

Saint Peter's Primary School

Numeracy and Mathematics Policy



Introduction

In St. Peter's Primary School we endorse the view expressed in the Curriculum for Excellence (cfe) Numeracy and Mathematics Guidelines.

Aims

In St. Peter's we will help pupils to:

- Learn concepts, facts and techniques and apply these skills in a variety of contexts.
- Apply a growth mindset and become confident in using mathematics in real life contexts.
- Acquire problem solving skills.
- Work independently and cooperatively when appropriate.

Planning

In St. Peter's Primary we plan maths lessons using SEAL planners and Renfrewshire's Numeracy and Mathematics Learning and Teaching Pathways. Copies of these are on our x drive in the NUMERACY folder.

The change-model draws on the idea of a 'medical checklist'. It links three interconnected domains to prompt significant shifts in staff thinking and capture a learning ecology promoting attainment and equity.

- cultural/social capital & funds of knowledge;
- identity as a learner/as a mathematician;
- cognitive skills and knowledge about numeracy and mathematics

When planning maths lessons we should aim to:

1. Attend to data from all three domains. Use it to design a fruitful 'learning mix' and be thoughtful about how to intervene. Use it for assessment meetings with other professionals.
2. Teach the same concept, where possible, and differentiate. It is best practice to teach the same concept but differentiate to the challenge and support the needs of the pupils within the class.
3. Get the level of challenge right. Provide learning opportunities that include challenge for all learners as appropriate to their current level of knowledge and skills. Effective learning occurs when a child experiences appropriate challenge and they have an element of personalisation and choice in their learning.
4. Use a range of methodologies. A mixture of active, cooperative, peer, group and individual learning should be planned for in addition to child led learning, child as the teacher and explicit teaching. Consider Concrete – Pictorial – Abstract approach when planning learning opportunities.
5. Use a range of methodologies for teaching mental agility. Teach a range of strategies for approaching calculations/problems then reinforce with a range of activities for deliberate practice. Children should be allowed to use jottings to support their thinking. Encourage children to investigate and explore a range of strategies and describe and explain these to others. Remember,

'Number Talks' are only part of a range of activities and should only take 15 – 30 minutes of a lesson.

6. Use correct mathematical language. Inspire children to explain their thinking and understanding in their own words but always highlight the correct mathematical vocabulary. If you model it, they will begin to use it too.
7. Bundle experiences and outcomes. Take opportunities to bundle relevant experiences and outcomes together to show connections between concepts and to promote depth and pace of learning.
8. Teach numeracy and mathematics daily. Children should take part in numeracy and mathematics learning opportunities each day. This may be through discrete teaching or through other curricular areas and interdisciplinary learning.
9. Work with numbers every day. Children should work with numbers every day in addition to the main concept being taught. Plan opportunities to work with numbers every day to ensure continual reinforcement. Be aware and take advantage of circumstantial opportunities to explore number.
10. Build in opportunities for deliberate practice. It is appropriate for children to practise the concepts that they are learning. Textbooks may be used as part of this practice.
11. Work towards formal notation. Let children demonstrate their understanding in their own way. As learning progresses, introduce formal notation. Learning journals, jotters and whiteboards could be used.
12. Plan learning opportunities for numeracy and mathematics across the curriculum. To promote relevance, bundling and pace, look for meaningful opportunities across the curriculum to plan for numeracy and mathematics learning. This could be to introduce new concepts or as reinforcement/extension of prior learning.
13. Demonstrate the importance and value of being numerate. Every day provide interesting, interactive tasks that demonstrate how numeracy and mathematics can be personally useful to pupils. Encourage the enjoyment and satisfaction which can arise from engaging in stimulating mathematical activities.
14. Talk about Maths. Let the children talk about their feelings and abilities in Numeracy and Mathematics. This provides an opportunity to celebrate learning, set targets and is natural platform for giving quality feedback.
15. Teach for a 'growth mindset'. Teach children to 'have a go', to push themselves and that 'practice works'. Get them to try new skills, to say when they don't understand and share when they do. Help them to persist with challenging tasks, to talk about them, ask others, clarify what puzzles them and make links to their own lives.

The St. Andrew's Cluster have agreed common approaches, language and correction for all schools in the cluster. These are extracts from the Numeracy Common Approaches and Language power point.

Common Approach to **Addition**

$$3798 + 4572$$

Each digit has a box of its own!

$$\begin{array}{r} 3798 \\ + 4572 \\ \hline 8370 \end{array}$$

+ sign sitting outwith the calculation

$$23.16 + 7.8$$

$$\begin{array}{r} 23.16 \\ + 7.80 \\ \hline 30.96 \end{array}$$

Decimal Point in a box of its own!

Carrying figure placed on the line, behind the digit of the next place value

Common Approach to **Subtraction**

$$4326 - 3941$$

$$\begin{array}{r} 4326 \\ - 3941 \\ \hline 0385 \end{array}$$

- sign sitting outwith the calculation

$$23.16 - 7.8$$

$$\begin{array}{r} 23.16 \\ - 7.80 \\ \hline 15.36 \end{array}$$

Exchanged numeral placed above the top row, in front of the digit of the previous column. **What is left** is written in front of the scored out digit.

Common Approach to Multiplication

234×7

$$\begin{array}{r} 234 \\ \times 7 \\ \hline 1638 \end{array}$$

13.4×5

$$\begin{array}{r} 13.4 \\ \times 5 \\ \hline 67.0 \end{array}$$

X sign sitting outwith the calculation

Carrying figure placed on the line, below the digit of the next place value

Common Approach to Multiplication Tables

$1 \times 4 = 4$

$4 \times 1 = 4$

$2 \times 4 = 8$

OR

$4 \times 2 = 8$

$3 \times 4 = 12$

$4 \times 3 = 12$

and so on.

This is the method of 'grouping' 4's.

and so on.
This is the method of 4 groups of

Method to be used for teaching tables.

Common Approach to Division

$750 \div 6$

$$\begin{array}{r} 125 \\ 6 \overline{) 750} \\ \underline{6} \\ 15 \\ \underline{12} \\ 30 \\ \underline{30} \\ 0 \end{array}$$

$164.8 \div 4$

$$\begin{array}{r} 041.2 \\ 4 \overline{) 164.8} \\ \underline{4} \\ 16 \\ \underline{16} \\ 4 \\ \underline{4} \\ 0 \\ 8 \\ \underline{8} \\ 0 \end{array}$$

Carrying figure placed under the line, in front of the digit of the next place value

Common Correction

✓	Correct
●	Incorrect
∧	Missing Information
~	Copied Incorrectly
Sp	Incorrect Spelling
R	Use Ruler
L	Improve Layout
W	Show Your Working
V	Set Out Vertically

Common Language

Avoid the use of the word 'sum' to mean a maths question.

Use the word 'calculation'

Addition (+)

- sum of
- more than
- add
- total
- and
- plus
- increase
- altogether

Subtraction (-)

- less than
- take away
- minus
- subtract
- difference between
- reduce
- decrease
- more than

Equals (=)

- is equal to
- same as
- makes
- will be

Multiplication (×)

- multiply
- times
- product
- of

Division (÷)

- divide
- share equally
- split equally
- groups of
- per

Resources

We have a variety of text books and workbooks at St. Peter's: Heinemann, Heinemann Active Maths and some Teejay Text Books.

You should choose the most appropriate for the lesson you are planning. The text books used regularly are kept in classes and others are stored in the jotter cupboard near the infant classes.

Practical resources are stored in the resource room upstairs. Resources can be removed when needed and returned to the resource room when finished with.

Policy Review and Development

This policy will be reviewed every 3 years as a minimum in line with national guidance. It is next due for review in 2029.