



# Colinton Primary School

## Numeracy and Maths Policy

### Rationale

*Being numerate helps us to function responsibly in everyday life and contribute effectively to society. It increases our opportunities within the world of work and establishes foundations which can be built upon through lifelong learning. Numeracy is not only a subset of mathematics; it is also a life skill which permeates and supports all areas of learning, allowing young people access to the wider curriculum.*

Education Scotland

### Aims

At Colinton Primary School we aim to give all pupils a clear understanding of both core numeracy and mathematical concepts, to enable them to develop their mathematical thinking and apply their skills across the curriculum in a variety of real-life contexts. Pupils will have opportunities to participate in a wide range of activities to develop problem solving skills and demonstrate their understanding.

We aim to enable learners to: -

- Develop competency in key concepts, principles and processes of mathematics and apply these in a variety of contexts.
- Develop quick recall of key numeracy facts including times tables.
- Develop a clear understanding of number and essential numeracy skills.
- Be able to interpret numerical information and use it to draw conclusions, assess risk and make informed decisions.
- Understand money and develop skills in money management and financial awareness for future living.
- Apply skills and understanding creatively and logically to solve problems in a variety of contexts.
- Use technology in a variety of ways to enhance skills.
- Be able to apply numeracy and maths learning in real-life contexts.
- Confidently understand and use mathematical language.

Maths and Numeracy is taught through these four areas: -

### Number, Money and Measure

- Basic number processes
- Measure
- Patterns and relationships
- Expressions and equations

### Shape, Position and Movement

- Properties of 2D shapes and 3D objects
- Angle, symmetry and transformation

### Information Handling

- Data and analysis
- Ideas of chance and uncertainty

### Problem Solving

- Strategies for problem solving
- Real life contexts

## Learning and Teaching Approaches

At Colinton Primary School, Numeracy and Maths is taught daily at all levels. Teachers have access to planning documents and programmes of learning which ensure consistency of approach and progression across the levels from Nursery to P7.

Planned learning will give opportunities for: -

- ❖ **Breadth** - learning about a lot of things
- ❖ **Depth** - learning enough about each thing
- ❖ **Challenge** - being stretched beyond their comfort zone
- ❖ **Application** – using skills in a variety of ways and new contexts.

We aim to support and encourage children in their learning by using a variety of simulating approaches: -

- Learning together as a class and also in small groups
- Opportunities to learn both collaboratively and independently.
- Opportunities for discussion and explanation of thinking
- A focus on SEAL teaching strategies at early and first level and beyond when required.
- Daily opportunities to develop mental agility skills following the Colinton Counts Rainbow
- Weekly Big Maths Beat That! and CLIC activities to sharpen recall of number facts and reinforce learning of other concepts.
- Variety of resources – textbooks, games, puzzles, ICT etc
- Problem-solving challenges to develop skills and encourage critical thinking.

Where appropriate, the SfL team will work with groups of children to support them in their learning.

Children will be encouraged to make links with their learning across other curricular areas and thus recognise how numeracy and maths fits into the wider world of learning.

## Assessment, Recording and Reporting

Assessment should be carried out in a variety of ways.

- Pre-topic assessment to determine prior knowledge
- Daily monitoring of progress to inform next steps and allow for modification of the pace of learning depending on progress made.
- Teacher feedback given to highlight clear next steps.
- Pupils taught to give their own feedback and share how they feel about their learning – e.g. using Traffic Lights, Smiley Face, writing a comment.
- Peer assessment – children share learning and have opportunities to explain their thinking.
- Use of summative assessments where appropriate.
- Variety of assessment opportunities using Make, Say, Write, Do – see Appendix D for ideas.
- GL assessments carried out at the beginning of each academic year P4-7.
- Use of Baseline/SEAL assessment data P1-3.

Teachers should gather and record useful information about children's abilities, levels of achievement and development needs to inform future planning and next steps. This can be done in a variety of ways.

## Homework

A variety of homework tasks will be provided to reinforce classwork. Parents/carers are encouraged to encourage and participate their children in these activities to support them in their learning.

# Appendix A

## Resources

### CEC benchmark planners

Level planners for each level linked to benchmarks for Assessment, Tracking and Achievement of a level

### SEAL grids

Planning grids for each stage of SEAL showing activities and links to a variety of textbooks

### SEAL Assessment screener

To assess learning and stage of competence.

### SEAL Resource boxes

Boxes are available for each SEAL stage and contain all the resources needed to teach that stage.

### SEAL Home Learning Walls

These Home Learning Walls give activities to be use at home to reinforce the learning in class.

### Colinton Counts

Mental Maths programme of activities across a school year. Colinton Counts Rainbow yearly overview and planning grids for each colour for each level – plans show activities and ICT links.

### Maths topic progressions

Grids for each maths topic showing progression from nursery to P7. These are linked to CfE benchmarks. Evaluations sheets are also available to record progress and note 'shocks and surprises'.

### Textbooks

A variety of textbooks are available – TeeJay Maths, Abacus Maths, Heinemann Active (First Level), Scottish Heinemann.

### Challenging Able Mathematicians Folder

Folder available but also resources online at [www.nrich.maths.org](http://www.nrich.maths.org)

### Big Maths

Beat That and CLIC sheets.

Textbooks and other maths resources can be found in the area outside P6/7. Other resources can be found in the maths planning folders on COLI-Group. There are also paper copies in the Maths Folder for each year group.

# Appendix B

**What does a 'Maths Week' look like in Colinton Primary School at each level?**

**Early Level****First Level****Second Level**

<b><u>LEVEL</u></b>	<b><u>DELIVERY AND RESOURCES</u></b>
<b>Early Level – Nursery</b>	<ul style="list-style-type: none"> <li>• A range of numeracy and maths activities are available each day linked to SEAL strategies (chapter 5 – Emergent child) and maths topics progressions</li> </ul>
<b>Early Level – Primary 1</b>	<ul style="list-style-type: none"> <li>• Numeracy is taught daily</li> <li>• SEAL strategies (chapter 5/6 – Emergent/Perceptual child) underpin numeracy learning</li> <li>• SEAL grids with interactive resources available</li> <li>• Maths topics taught alongside SEAL using maths topic progressions and evaluation sheets</li> <li>• Colinton Counts Rainbow – 4x10 minutes weekly</li> <li>• Big Maths CLIC and Learn it sheets may be introduced in the third term</li> </ul>
<b>First Level – Primary 2</b>	<ul style="list-style-type: none"> <li>• Numeracy/Maths taught daily</li> <li>• SEAL strategies (chapter 6/7 – Perceptual/Figurative child) underpin numeracy learning</li> <li>• SEAL grids with interactive resources available</li> <li>• Maths topics taught alongside SEAL using maths topic progressions and evaluation sheets</li> <li>• Heinemann Active Maths resources available</li> <li>• Colinton Counts Rainbow – 4x10 minutes weekly</li> <li>• Big Maths CLIC and Learn It sheets used weekly – SAFE sheets can also be used</li> </ul>
<b>First Level – Primary 3</b>	<ul style="list-style-type: none"> <li>• Numeracy/Maths taught daily</li> <li>• SEAL strategies (chapter 7/8 – Figurative/Counting-on child) underpin numeracy learning</li> <li>• SEAL grids with interactive resources available</li> <li>• Maths topics taught alongside SEAL using topic progressions and evaluation sheets</li> <li>• CEC planners and CfE benchmarks used</li> <li>• Heinemann Active Maths resources available</li> <li>• Colinton Counts Rainbow – 4x15 minutes weekly</li> <li>• Big Maths CLIC and Learn It sheets used weekly – SAFE sheets can also be used</li> </ul>
<b>First Level – Primary 4</b>	<ul style="list-style-type: none"> <li>• Numeracy/Maths taught daily</li> <li>• SEAL strategies (chapter 8/9 – Counting-on/Facile child) underpin numeracy learning</li> <li>• SEAL grid with interactive resources available</li> <li>• CEC planners and CfE benchmarks used</li> <li>• Heinemann Active Maths resources available</li> <li>• Maths topic progressions and evaluations used</li> <li>• Colinton Counts Rainbow – 4x15 minutes weekly</li> <li>• Big Maths CLIC and Learn It sheets used weekly – SAFE sheets may also be used</li> </ul>
<b>Second Level – Primary 5</b>	<ul style="list-style-type: none"> <li>• Maths taught daily</li> <li>• CEC planners and CfE benchmarks used</li> <li>• Maths topic progressions and evaluations used</li> <li>• Colinton Counts Rainbow – 4x 15 minutes weekly</li> </ul>

	<ul style="list-style-type: none"> <li>• Big Maths CLIC and Learn it sheets used weekly – SAFE sheets may also be used</li> <li>• Problem Solving strategies taught and practised</li> <li>• Real-life contexts used</li> </ul>
Second Level – Primary 6	<ul style="list-style-type: none"> <li>• Maths taught daily</li> <li>• CEC planners and CfE benchmarks used</li> <li>• Colinton Counts Rainbow – 4x15 minutes weekly</li> <li>• Big Maths CLIC and Learn it sheets used weekly – SAFE sheets may also be used</li> <li>• Problem solving strategies taught and practised</li> <li>• Real-life contexts used</li> </ul>
Second Level – Primary 7	<ul style="list-style-type: none"> <li>• Maths taught daily</li> <li>• CEC planners and CfE benchmarks used</li> <li>• Colinton Counts Rainbow – 4x15 minutes weekly</li> <li>• Big Maths CLIC and Learn it sheets used weekly – SAFE sheets may also be used</li> <li>• Problem solving strategies taught and practised</li> <li>• Real-life contexts used</li> </ul>

# Colinton Counts Rainbow

## A Rainbow of Numeracy Skills

<u>Skills Area</u>	<u>Types of project</u>	<u>Dates</u>
Counting forwards and backwards	N 0-5 P1 1-10 P7 1-1,000,000 Counting forward/back in 1s,2s,5s,10s, 1/2s, 1/4s and decimals Focus twice as much on counting backwards	<b>Dates will be set for each academic year to give a whole school approach.</b>
Number after Number before	Particular concentration on changing decade.	
Number recognition	Dice 10 frames Fingers Abacuses Coin shape recognition Time 'shape ' recognition	
Sequencing and ordering Number Lines Equivalences	N 0-5 P1 1-10 P7 1-1,000,000 Also ordering fractions and decimals.	
Combining and partitioning numbers Place value	Working with concrete materials Dice 10 frames Fingers Abacuses	
Addition and Subtraction	Number bonds to 10 Number bonds to 100 etc.	
Multiplication and division Fractions, Decimal Fractions and Percentages Ratio and Proportion	N - 'Lots of' as a concept. Tables up the school Fast interaction of multiplication and division.	

- Each class to do minimum 4 x 15 mins per week of activities/games based on the skills area.
- Everyone clear about which colour/ skills area we are working on that week.
- Games to go home/ be on line.
- Maths challenge in every aspect of homework – eg. Roman shields must have a diameter of 30 - 50 cms etc.

## **Assessment – Examples of pupils' evidence of learning using Make, Say, Write, Do**

### **Make**

- ✓ 3D model
- ✓ 2D net
- ✓ Construction task
- ✓ Poster
- ✓ Create a pattern
- ✓ Design a game to show understanding of...
- ✓ Make a presentation to explain...

### **Say**

- ✓ Explain learning and link to real life
- ✓ Report back to shoulder/talk partner
- ✓ Concept cartoons

### **Write**

- ✓ Number stories
- ✓ Tables facts
- ✓ Equations to demonstrate understanding of inverse operations
- ✓ Write your own problem to demonstrate understanding of...

### **Do**

- ✓ Following instructions and directions for direction by degrees, compass points, coordinates
- ✓ Role play in class shop.
- ✓ Movement and counting activities
- ✓ Writing numerals with chalks and water bottles
- ✓ Measurement of a variety of objects