1 pupils are invited to workshops in the autumn term. These sessions provide parents with an overview of mathematics taught in school. They also address end of year expectations and give parents the opportunity to observe how calculation in mathematics is approached.

Information about the mathematic curriculum is provided for parents on the school website.

Written by:
Mr S Dunkley
16.9.19

