



Mathematics Policy

2024

Our Mission:

'To develop responsible, independent individuals who love learning and have the knowledge and attitudes to be successful in an ever-changing world'



St. Lawrence Primary School

Mathematics Policy



As a Rights Respecting School, our philosophy is underpinned by the values and principles of the United Nation's Convention on the Rights of the Child (UNCRC).

Articles from the UNCRC which are directly linked to the Mathematics curriculum at St. Lawrence School:

Article 2

All children have these rights, no matter who they are. No child should be treated unfairly on any basis.

Article 3

All adults should do what is best for you. When adults make decisions, they should think about how their decisions will affect children.



Article 12

You have the right to give your opinion, and for adults to listen and take it seriously.



Article 13

You have the right to find out things and share what you think with others, by talking, drawing, writing or in any other way (unless it harms or offends other people).



Article 17

You have the right to get information that is important to your well-being, from radio, newspapers, books, computers, and other sources. Adults should make sure that the information you are getting is not harmful, and they should help you to find and understand

Article 19

You have the right to be protected from being hurt and mistreated, in body or mind.



Article 28

You have the right to a good-quality education. You should be encouraged to go to school to the highest level you can.



Article 29

Your education should help you use and develop your talents and abilities. It should also help you learn to live peacefully, protect the environment and respect other people.

As Duty Bearers, it is our responsibility to teach children their rights. This is done predominantly through PSHE sessions. Children learn about their rights, through their rights and for their rights. Staff and young people have an understanding that rights are inherent, inalienable, indivisible, universal and unconditional, using language appropriate to children and young people's age and ability.

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Mission

To develop responsible, independent individuals who love learning and have the knowledge and attitudes to be successful in an ever-changing world.

Purpose

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to Science, Technology and Engineering, and necessary in most forms of employment. A high quality Mathematics education, therefore, provides a foundation for understanding the world, the ability to reason mathematically and a sense of enjoyment and curiosity about the subject. Mathematics is a proficiency which involves confidence and competence with numbers and measures. It requires an understanding of the number system, a repertoire of computational skills and an ability to solve number problems in a variety of ways in which information is gathered by counting and measuring and is presented in graphs, diagrams, charts and tables. Mathematics gives children a way of coming to terms with their environment. Practical tasks and real-life problems can be approached from a mathematical point of view. Mathematics provides children with imaginative areas of exploration and study and gives them the materials upon which to exercise their mathematical skills. These skills are a necessary tool of everyday life. Mathematics should help children to develop an appreciation of, and enjoyment in, the subject itself as well as a realisation of its role in other curriculum areas.

Ethos and Beliefs

At St Lawrence School we follow the White Rose Maths Scheme and support the teaching and learning with other resources such as Corbett Maths and *Numberblocks*.

We follow the Mastery Approach when teaching Mathematics which means that our lessons have number at their heart. A large proportion of time is spent reinforcing number to build competency and we have separate Fluency Sessions and a Fluency Policy to support this. A Mastery approach ensures that our Mathematical teaching supports the idea of depth before breadth and ensures that our pupils are given the opportunity to stay together as a group as they work through their year group curriculum. In addition to this, we ensure that pupils are given lots of opportunities to develop their reasoning and problem-solving skills (this is a stand-alone section of the White Rose Scheme and one that we use in Years 1 to 6).

The Concrete-Pictorial-Abstract (CPA) approach is used when introducing children to new Mathematical concepts, as well as when consolidating learning.

Concrete – Pupils are first introduced to an idea or skill using real objects. In division, for example, this might be done by separating apples amongst children. This is a 'hands on' approach and all classrooms have a wide range of practical resources available for pupils to use.

Pictorial – Pupils are encouraged to relate their concrete understanding to pictorial representations. These representations may be a diagram or a picture of the Mathematical problem.

Abstract – This is the symbolic stage – the pupils use Mathematical symbols to represent problems, for example $12 \times 2 = 24$.

Planning

At St Lawrence School, we follow the White Rose Scheme of Work from Reception to Year 6, with *Numberblocks* planning from NCETM used to support the teaching of Mathematics in our Foundation Stage.

Autumn Term Plans for Y1 – Y6

[Y1 Autumn SOL.pdf \(whiterosemaths.com\)](#)

[Y4 Autumn SOL.pdf \(whiterosemaths.com\)](#)

[Y2 Autumn SOL.pdf \(whiterosemaths.com\)](#)

[Y5 Autumn SOL.pdf \(whiterosemaths.com\)](#)

[Y3 Autumn SOL.pdf \(whiterosemaths.com\)](#)

[Y6 Autumn SOL.pdf \(whiterosemaths.com\)](#)

Spring Term Plans for Y1 – Y6

[Y1 Spring SOL.pdf \(whiterosemaths.com\)](#)

[Y4 Spring SOL.pdf \(whiterosemaths.com\)](#)

[Y2 Spring SOL.pdf \(whiterosemaths.com\)](#)

[Y5 Spring SOL.pdf \(whiterosemaths.com\)](#)

[Y3 Spring SOL.pdf \(whiterosemaths.com\)](#)

[Y6 Spring SOL.pdf \(whiterosemaths.com\)](#)

(Summer Term to follow)

Related Policies

Addition and Subtraction Calculation Policy -

<https://assets.whiterosemaths.com/newschemes/Addition%20and%20subtraction%20calculation%20policy%20July%202022%20v2.pdf>

Multiplication and Division Calculation Policy - [PowerPoint Presentation \(whiterosemaths.com\)](#)

Fluency Policy - [Fluency Policy 2021 \(sch.ie\)](#)

SMSC in Mathematics

Spiritual

We promote spiritual development in Mathematics by encouraging the children to experience the awe and wonder in Mathematics. For example, they look at Maths in nature such as patterns on creatures and plants and older children explore the Fibonacci sequence seen in many natural structures. Additionally exploring number patterns and patterns in shapes adds to the appreciation, person fulfilment and wonder of Maths.

Moral

We promote moral development in Mathematics by encouraging the children to show respect for each other's views, especially when they are engaged in group tasks. Reasoning forms a large part of all Mathematics work undertaken at St Lawrence school and by applying logic to their reasoning, pupils gain and understanding of the idea of right and wrong, cause and consequence and the idea of Mathematical truth.



Social

We promote social development in Mathematics through the varied and flexible groupings that children have the opportunities to work in. Within Maths lessons, children may work independently, in pairs, small groups, similar and mixed ability. In all these ways of working, the children are encouraged to discuss, listen, share ideas, reason, question, offer constructive criticism and present their ideas to a wider audience. The values and mutual respect, team work and the idea that we learn from our mistake are integral to all work in Maths.

Cultural

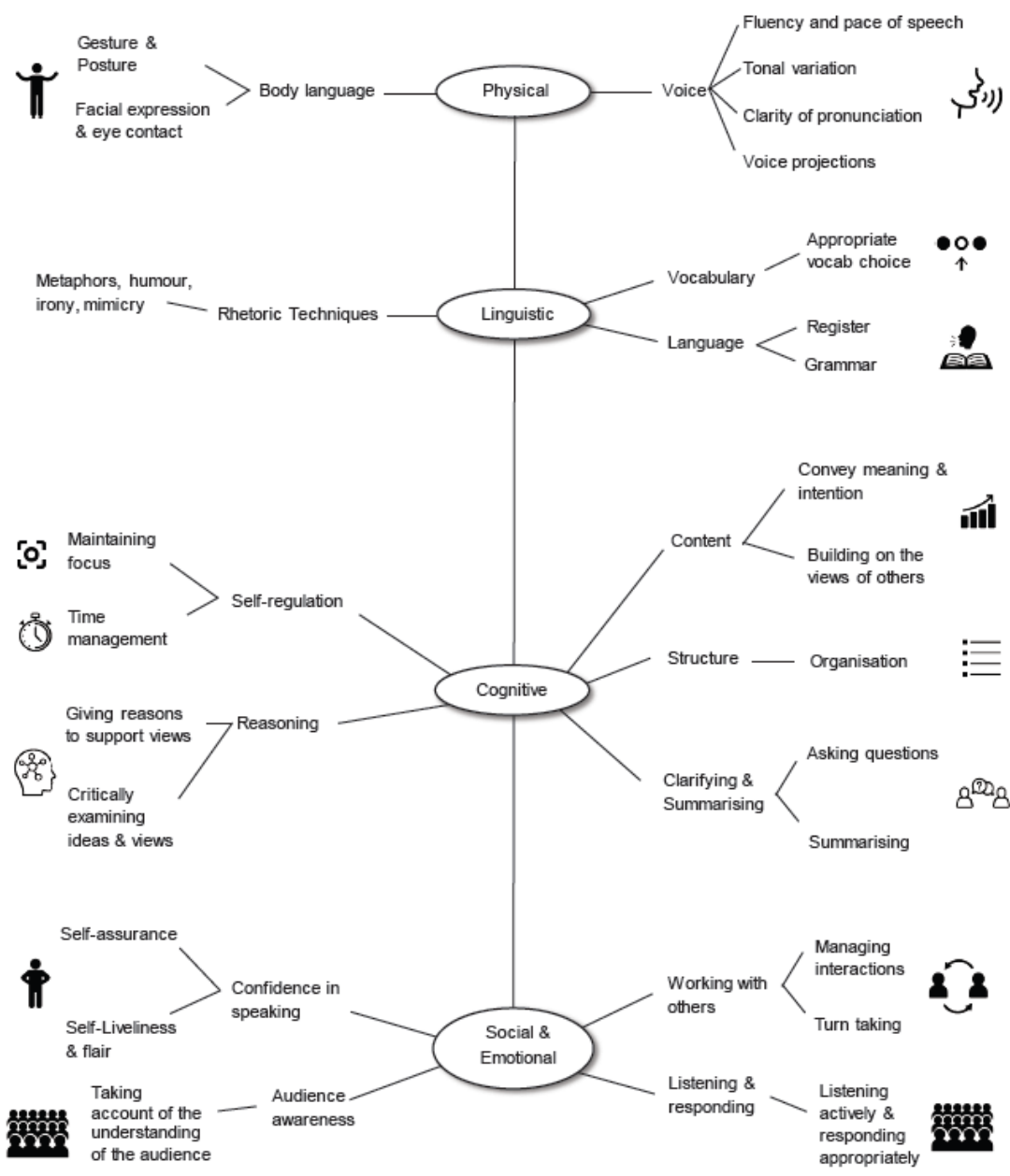
We promote cultural development in Mathematics through linking aspects of the curriculum with Mathematical ideas from other cultures and times that have helped to form Mathematics as we know it today. For example, we may explore Egyptian symbols, Roman numerals, Chinese methods for teaching Maths and, in a more modern-day context, children will explore time zones around the world and practise converting money into different currencies. All these experiences help to promote the richness of Mathematics and build the children's understanding of how Maths has developed and will continue to evolve as we move into an ever-greater digital age.

Oracy in Mathematics



“Get talking in class”

Oracy Graphic Organiser



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Sentence Stems for giving feedback

Praise: What have they done well?

Be Specific

Give an example

Why was it good?

- | | |
|---|---|
| <ul style="list-style-type: none"> • Because you have... • Your work has had the effect of... • You have improved how... • I notice that you... • This means that... | <ul style="list-style-type: none"> • When you... it made me... • Your use of... in order to... • I enjoyed the part where... • The part where you... has had the effect of... |
|---|---|

Enhance: What do they need to do to improve?

Be specific

Give an example

Why will it enhance their learning?

Checking for Understanding	Reshaping and Extending Learning
<ul style="list-style-type: none"> • Why did you choose to...? • Can you explain how...? • Prove to me how you came to this conclusion by using... • What effect did ... have on ... 	<ul style="list-style-type: none"> • I've noticed that you haven't... • Can you prove...? • Could you have included...? • Where else could you use... in your learning? • In order to improve your learning, you need to...

Respond: Show that you understand

Read what you could have done better

Correct the mistake

Show how you now understand

- | | |
|---|--|
| <ul style="list-style-type: none"> • Thank you, I agree that...because... • I can see why you've said that... • I actually disagree with you because... • I have now... the effect this has had is... | <ul style="list-style-type: none"> • Now that I've had time to reflect... • I agree with your comment that... because... • Now that you've pointed it out... • You've helped me to understand... |
|---|--|

Tiered Vocabulary Wall- A way to organise our words.

Tiered Vocabulary Walls are a way of organising words. The aim of using Tiered Vocabulary Walls is to increase the amount of Tier 2 and Tier 3 words which children hear and use themselves. Tier 2 and Tier 3 words make the most impact on our vocabulary and on our learning. These words need direct teaching in order for them to be understood and used.

Tier 3	<p><u>Subject specific words:</u></p> <p>These will be rare and will be heard within particular contexts or subject areas. These will need direct teaching, such as:</p> <p><i>estuary, alliteration, igneous...</i></p>
Tier 2	<p><u>Focus words:</u></p> <p>These will be common words that are found across subjects. These will need direct teaching, such as:</p> <p><i>contradict, circumstance, precede, retrospect...</i></p>
Tier 1	<p><u>Everyday words:</u></p> <p>These will be basic, everyday words which will be used from an early age. These will be used freely in speech, such as:</p> <p><i>warm, dog, tired, run, table, flower....</i></p>

For example, Tiered Vocabulary for weather could look like:

Tier 3: barometer, isobar, celsius, tsunami

Tier 2: predict, forecast, breeze, shower, pressure

Tier 1: sun, cloud, rain, cold, warm, wind



Talking like a Mathematician Sentence Stems



- It is the same / different...
- This reminds me of...
- I can prove I'm right because
- We must remember...because
- There is one more/one less...

- My working out is the same / different than yours because...
- I can prove I am right because...
- Another strategy you can use is...
- I learnt the word...and it means...

- We know that... so... it can't be...
- A major difference between... and... is that...
- I agree because...
- My strategy works because...
- I can check my answers by...
- Next time, I will...

- I think the question means... so the answer means...
- I know that... Therefore, I would try out...
- I approached it methodically by...
- I was systematic... when...
- I looked at the whole problem and broke into these steps...
- So far, I have discovered that...
- The strategy I used was...
- I agree/disagree with...because...
- The solution makes sense because...
- I can visualise this problem by...
- I know my answer is reasonable because...
- The information needed to solve the problem is...
- When I used the inverse, I noticed...

Version		Date Issued	Issued by	Reason for Change	Presented	Approved by:	Date
0.1		September 2020	Kim Banks	Draft	Staff Meeting	All staff	Sept 2020
0.2		September 2021	Kim Banks	Final Version	Staff Meeting	All staff	Sept 2021
0.3		November 2022	Kim Banks	Updated Maths Scheme			
0.4		May 24	Amory Charlesworth	Oracy	Whole staff	All staff	May 24