

St Andrew's CE (VA) Junior School

Mathematics Policy



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ST. ANDREW'S CE (VA) JUNIOR SCHOOL



"Promoting Excellence Within a Caring Christian Community"

Mathematics Policy

1 Introduction

Maths provides pupils with a powerful set of tools with which to calculate, reason and solve problems. The National Curriculum for mathematics describes what must be taught in each year group. *At St Andrew's Junior CE (VA), all year groups follow the National Curriculum (2014) using the school's long term plan that covers the objectives.* Children need to master key mathematics skills, rather than striving to solely achieve the next objective year on year. The aim of the curriculum is to instill a deeper understanding of mathematics, such that it can be applied to different contexts within the field.

2 Rationale

It is important to create a whole school approach, of which staff, children, parents and governors have a clear understanding. This agreement reflects how essential mathematics is in the education of our pupils. Understanding the relationships and patterns that form between numbers is important for pupils to solve problems, within their education as well as their everyday life. Therefore it is imperative that a positive attitude towards maths is encouraged amongst all of our pupils, in order to nurture self-confidence and a sense of achievement. *To help create this attitude we will teach through a concrete, pictorial, abstract approach that develops a deep and sustainable understanding of maths.*

3 Principles

We ensure that:

- policy and provision are evaluated and reviewed regularly
- resources of time, people and equipment are planned, budgeted for and detailed when appropriate
- the governing body fulfil their statutory responsibility with regard to maths
- cross curricular opportunities are planned for where appropriate
- the planning of maths ensures continuity and progression across all year groups and key stages

4 Aims

General

We aim to provide the pupils with a maths curriculum which will produce individuals who are numerate, literate, creative, independent, inquisitive, enquiring and confident. We aim to provide a stimulating environment, so that pupils can develop their mathematical skills to their full potential.

Specific

Our pupils should:

- enjoy learning through practical activity, exploration and discussion
- have a sense and understanding of the size of a number and where it fits into the number system
- recall key facts such as number bonds, multiplication tables and division facts, doubles and halves
- calculate accurately and efficiently, both mentally and in writing, using a range of calculation strategies
- make sense of number problems, recognising the operations required to solve them
- explain their methods and reasoning using the correct mathematical terms
- judge whether their answers are reasonable and have strategies for checking them where necessary
- suggest suitable units for measuring and make sensible estimates of measurement
- explain and make predictions from the numbers in graphs, diagrams, charts and tables
- develop spatial awareness and an understanding of the properties of 2D and 3D shapes

5 Teaching & Learning Style

Our school uses a variety of teaching and learning styles in maths lessons. Our main aim is to develop children's knowledge, skills and understanding in maths.

This is achieved by:

- a daily lesson that has a high proportion of whole class and group directed teaching
- within the week there will be opportunities for children to complete Maths Passports.
- a weekly focus on arithmetic and the teaching of strategies to approach such questions
- extension and challenge tasks that move learning on and give children the opportunity to reason and explain why.
- teaching in mixed ability classes, with the support of a teaching assistant in each classroom
- encouraging the children to ask, as well as answer, questions.
- using a wide range of resources such as number lines, digit cards, Numicon and apparatus to support learning

- the use of consistent resources used throughout school will ensure that the children learn through a concrete, pictorial, abstract approach that develops a deep and sustainable understanding of maths.
- using ICT to enhance learning, and to complete homework
- encouraging the use and application of their learning in everyday situations, through real life problems and longer investigations. To aid this, we will use a variety of problem solving resources, including STOPS.

In all classes, children have a wide range of mathematical abilities. In recognition of this, we provide suitable learning opportunities for all children; matching the challenge of the task to the ability of the child. We achieve this through a range of strategies; through differentiated group work, or paired work on open-ended problems or games. The support of teaching assistants helps to ensure that work is matched to the needs of individuals. All classrooms have a maths working wall or an area where mathematical vocabulary and images are displayed to support children's learning. Consistently through school we also have Maths Toolboxes that contain key resources that will help aid learning for all and consolidate the concrete, pictorial and abstract way or learning.

Children are set a weekly homework which strengthens and consolidates their learning. Alongside this, all children in school have a log in and access to Mathletics (an online maths resource where children can complete games and activities related to their learning in class)

We follow a specific plan for teaching written calculations in maths. Our Written Calculations policy outlines progression in the four operation calculations; addition, subtraction, multiplication & division.

To help motivate children we have a 'Mathematician of the Week', and also a 'Mathlete' from each class and class of the week who win a trophy (to promote the use of Mathletics) which is celebrated during Golden Book Assembly.

6 Planning

Maths is a core subject in the National Curriculum. We use the Curriculum 2014 and various resources as the basis for implementing the statutory requirements. We carry out curriculum planning in mathematics in three phases; long-term, medium-term and daily lesson plans. Our long-term plans identify the key strands which we teach throughout the year. Our medium-term plans, adopted from the New Curriculum, give details of the main objectives for each term. These plans are kept by the class teachers. The weekly plans list the specific learning objective for each lesson, how the lesson is to be taught and the steps to success. These plans are written by the class teacher and shared with teaching assistants who are supporting children in lessons.

7 Maths across the curriculum

Throughout the whole curriculum, opportunities to extend and promote maths should be sought. Links are made with other subjects when relevant, and part of the topic. Maths contributes to a variety of subjects in the primary curriculum, often in practical ways. For example, science makes use of key maths skills such as counting, calculating, estimating and recording information in tables and graphs. Furthermore, skills such as measuring and understanding shape and symmetry often cross curricular in to art, and design and technology. The study of maps in geography relies upon knowledge of co-ordinates, angles, direction, position and scale. Mathematical skills are applied in IT to enable data handling and the use of spreadsheets and number programmes.

Maths also contributes to the teaching of personal, social and health education. Working outside their normal lessons encourages independent study and encourages them to become increasingly responsible for their own learning. Encouraging the children to work together in lessons, as pairs or teams, encourages discussion of ideas and results, furthering their understanding of mathematics. However this group work also contributes to their social development and interaction.

Nevertheless the prime focus should be on ensuring '*mathematical progress*' delivered discretely or otherwise.

8 Special Educational Needs and Inclusion

Our aim is to provide a broad and balanced education for all pupils. Children with SEN are taught within the daily maths lesson and differentiated for appropriately (e.g. suitable learning style, level of work, numerous small activities to aid concentration, apparatus, adult support).

Children who have been identified as continually achieving below age-related expectations will be taken out for regular small group sessions with a teaching assistant for pre - teaching or targeted work.

How we cater for children who are above age-related expectations

The most able children in maths will be taught with their own class and stretched through differentiated group work and extra challenges to deepen their learning. When working with the whole class, teachers will direct questions towards these children (at their ability level) to maintain their involvement and extend their thinking.

9 Resources

Each classroom has a supply of maths resources **that are accessible to children if needed**. Those resources which are not used or required regularly are stored centrally and accessed by teachers at the beginning of a topic.

10 Assessment

The new National Curriculum, brought in at the start of September 2014, is written so that children have to cover some objectives over the course of a two year period and some objectives over a single year period.

The ethos of the new curriculum is embedding a depth and mastery of the learning objectives. Assessing children's depth of knowledge and ability to apply this into other contexts is now our priority. Assessment of these objectives is now no longer determined by a central system of levels determined by the Government.

We currently use a variety of ways to assess the children in maths throughout the year. Some of the assessment materials we use are:

- White Rose Hub termly assessments
- Rising Star assessments
- NFER tests
- SATs tests

The levels the children are working at are entered into a half termly assessment and grid and inputted into Target Tracker on a termly basis.

Children are still legally required to be assessed formally at the end of the Key Stage 2 SATs tests. Assessment is regarded as an integral part of teaching and learning and is a continual process. It is the responsibility of the class teacher to assess all pupils in their class.

At St Andrew's Junior CE (VA) school, we strive to make our assessment purposeful, allowing us to match the correct level of work to the needs of the pupils. Information for assessment is gathered in various ways: talking to children, observing their work, marking etc. These assessments will be used to plan future work, to ensure pupils are both challenged and supported. Teachers will indicate to children their next steps and learning targets on a regular basis in their books.

At the end of each half-term, teachers will undertake an assessment based on the key objectives. The results of these assessments will be recorded on the pupil tracker assessment grid. This will be monitored by the Head Teacher and Maths Coordinator at pupil progress meetings. In the summer term the results of the end of KS2 assessments will be collected and analysed by the subject leader, and the resulting information will be given to staff to improve the future teaching of maths.

Children who receive intervention programmes will be highlighted on the pupil tracker and passed up to the next teacher. This will enable their progress to be tracked and a decision made as to the impact of the intervention programme.

11 Monitoring and Evaluation

The Maths co-ordinator, alongside the Senior Leadership Team, is responsible for monitoring and evaluating curriculum progress. This is done through book scrutiny, planning scrutiny, lesson observations, pupil interviews, staff discussions and audit of resources.

11 Review

The mathematics policy will be continuously updated and reflected upon in our practice throughout the school year.

Date: September 2017

Renew: September 2020

Head Teacher signed:

Chair of Governors signed: