



St Finians NS
Whole-School Maths Policy
2019

Aims:

We endorse the aims of the Primary School Curriculum (1999) for Mathematics which are:

- To develop a positive attitude towards Mathematics and an appreciation of both its practical and aesthetic aspects.
- To develop problem-solving abilities and a facility for the application of mathematics to everyday life.
- To enable the child to use mathematical language effectively and accurately
- To enable the child to acquire proficiency in fundamental mathematical skills and in recalling basic number facts.
- To enable the child to acquire an understanding of mathematical concepts and processes to his/her appropriate level of development and ability.

Objectives:

Please see our school's maths yearly plans for strand and strand unit objectives for each class level.

Strands and Strand Units:

All teachers are familiar with the strand and strand units and content objectives in the Maths Curriculum and refer to them regularly when planning for classes, ensuring all strands and strand units are dealt with.

The curriculum is broken down below. Note that the number strand begins with a section called Early Mathematics Activities, which is unique to the infant syllabus and is listed here as a separate strand.

Strands	Infant Classes	1 st & 2 nd	3 rd & 4 th	5 th & 6 th
Early Mathematics Activities	Classifying Matching Ordering Comparing			
Number	Counting Comparing and Ordering Analysis of Number	Counting and Numeration Comparing and Ordering Place Value Operations Addition Subtraction Fractions	Place Value Operations Addition Subtraction Multiplication Division Fractions Decimals	Place Value Operations Addition Subtraction Multiplication Division Fractions Decimals Percentages Number Theory
Algebra	Extending Patterns	Exploring and Using Patterns	Number Patterns and Sequences Number sentences	Directed Numbers Rules and Properties Variables Equations
Shape and Space	Spatial Awareness 2D Shapes 3D Shapes	Spatial Awareness 2D Shapes 3D Shapes Symmetry Angles	2D Shapes 3D Shapes Symmetry Lines and Angles	2D Shapes 3D Shapes Symmetry Lines and Angles
Measures	Length Weight Capacity Time Money	Length Area Weight Capacity Time Money	Length Area Weight Capacity Time Money	Length Area Weight Capacity Time Money
Data	Recognising and	Recognising and	Recognising and	Recognising and

	Interpreting Data	Interpreting Data	Interpreting Data Chance	Interpreting Data Chance
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Maths Skills:

Spanning the content are the skills that the child should develop while engaging with the maths curriculum. These skills are:

- Applying and problem-solving
- Communicating and expressing
- Integrating and connecting
- Reasoning
- Implementing
- Understanding and recalling

Approaches and Methodologies

The approaches we use in St Finians include:

The use of manipulatives-where practical and possible, children should have access to and use a broad range of mathematical equipment during lessons.

Talk and discussion- as an integral part of the learning process. Opportunities should be provided during the maths class for children to discuss problems with the teacher, in pairs, in groups.

Active Learning and Guided Discovery-As part of the maths programme for each class, children are provided with structured opportunities to engage in exploratory activities under the guidance of the teacher; to construct meaning, to develop mathematical strategies for solving problems and to develop self-motivation in the mathematical activities.

Collaborative and Cooperative Learning-collaborative and cooperative learning is promoted using the following strategies:

- Encouraging children to listen
- Encouraging children to take turns
- Recognising that others' opinions are important

- Children working in pairs/small groups while playing mathematical games

ICT is very important in the teaching of maths with opportunities for the pupils to engage in interactive activities, programmes and games developing the understanding of maths concepts, problem solving skills and self-motivation in mathematical activities. The Cracking Maths programme has interactives to use with each level. The school tablets and laptops are also used for interactive games on websites such as Topmarks, IXL etc. 123 Maths is used in SET to work on an individualised number skills programme. This is being expanded currently.

Using the Environment/Community as a Learning Resource: The school building is used as a resource to support the Maths programme. Teachers use the environment to provide opportunities for mathematical problem solving e.g. numbers on doors, using hula hoops to sort children in PE, games and hopscotch etc on playground, counting trees on the grounds, counting windows, observing shapes of doors/windows etc. Maths trails are used outdoors to help teach Mathematical concepts to children and make them aware of Maths in the environment. Children display their mathematical work in classes. The Maths Eyes programme provides scope for development in this area.

Problem-Solving: Children are encouraged to use their own ideas as a context for problem-solving. See Appendix 1 for strategies.

Language-Concepts/Skills: There is a strong link between language and concept acquisition.

The Ready, Set, Go programme, Cracking Maths and Maths Recovery inform our approach to mathematical language throughout the school.

The first term of each school year will focus on embedding this approach with new staff members to ensure continuity and a common approach. (See Appendix 1)

Resources:

We acknowledge the importance of concrete materials in the development of a sound basis in mathematical concepts in all classes.

- Ready Set Go resources are in the manuals in Infant classrooms as well as digitally on Google Drive.
- Boxes of maths resources are organised by topic and are stored centrally in our Math Resource room. These are checked during the year and at the end of the academic year. New items are added or updated annually.
- All resources supplied by the school and bought with school funds remain property of the school.

Textbooks: are in-line with the content objectives for each class level.

Textbooks complement planning but do not lead it. They are used to reinforce the concept taught and give adequate practice, where appropriate. A range of additional, supplementary maths resource books (stored in teacher resource box in each classroom), as well as maths resources stored digitally on Google Drive are available to all staff to support differentiated teaching strategies.

Junior & Senior Infants: Ready, Set, Go manuals and pupil books from Cracking Maths Scheme.

First to Sixth: Cracking Maths Scheme

All levels including SET: Access to a range of Maths Recovery assessments and teaching resources, where required (initial training to be provided during CP hours).

Assessment and Record Keeping:

- Assessments used by the teacher should inform planning, selection and management of learning activities so that they can meet the varying needs of individual children within classes.
- Tools such as self-assessment, conferencing, peer assessment, portfolios, concept-mapping, questioning, teacher observation, teacher designed tasks and tests and standardised tests will be used.
- Diagnostic testing: either teacher-designed/other will be completed regularly to assess knowledge on topics/inform planning for the next term/year.

- The SIGMA-T is administered annually in May in first to sixth class.
- Aladdin will be used to input results, generate graphs of scores, identifying averages, across bands, class level and the school as a whole. The information is analysed by the class teacher/SET team/ISM/Principal. Results are reported to parents and the Board of Management annually. This information will assist in informing our DEIS plan targets and areas of focus for the following years.

Children with Differing Needs:

- The maths programme aims to meet the needs of all children in the school. Teachers will vary the content, pace and methodologies to ensure learning for all. The introduction and development of each topic will be structured in a graded, sequential way to allow the individual child to develop and participate at his/her own level and pace.
- When a child demonstrates a particular difficulty, either with a topic, strand or overall, the class teacher will provide extra support and assistance to the child or further differentiate their work.
- Children at or below the 10th percentile on standardised tests will be seen as priority candidates for supplementary support from SET. The type, frequency and level of support will depend on the needs of the child and the caseload of SET. This is further detailed in the SEN policy of the school.
- Children with exceptional ability in Maths will be challenged to meet their full potential. ICT or an individualised programme will be used in this case, in consultation with SET. Parents will be informed of the opportunities in the Centre for Talented Youth to further challenge and develop the child's potential.

Staff Development:

Teachers are kept informed of any upcoming training in Maths-particularly Maths Recovery training as we hope to train staff members who have recently joined the school. In-school training will be provided to class teachers in appropriate programmes by staff during Croke Park hours, where possible.

Parental Involvement:

Parents are encouraged to support their children's learning in Maths. Teachers will share short 'how-to' or examples via ClassDojo , where appropriate.

Parent/Teacher meetings in November provide opportunity to discuss progress in maths and other areas. Parents will be informed of any differentiated programmes or additional support offered in Maths.

Implementation and Review:

Class teachers are responsible for the implementation of the Maths programme for their own classes. The post holder with responsibility for Maths will support this implementation and will distribute and monitor resources.

This policy will be monitored and reviewed in 2023, or along with the implementation of the new curriculum.

Appendix 1:

Agreed Procedures/Language

Number:

Solid number awareness forms the basis of all mathematical concepts.

Recommended numeral ranges for each class are:

Class	Range of Numerals
Junior Infants	0-5 focus
Senior Infants	0-10 focus
1 st Class	0-99
2 nd Class	0-199
3 rd Class	0-999
4 th Class	0-9999

- Rote learning must only follow understanding- a child must have a visual for 5 and 1 before learning the fact $5 + 1$, a child will know what an array of 5×3 looks like before learning the table fact.
- Recommended sequence of Multiplication Facts is 2s, 10s, 5s, 3s, 4s, 9s, 6s, 8s, 7s.
- Division facts to be learned alongside multiplication facts.

Problem-Solving:

RUDE problem solving method is recommended for use in the senior classes..

R-read

U-underline

D-draw a diagram

E-Estimate your answer and then solve!

Language/Resources:

Early mathematical language is developed in the infant classes using the Ready,Set, Go Maths programme, along with informal mathematical language taught using playful learning at integrated learning time (using Aistear methodologies).

The use of Cracking Maths from infants to sixth class ensures that the same approach is taken to formal maths written work to reinforce skills and concepts throughout the school.

The Maths Recovery pedagogical framework informs this policy and the approach taken to teaching maths in St Finian's NS. A number of senior teachers are trained in Maths Recovery and the hope is to extend this training across the staff.

Maths Recovery screening tests are used by SET teachers as a diagnostic tool.

Appendix 2

Staff Reminder sheet displayed in all classrooms:

We will aim to achieve this:

- Ten minutes daily tables drill/practice
- Rote learning must only follow understanding (i.e. have a visual for 5×3 before learning the fact)
- Aim to increase Maths time to 1 hour from 1st to 6th class (using discretionary time)
- RUDE approach to problem-solving at senior level (aim to keep numbers small while teaching strategy)
- Daily Maths problem at each level
- Friday Four (1 question on each of the 4 operations to constantly revise)
- Weekly/Fortnightly/Topic tests based on Cracking Maths