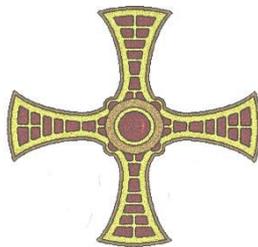




St. Joseph's R.C.V.A.

Maths Policy



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St.Joseph's RCVA Primary School

Mathematics Policy

Introduction

At St.Joseph's RCVA Primary school we value every pupil and the contribution they have to make. As a result we aim to ensure that every child achieves success and that all are enabled to develop their skills in accordance with their level of ability.

Mathematics is both a *key skill* within school, and a *life skill* to be utilised throughout every person's day to day experiences.

Rationale

Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them.

The National Curriculum for mathematics (2014) describes in detail what pupils must learn in each year group. Combined with our Calculation Policy, this ensures continuity, progression and high expectations for attainment in mathematics.

It is vital that a positive attitude towards mathematics is encouraged amongst all of our pupils in order to foster confidence and achievement in a skill that is essential in our society. At St.Joseph's we use the National Curriculum for Mathematics (2014) as the basis of our mathematics programme. We are committed to ensuring that all pupils achieve in the key concepts of mathematics, appropriate for their age group, in order that they make genuine progress and avoid gaps in their understanding that provide barriers to learning as they move through education. Assessment for Learning, an emphasis on investigation, problem solving, the development of mathematical thinking and development of teacher subject knowledge are therefore essential components of the St.Joseph's approach to this subject.

Aims

- To foster a positive attitude to mathematics as an interesting and attractive part of the curriculum.
- To develop the ability to think clearly and logically, with confidence, flexibility and independence of thought.
- To develop a deeper understanding of mathematics through a process of enquiry and investigation.

- To develop an understanding of the connectivity of patterns and relationships within mathematics.
- To develop the ability to apply knowledge, skills and ideas in real life contexts outside the classroom, and become aware of the uses of mathematics in the wider world.
- To develop the ability to use mathematics as a means of communicating ideas.
- To develop an ability and inclination to work both alone and cooperatively to solve mathematical problems.
- To develop personal qualities such as perseverance, independent thinking, cooperation and self confidence through a sense of achievement and success.
- To develop an appreciation of the creative aspects of mathematics and an awareness of its aesthetic appeal.

Entitlement

St Joseph's RCVA Primary School believes that each pupil is entitled to a curriculum, which is broad and balanced. It should cover the appropriate National Curriculum levels at KS1 and KS2 and support children in their progression towards the Early Learning Goals.

Pupils should have the opportunity to;

- Become confident and competent with their use and knowledge of number, algebra, shape, space, measures and handling data.
- Select materials and the strategies they use, making use of appropriate methods and tools for calculation.
- Practice and consolidate, engage in practical tasks, real life situations and investigative work.
- Engage in work which focuses on the practical value of mathematics as a tool for everyday life and to explore and appreciate the structure of mathematics itself. In particular, using and applying mathematics should stretch across and permeate all other work in mathematics

All pupils are entitled to have an opportunity to study all aspects of mathematics. There should therefore be a variety of learning experiences and teaching styles.

Teaching and Learning

Principles

The school uses a variety of teaching and learning styles in mathematics lessons. Our teachers strive to:

- build children's confidence and self esteem
- develop children's independence
- allow all children to experience regular success
- Contextualise mathematics

- Use practical approaches to mathematics (models and images)
- Encourage children to select independently resources to help them
- Challenge children of all abilities.
- Encourage children to enjoy mathematics
- Develop a child's understanding of mathematical language
- Learn from teachers, peers and their own mistakes.
- Allow children to ask questions as well as answer them.

Our pupils should:

- have a well-developed sense of the size of a number and where it fits into the number system (place value)
- know by heart number facts such as number bonds, multiplication tables, doubles and halves
- use what they know by heart to figure out numbers mentally
- calculate accurately and efficiently, both mentally and in writing and paper - drawing on a range of calculation strategies
- make sense of number problems, including non-routine/'real' problems and identify the operations needed to solve them
- explain their methods and reasoning, using 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 measurements
- 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

To provide adequate time for developing mathematics, maths is taught discretely. However, application of skills are linked across the curriculum where appropriate.

Curriculum Planning

Mathematics is a core subject in the National Curriculum and we use the objectives from this to support planning and to assess children's progress.

Staff use long term planning to ensure coverage of all areas of the National Curriculum and medium term planning to differentiate objectives according to the children which they teach.

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 keeps these individual plans, which they annotate according to the success of the lesson.

Mathematics pervades many areas of the curriculum and can develop more general skills such as communicating, reasoning and problem solving. There should be optimum use of

ICT opportunities and a strong emphasis on speaking and listening skills. There should be a whole range of learning opportunities and experiences. Using mathematics in all areas of the curriculum will help develop a positive attitude towards its place in the real world.

Teaching methods and approaches

The approach is based on four key principles;

- Dedicated daily mathematics lesson
- Interactive oral work with the whole class and groups
- An emphasis on mental calculation and using and applying mathematics
- Controlled differentiation, with all pupils engaged in mathematics relating to a common theme, incorporating cross-curricular links.

The National Curriculum identifies that there should 'be a broad repertoire of teaching and organisational approaches' and so there is no longer an emphasis on direct teaching within every lesson.

Differentiation

The demands of individual pupils should be taken into consideration wherever possible so as to allow the highest standards to be maintained for the more able, while taking into account the need of the less able and those with learning difficulties and to provide for each pupil attainable goals.

This will be provided by clear structured and scaffolded planning and assessment, teacher and TA input, outcome and by task. It will be facilitated by formative and summative assessment and the use of Support Plans for children with special needs.

Pitch and pace should be sensitive to the child's ability and children who require more support or need to be extended should be identified early to help them maintain good progress. Intervention programmes are run across the school specifically designed for individual children and may include some or all of the items below.

- Use of Abacus software to differentiate accordingly.
- Use of additional computer software such as RMEasiMaths, Education City etc.
- NRich/NCETM websites to develop reasoning and problem skills and to extend pupils with mastery activities.
- Use of Numicon, base 10 and other practical equipment

Advice on Calculation / Using and Applying

Calculation and using and applying should be high priority in mathematics teaching, so that clear progression is made through each year group and children can use efficient and

accurate methods and strategies. Mental mathematics and solid knowledge of number facts should be taught in all aspects of the lesson and not confined to starter activities in lessons.

Staff should refer to the 'Calculation Policy' for guidance on recording calculations and the progression which needs to be made over the year groups.

Assessment

This section details the various assessment methods and practices used in St. Joseph's through which we ensure that children are making appropriate progress and that the activities they take part in are suitably matched to their ability and level of development.

Formative Assessment (AfL) - (monitoring children's learning)

Assessment is an integral and continuous part of the teaching and learning process at St. Joseph's and much of it is done informally as part of each teacher's day to day work. Teachers integrate the use of formative assessment strategies such as: effective questioning, clear learning objectives, the use of success criteria, effective feedback and response in their teaching and marking and observing children participating in activities. Findings from these types of assessment are used to inform future planning.

Summative Assessment – (evaluating children's learning)

More formal methods are used to determine the levels of achievement of children at various times during the school year:

- Assessment will be carried out each half term using Abacus and Rising Stars Assessment Material. This shows the child's progress against age related expectations covered across each specific term.
- Key objectives grids are kept with pupil's work and passed onto the next year group at the end of each academic year.
- Parents are informed of their children's mathematical progress through two open evenings (Autumn and Spring terms) during the academic year, as well as an end of year report.
- Every pupil's termly level will be recorded on the school assessment database. This database highlights as to whether the pupil is working at expected, below or above their level.

Statutory End of Key Stage Assessment.

At the end of Key Stage 1, teacher assessment in mathematics will be informed by externally set, internally marked tests. The tests will reflect the national curriculum and results will be expressed as a scaled score.

At the end of Key Stage 2 pupils will sit externally set and marked tests in mathematics. The tests and assessments will reflect the content of the national curriculum. The results will be

reported to pupils and parents as scaled scores. Parents will be provided with their child's score alongside the average for their school, the local area and nationally.

Early Years Foundation Stage (EYFS)

We follow EYFS curriculum guidance for Mathematics. However, we are committed to ensuring the confident development of number sense and put emphasis on mastery of key early concepts. Pupils explore the 'story' of numbers to ten and the development of models and images for numbers as a solid foundation for further progress.

Moderating and review

Moderating of the standards of children's work and of the quality teaching in mathematics is the responsibility of the senior leadership team. The work of the mathematics subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

Moderation of maths work also takes place between other schools in our cluster. Each teacher takes children's work to compare and evaluate against work completed in the other schools and against the national curriculum expectations.

A named member of the school's governing body is briefed to oversee the teaching of numeracy. This governor meets regularly with the subject leader to review progress.

Resources

A bank of essential mathematics resources are kept in each classroom e.g.

Counters, Base 10 equipment, Multilink, Coins, Shape sets, Number squares and number lines, Digit cards, Small clocks, Sand timers, Counting sticks, Metre rulers, Place Value equipment, Calculators (Upper KS2)

In addition teachers/children have access to mathematical games, access to 'Numicon' to support SEND children, Scales, Weights, Clocks, Measuring jugs, Ruler sticks, Thermometers and much more!

All teachers have access to a copy of the National Curriculum for teaching mathematics. Teaching is further supported by lesson material on the Durham Learning Gateway, a published scheme (Abacus Maths) and a bank of ICT resources (see ICT).

Information and Communication Technology

We are committed to using computers, calculators and other ICT resources and software to develop children's conceptual understanding across the mathematical spectrum.

Each classroom has a Clevertouch Plus Interactive board, using Lynx and Snowflake software.

Mathematical software available for children to use includes: Abacus Maths (Active Learn) and Education City.

Teachers should use their judgement about when ICT tools should be used, including the use of calculators.

Role of the Subject Leader

- ❖ Ensures teachers understand the requirements of the National Curriculum and helps them to plan lessons. Leads by example by setting high standards in their own teaching.
- ❖ Prepare, organise and lead CPD and joint professional development.
- ❖ Works with the SENCO and SLT.
- ❖ Observes (alongside the SLT) colleagues with a view to identifying the support they need.
- ❖ Discusses regularly with the Headteacher and the mathematics governor the progress of implementing National Curriculum for Mathematics in school.
- ❖ Prepare a school policy in consultation with the staff
- ❖ Attend inset and report back to colleagues
- ❖ Oversee planning, recording, monitoring and delivering
- ❖ Provide assistance when required by staff and promote the subject within school
- ❖ Monitor the progress of classes and year groups of children
- ❖ Take supportive action where progress is unsatisfactory.
- ❖ Monitors and evaluates (alongside the SLT) mathematics provision in the school by conducting regular work scrutiny, learning walks and assessment data analysis.

Special Educational Needs and Disabilities

The daily mathematics lesson should be appropriate for all pupils. At St. Joseph's RCVA Primary School we aim to ensure that each pupil progresses to the best of their ability and therefore make clear progression. This will be facilitated by appropriate support and differentiation in planning and assessment and matched to Individual Support Plans.

Parental Involvement

Parents are informed of the changes in teaching approaches and the calculation policies, with an overview of the strategies taught available on the school website.

For reporting to parents, see Assessment section.

We continually aim to provide parents with ideas to support their children's mathematical development.

Staff Support and Development

This is available from LEA inset courses, Mathematics Inspector, Numeracy Consultants and school- based inset provided by subject leader and Headteacher.

All staff have attended Numeracy training and the school is committed to providing continuing mathematical training.

Mrs A.Hall is the named Numeracy Governor. Termly meetings take place with subject leader and nominated governor.

Evaluation

It is our intention to review, evaluate and update our policy on mathematics as necessary by means of training and the passing on of new information regularly to all members of teaching and support staff.

Children's progress, teaching techniques and organisational strategies will be closely monitored to see how effective the policy and guidelines are in practice.

This policy is monitored by the Maths subject leader and will be evaluated and reviewed by the whole staff and Governors.

Date of Policy: December 2016

Date to be reviewed: December 2017