

# Holy Angels National School

Clogher,  
Claremorris,  
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F2RC95



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## Maths Policy

### Introductory Statement

This plan was formulated by the whole school staff to conform to the principles of the Primary School Curriculum. We wish to ensure that there is continuity of mathematical language and uniformity of approaches to the teaching of maths, throughout the school. As part of our DEIS Action Plan modelling numeracy provides one of the key pillars in ensuring that we deliver equality in education to all students.

### Vision

Our vision is that we foster a love of maths in all our pupils and hope each child will be confident in applying their maths skills and knowledge in everyday situations. We hope that every child will experience success at maths appropriate to their level of ability. We would like to foster a life long learning of maths among the children.

### Aims

The aims of the primary mathematics curriculum are:

- To develop in the child a positive attitude towards mathematics and an appreciation of its practical and aesthetic aspects
- To develop the child's 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 an understanding of mathematical concepts and processes to his/her appropriate level of development and ability
- To enable the child to acquire proficiency in fundamental mathematical skills and in reading basic number facts.

### Content

The curriculum contains the following strands:

- Early Mathematical Activities
- Number
- Shape and Space
- Algebra
- Data
- Measures

We aim to provide a broad and balanced curriculum to link and integrate the strands.

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## **Key Methodologies**

### 1. **Talk and Discussion**

- teacher with child
- child with child
- child with parent

It is through the use of language that children acquire knowledge and come to an understanding of maths. In all activities we support the children by

- giving clear instructions
- asking questions clearly
- explaining ideas thoroughly
- providing necessary vocabulary

By engaging the children in discussion at maths we

- develop their ability to express their thinking clearly
- support those who are tentative in expressing themselves orally
- assess levels of understanding

Talk and discussion is developed in our school through the following activities:

### **Junior Classroom**

- Number rhymes and stories e.g. 1,2, Buckle my shoe / 3 little pigs etc.
- Use of maths posters.
- Use of concrete materials.
- Maths games.
- Problem solving
- ICT / Khan Academy
- Talk and discussion based on children's immediate environment and classroom environment.

### **Senior classroom**

- Many types of problem solving.
- General discussions.
- Use of resources / concrete materials.
- Maths games.
- Talk and discussion based on real life maths.
- Integrating – cross-curricular integration.
- ICT / Khan Academy

With regard to the four operations we have a structured approach for mathematical language to ensure that there is consistency and continuity throughout the school. ( Appendix 1 )

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## 2. Active Learning / Guided Discovery

### Concrete materials

A hands-on approach, using concrete materials, is used in the school to reinforce mathematical concepts, language, thinking strategies and to make maths more enjoyable. (CF Appendix 3)

## 3. Collaborative / Co-operative Learning

This is promoted in the school to motivate children, to facilitate discussion and to enhance their self-esteem. To meet the needs of children with different learning styles, we plan to vary our maths lessons to include

- Whole class learning
- Group activities
- Peer teaching
- Independent learning
- Activities guided by the teacher enabling the children to gain valuable hands-on experience with security and support.
- Maths games and fun maths activities

## 4. Problem Solving

Maths is most beneficial when it can be applied or put to a meaningful use. Problem solving skills are developed from infants to sixth class through:

- Word problems
- Practical tasks
- Open-ended investigation
- Puzzles
- Games
- Projects
- Mathematical trails

We encourage the children to use a variety of strategies or approaches to problem solving e.g.

- RUDE problem solving strategy used throughout the school
  - Read the question carefully
  - Underline key words
  - Draw
  - Estimate
- Emphasis on real life
- Personalise the problem
- Use concrete materials
- Break into steps and complete each step
- Read over when finished and ask 'have I answered what I was asked'
- Solve the simpler version of problems
- Simplify the language

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## **5. Using the environment**

The children are learning all the time from the people and materials around them. In our teaching we look to the environment of the classroom, the school grounds, the locality, the children's homes and the wider world for opportunities to make maths more real, more interesting and more fun.

## **6. Skills through content.**

We aim to enable the children, at each level, to develop the following skills, through our methodologies and through the content of the strands of the curriculum:

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

### **Mental Maths**

Mental maths activities play an important part in our delivery of the maths curriculum. As part of our whole school approach to the teaching of maths, children will engage in mental maths activities during each maths lesson (5mins. infants / 10 mins. 1<sup>st</sup> – 6<sup>th</sup> Classes)

Estimation skills are developed in all strands and at all levels.

Tables – (see appendix 2.)

### **Children with additional educational needs**

The content of the mathematics curriculum is sequential and dependent on knowledge gained at each level. Children acquire the requisite skills in different ways and at their own individual pace.

For children finding maths difficult we aim to:

- Present tasks concretely, pictorially, diagrammatically or with pictures to support words.
- Have labelled reference points in the classroom to assist the child in estimating heights and widths e.g. the bookshelf is 1.5 metres high and I am nearly as tall as it.
- Assist the child to develop strategies for number facts. Learn the easy number facts first. Use doubles, near-doubles, patterns of odd and even numbers.
- Provide the child with a wide range of concrete materials, games and jigsaws.
- Refer the children who are struggling to the learning support teacher

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For children exhibiting very good ability at maths we aim to 'stretch' them by:

- Giving them more difficult problems to solve.
- Having extra work available to encourage them to work at their own pace and to undertake extension work.
- Having a variety of additional maths books available to work from.
- Refer to LS teacher for challenging maths activities / chess etc.

## **Assessment**

We assess the children's' progress through the following types of assessment:

- Teacher observation
- Error analysis in copies
- Homework
- Work samples
- Teacher tests
- Children's tests from in class programmes
- Standardised tests – Sigma T ( 1<sup>st</sup> – 6<sup>th</sup> classes Annually)

How results are used:

- To evaluate children's learning and our teaching (AOL / AFL)
- To make referrals
- To communicate to parents

## **Homework**

Homework is dealt with in our policy document on Homework .

Maths homework will mainly consist of the following:

- Revision of work taught in school
- Practical activities and computational practice
- Memorisation of tables

## **Home / School Links**

- Parents are encouraged to monitor the children's homework and report any difficulties to the teacher
- Parents are encouraged to give children hands-on experience with everyday maths e.g. letting children buy small items in shop so as to familiarise them with coins, cost, change etc.; measuring ingredients for baking etc.; telling the time.

## **Equipment and Resources**

See appendix 3 for list of equipment and resources.

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## **Review and Evaluation of our Maths Plan**

This plan has been reviewed, updated and ratified by the Board of Management in:

2005  
2010  
2013  
2016  
2021

## **Ratification and Review:**

This policy was ratified by the BoM on 4th May 2021 and will be reviewed again in May 2024.

**Signed:** \_\_\_\_\_

**Signed:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Chairperson BOM**

**Principal/ Secretary BOM**

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## Appendix 1

### Line of development for Language and Number Operations

<b>+</b>	<b>-</b>
<p><b>Infants</b> and all together makes count on ( number line ) more than plus</p> <p><b>1<sup>st</sup> &amp; 2<sup>nd</sup> Class</b> add addition total</p> <p><b>3<sup>rd</sup> &amp; 4<sup>th</sup> Class</b> total sum of</p> <p><b>5<sup>th</sup> &amp; 6<sup>th</sup> Class</b> increase</p>	<p><b>Infants</b> go back count back less than take away</p> <p><b>1<sup>st</sup> &amp; 2<sup>nd</sup> Class</b> from minus subtract gave away</p> <p><b>3<sup>rd</sup> &amp; 4<sup>th</sup> Class</b> Subtract. Minus. find the difference</p> <p><b>5<sup>th</sup> &amp; 6<sup>th</sup> Class</b> decrease</p>
<b>X</b>	<b>÷</b>
<p><b>3<sup>rd</sup> &amp; 4<sup>th</sup></b> Groups of Sets Rows of Multiply Times By factors</p> <p><b>5<sup>th</sup> &amp; 6<sup>th</sup></b> product square numbers power of. indices.</p>	<p><b>3<sup>rd</sup> &amp; 4<sup>th</sup></b> how many in each group? Shared Over Give Divided by. Left over Remainder. Into. Split.</p> <p><b>5<sup>th</sup> &amp; 6<sup>th</sup></b> distribute</p>

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## **Appendix 2**

### **Line of Development for Tables**

#### **Infants**

Number patterns

Developing number stories within 5 (Junior Inf.) and 10 (Senior Inf.).

Extending number patterns

#### **1<sup>st</sup> and 2<sup>nd</sup> Classes**

Number patterns on Number Line and 100 square.

Develop and recall mental strategies for number e.g. doubles / near doubles etc.

Memorise addition and subtraction tables.

#### **3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> & 6<sup>th</sup> Classes**

Pattern work on the 100 square is extended.

Multiplication strategies are developed.

Concrete materials are used to develop repeated addition.

+, -, x and  $\div$  tables are learned.

ICT used for reinforcement.



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## Appendix 3

### Maths Equipment and Resources

Number	Measures (Standard and non-standard)
<ul style="list-style-type: none"> <li>• Number lines and strips</li> <li>• Magnetic board number strip</li> <li>• Counters, beads, string, buttons, unifix cubes, spools, links, variety of sorting materials and sorting trays</li> <li>• Pegboards and pegs</li> <li>• 'sum things'</li> <li>• magnetic boards and numbers</li> <li>• number fans</li> <li>• number stick</li> <li>• Hundred squares</li> <li>• Fraction, decimal, percentage walls</li> <li>• Playing cards and dominoes</li> <li>• Notation boards</li> <li>• Dienes blocks</li> <li>• Target boards</li> </ul>	<p><u>Length</u></p> <ul style="list-style-type: none"> <li>• Metre sticks, trundle-wheel, height chart, tape measures, rulers, ribbon/string</li> </ul> <p><u>Weight</u></p> <ul style="list-style-type: none"> <li>• Balance, kitchen scales, bathroom scales, weights.</li> </ul> <p><u>Capacity</u></p> <ul style="list-style-type: none"> <li>• Litre, half-litre, quarter-litre containers, varied collection of containers for comparison</li> </ul> <p><u>Time</u></p> <ul style="list-style-type: none"> <li>• Clock faces and rubber stamps</li> <li>• analogue clocks</li> <li>• Calendars</li> <li>• Sequencing pictures</li> <li>• Timetables</li> <li>• Teaching clock</li> <li>• Time zone maps</li> </ul> <p><u>Money</u></p> <ul style="list-style-type: none"> <li>• Facsimile money: coins and notes</li> </ul>
Shape & Space	General Maths Equipment
<ul style="list-style-type: none"> <li>• 2-D and 3-D shapes,</li> <li>• geo-boards,</li> <li>• tangrams</li> <li>• direction compass</li> <li>• set-squares</li> <li>• 180° protractors</li> <li>• gummed paper, paper shapes</li> <li>• construction straws</li> <li>• construction kits</li> <li>• folding 2D/3D geometric solids</li> <li>• magnaps</li> </ul>	<ul style="list-style-type: none"> <li>• lego, books, games</li> <li>• water / sand tray</li> <li>• scissors</li> <li>• magnets</li> <li>• thermometer</li> <li>• television and video programmes</li> <li>• calculators ( 4<sup>th</sup> 5<sup>th</sup> 6<sup>th</sup> classes)</li> <li>• selection of dice</li> <li>• IT Resources</li> </ul>