THE ANTHONY ROPER PRIMARY SCHOOL

MATHEMATICS POLICY

This policy outlines the teaching and management of Mathematics taught and learned at The Anthony Roper Primary School. The policy has been drawn up to reflect our whole school approach to Mathematics and has been discussed with staff and has the agreement of the Governing Body.

AIMS AND OBJECTIVES

The school's aims in Mathematics are:

- to promote enjoyment of learning through practical activity, exploration and discussion
- to promote confidence and competence with numbers and the number system
- to develop the ability to solve problems through decision-making and reasoning in a range of contexts
- to develop a practical understanding of the ways in which information is gathered and presented
- to explore features of shape and space, and develop measuring skills in a range of contexts
- to understand the importance of mathematics in everyday life
- to ensure all children have equal access to the curriculum and are not discriminated against with regard to gender, race or disability
- to give the children structured methods with which to perform mathematical calculations using the Calculation Policy.

Objectives:

- To ensure that children leave the school numerate and with a sound mathematical basis on which to build future learning.
- To enable the children to tackle real life problems by selecting from a variety of mathematical skills and apparatus.
- To encourage an awareness of shape in the environment, so that children can have a greater appreciation of spatial awareness.
- To enable children to deal successfully with all forms of measure in relation to the real life situations that they may encounter.
- To ensure that children have an understanding and appreciation of the relative value of money.

THE MATHEMATICS CURRICULUM

Foundation Stage

Mathematics teaching in the Foundation Stage is referred to as number and shape, space and measure. We relate the mathematical aspects of the children's work to the objectives set out in the Development Matters in the Early Years Foundation Stage document, which underpins the planning for children aged birth to five. We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

Key Stages 1 and 2

Mathematics is a core subject in the National Curriculum, and we use the Mathematics programmes of study: key stages 1 and 2 as the basis for implementing the statutory requirements of the programme of study for mathematics. As a school we also teach mental maths discreetly once a week.

We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term). The Mathematics programmes of study: key stages 1 and 2 is a detailed outline of what we teach in the long term, while our yearly teaching programme identifies the key objectives in mathematics that we teach in each year**.**

Our medium-term mathematics plans give details of the main teaching objectives for each term and define what we teach. They ensure an appropriate balance and distribution of work across each term. These plans are kept and reviewed by the subject leader.

It is the class teacher who completes the weekly plans for the teaching of mathematics. These weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught. The class teacher puts these onto shared space, and the class teacher and subject leader will occasionally discuss them on an informal basis.

APPROACHES TO TEACHING AND LEARNING

The school uses a variety of learning and teaching styles in mathematics lessons in order to meet the needs of auditory, visual and kinaesthetic learners. Our principal aim is to develop children's knowledge, skills and understanding in mathematics. This is completed using the Mastery approach, giving children independence in their learning. Children are expected to have an ability to complete mathematics mentally and to have learnt times tables. We do this through a daily lesson that has a high proportion of whole-class and group-direct teaching. During these lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. Mathematical dictionaries are available in all classrooms. Children use ICT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods. Wherever possible, we encourage the children to use and apply their learning in everyday situations and within their Topic learning.

INCLUSION AND ADDITIONAL EDUCATIONAL NEEDS

All children are given equal access to the Mathematics curriculum.

The study of mathematics is planned and differentiated to provide pupils with a suitable range of activities and support appropriate to their abilities and needs. The challenge of the task is matched to the ability of the child in a variety of ways by:

- Children choosing their own tasks
- Open-ended tasks which allow for a variety of responses
- Grouping children with mixed ability
- Providing a range of resources
- Classroom assistants to support individuals or small groups
- Independent enquiry with broader applications will be used to challenge and extend more able pupils

Curriculum planning ensures that all pupils have an equal opportunity to take part in every aspect of the maths curriculum. Gender, disability and cultural differences are reflected positively in the school.

Intervention through SEN support will lead to the creation of an Education and Health Care Plan (EHCP) for children with special educational needs.

ASSESSMENT

Teachers will continuously assess children's work in mathematics. We use assessment for learning (questioning, marking etc.) to help us adjust our daily teaching. Children are made aware of learning objectives and what they need to do to succeed. Weekly mental mathematics tests are used to show specific gaps for children and classes.

We make informal assessments at the beginning and end of each unit to measure progress against the key objectives, and to help us plan the next unit of work. Pupil tracking sheets are being used to track pupil achievement and inform National Curriculum achievement.

We carry out formal levelled assessments, three times during the school year, and we use these to inform teacher assessment of progress against school and national targets. At the end of the year we make a summary of each child's progress and attainment which is reported to parents in the End of Year Report. This information is passed on to the next teacher at the end of the year, so that they can plan for the new school year. We moderate the long-term assessments using the national tests for children in Year 2 and Year 6. We make annual assessments of children's progress measured against the National Curriculum programmes of study.

RESOURCES

All classrooms have an interactive white board, and a wide range of appropriate small apparatus. (See Appendix 1) A variety of practical resources are available from the maths cupboard. The library contains a small number of books to support children's individual research and a range of software is available to support work on computers.

THE ROLE OF THE SUBJECT LEADER

- Be available to provide support, information and advice
- Take the lead in policy development and review and check the schemes of work to ensure continuity and progression throughout the school
- Monitor the standards of children's work and the quality of teaching in mathematics
- Keep up to date with current developments in mathematics and keep staff informed
- Take responsibility for the purchase and organisation of mathematics resources (where the budget allows)

POLICY REVIEW

This policy will be reviewed every four years.

Appendix 1 Resource Audit

Resource	Sunshine	Rainbow	Squirrel	Field Mouse	Harvest Mouse	Woodmouse	Dormouse	Hedgehog	Badger	Red Fox	Otter	Seal	Dolphin	Maths Cupboard
Large display hundred square	1	1	1	0	0	1	1	0	0	1	1	0	0	3
Individual hundred squares	6	10	0	13	Y	16	30	30	10	25	Y	Y	50	0
Washing line/stick with removable	0	0	1		0	0	0	0	0	0	0	0	0	0
Individual number lines	0	10	21	40	Y	15		0	0	0	0		0	0
Digit cards	1 set	1 set	1 set	Y	Y	12	30		30	46	0		Y+	0
Place value cards	0	0	0	0	9	1	30	8	15	10	10		12	0
Selection of dice	0	Y	6	18	Y	12	Y	30	Y	47	Y	32	70	30
Interlocking cubes	0	30	0	Y	Y	Y	Y	Y	0	Y	Y	Y	Y	0
Base 10 apparatus/diennes	0	0		0	0	Y	Y	Y	0	0	Y		0	0
Counters	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dominoes	0	0	4	Y	Y	4	Y	Y	0	0	0		3	0
Rulers	Y	Y	0	4	Y	30	30	Y	Y	35	30	Y	33	*
Measuring equipment: Capacity	0	0	0	0	0	0	0	0	0	0	0		0	0
Measuring equipment: Weight	0	0	0	0	0	3	0	0	0	0	0		0	^
Display clock	0	0	1	0	1	1	1	1	0	0	0	Y	Y	1
Pupil clocks	0	12	0	30	Y	24	30	25	0	35	30	Y	0	0
Stopwatches	0	0	0	0	Y	4	0	0	15	0	0	0	Y	Y
Sand timers	0	2	1	0	0	0	1	4	0	3	1		0	0
2D shapes	0	0	50	Y	Y	Y	Y	Y	Y	Y	Y	Y	1	Y
3D shapes	Y	0	50	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	14
Construction kits eg polydrons	0	0	0	Y	0	Y	Y	0	0	0	0	Y	0	0
Magnetic boards	0	4	0	4	12	0	0	0	0	0	0	0	0	0
Coins	0	Y	Y	Y	Y	Y	Y	Y	0	0	0	0	0	0
Number games	0	Y	Y	Y	Y	Y	Y	Y	Y	2	Y	0	6	Y
Sorting trays & sorting objects	0	0	Y	0	Y	Y	0		0	0	0	0	0	9
Mathematical dictionaries	0	0	0	0	0	0	0	0	0	0	2	Y	0	0
Calculators	0	1	0	0	0	0	Y	30	20	4	12	30	37	30
Numicon	0	1	1	1	0	0	1	0	0	0	1	0	0	0
Mirrors	0	10	3	7	Y	30	Y	Y	Y	30	10	Y	56	60
Compasses	0	0	0	0	0	0	0	0	Y	0	0	0	89	30
Protractors	0	0	0	0	0	3	0	20	Y	0	0	Y	105	30
Fraction games		Y												
Fraction and decimal line													Y	
Set squares														30
Fraction wall														2
Tessellating tiles														Y
Geoboards														Y

* 10 trundle wheels, 7 metre sticks

^ 6 trays of weights, 5 balance scales, 10 kitchen scales, 1 set of bathroom scales, 1 set of digital scales, 2 foot measurers