

Simpson's Lane Maths Policy 2024-2025

AIMS

To interweave knowledge and skills to help our pupils become confident, resourceful and resilient mathematicians.

Following the introduction of the National Curriculum in 2014 the emphasis has been to ensure that all children:

- Become FLUENT
- REASON and EXPLAIN mathematically
- Can SOLVE PROBLEMS

This means that children need to be regularly exposed to opportunities involving increasingly complex problem solving which allows them to apply their Maths knowledge. In doing so, they should be encouraged to develop an argument and line of enquiry which they can prove and justify using mathematical vocabulary. This includes the ability to break down problems, both routine and non-routine, into a series of steps.

We want to teach Maths in a way that:

- Delivers Maths in line with new National Curriculum guidelines
- Ensures the delivery of Maths is filled with cross curricular opportunities
- Develops mental strategies
- Ensure pupils are fluent in their times tables and can apply this knowledge
- Encourages children to use mathematical vocabulary to reason and explain, including partner work to show much deeper understanding
- Challenges children to stretch themselves and take risks in their learning
- Ensures children are secure in their understanding of number and number relationships

Teaching and learning of maths

Mathematics skills and understanding of number will be taught daily through a combination of:

- daily times table (and division related facts) chants
- use of manipulatives, through a CPA approach and systematic and sequential teaching, which builds on prior knowledge
- Development of fluency, reasoning and problem-solving skills through varied questions
- Differentiated applications through SDI approach

- Afternoon arithmetic sessions which are tailored to both the curriculum expectations and gaps in the children's knowledge

Practise and consolidation play a central role to mathematics learning. Carefully designed variation (both **procedural** and **conceptual**) within this builds fluency and understanding of underlying mathematical concepts in tandem.

Teachers use precise questioning in class to test conceptual and procedural knowledge, and assess pupils regularly to identify those requiring intervention so that all pupils keep up.

Sessions

EYFS - Daily maths session- teacher led, plus in continuous provision

Year 1

- number of the day arithmetic based short session each morning
- 30 minute fluency session
- 15 minute break- Teachers mark/assess ready for the next session
- 25 minute session - Same Day intervention (Bronze, Silver, Gold challenge)

(During autumn term this session is mainly practical resource based rather than working at tables completing questions)

KS2 and Year 2:

am

- 15 mins times table fluency work
- 30 minute fluency session
- 15 minute break- Teachers mark/assess ready for the next session
- 25 minute session - Same Day intervention (Bronze, Silver, Gold challenge)

pm

- 20 minute arithmetic session on an afternoon

Maths will also be taught cross-curricular in the afternoon on occasions.

PLANNING

LTP for SDI – We use the Delta Long term plan and 'Small Steps' document, which is adapted from the White Rose LTP as a guide to ensure coverage. However, to ensure this works effectively for us, appropriate weighting is applied to each strand to meet pupils' needs. This LTP is used in conjunction with the RAG, which measures whether pupils have accessed ARE with no support, little support, weighted support, or have been unable to access the strand.

MTP for SDI – The Delta Calculation Policy along with the 'Small Steps' serve as a medium-term plan for SDI sessions. These again serve as a guide to coverage along with RAG statements and QLA from both summative and formative assessments.

TEACHING

Same day intervention (SDI)

At Simpson's Lane Academy, we use Same Day intervention as a strategy for teaching and learning in Mathematics (Excluding EYFS, and Y1 in the autumn term). This is to be recorded in this format in Maths books 4 times a week as a minimum.

The first session is led by the teacher to introduce new learning or to rehearse a skill or a strategy. This part of the session follows an 'I do, You do' principal where pupils practise questions similar to those modelled by the teacher. This is then followed by a '5 questions' task where the children try to complete 5 'assessment questions' independently, allowing **live marking** to take place.

ASSESSMENT QUESTIONS

- Question a: Fluency based - at consolidation level so that all children can achieve (or achieve with support which must be noted in line with marking policy)
- Qb - Qc: Fluency based - gradually more challenging (including word problems where LO is given)
- Qd - Qe: Reasoning and problem solving questions, pitched at gold challenge.

The children then have a 15-minute break whilst the teacher marks any remaining work and assesses the children for progression in their learning.

After the break, pupils continue their learning with:

BRONZE CHALLENGE (SDIB) - SDI Group - adult led group. Bronze is a re-teach and its pitch is around Qa and possibly at a pre-step phase. It is not pre-planned nor does it necessarily have to show written recording as may be practical with manipulatives. Instead photographs or intervention stickers (Appendix A) can be used.

SILVER CHALLENGE (ATS)– 5 **VARIED fluency** questions pitched at a) to c) - to include word problems as above.

GOLD CHALLENGE (ATG) - 3 problem solving and reasoning questions pitched at d) and e)

DIAMOND CHALLENGE (ATD) – Between 1 and 3 questions pitched beyond e). These questions will always be reasoning and problem solving and will not look similar to any of the 5 Qs. If an open-ended challenge, only one question will be provided.

Intervention stickers are sometimes used when there may not be specific written work in pupils' books (e.g. practical activities, Bronze). These briefly summarise the focus and impact of work. These can also be used outside of the maths session to evidence further intervention. (Appendix A)

There may be a very small proportion of pupils unable to access ARE in Maths. For these pupils, personalised provision should be in place as agreed with the SENCO and inline with their Bsquared assessments. These pupils should still be exposed to ARE in session 1 unless otherwise noted in an EHCP/MSP or other relevant documentation.

Y1

Same Day Intervention in Year 1

- Maths in Year 1 is initially to be taught practically with fluency being the focus for questioning.
- Children who are secure within the fluency strand will be challenged with reasoning style questions.
- Same Day Intervention is to be implemented when it is appropriate for the cohort. As a guide, pupils will have access to reasoning and problem solving through the provision in the autumn 1 term. As the year progresses, maths will become more formalised and look more like Y2-6.
- For the majority of pupils, by the Spring Term, all children will be exposed to the Same Day Intervention sessions to prepare them for Year 2.

Alternative Maths sessions

As noted above, one Maths session per week may be used to deliver Maths using an approach other than SDI. This could include the following:

- a practical session using manipulatives with no written recordings
- a problem solving lesson linking to the weeks teaching
- a one-off session on a gap identified in previous session (usually below ARE) e.g. long multiplication noted as an issue when teaching percentages. This work should be recorded in feed forwards and any misconceptions or next steps recorded for specific children or groups.

Number Fluency/Times Tables Sessions

Number Fluency/ Times Tables sessions will take place in every classroom for 15 minutes before the Maths session. The weekly focus will be dependent on gaps from MTC assessments and children will be grouped according to these needs. It will be based around the three principals of:

- **Build**
- **Rehearse**
- **Apply**

These sessions are of paramount importance and **MUST** take place every day. The delivery of the session is at the discretion of the class teacher but should follow the three parts above.

Build - The first part will make use of a counting stick, number square or similar manipulative to build times tables (or number patterns). This initial part should focus heavily on strategies for calculating answers and model this explicitly.

Rehearse - The second section will be spent rehearsing the table through counting aloud, in whispers, silently, filling missing gaps – both forwards and backwards. It will also include quick recall of specific facts

Apply – The final part of these sessions is perhaps the most important as it is getting pupils to apply the knowledge from the first two into Arithmetic questions. These questions should cover multiplying and division related facts.

The focus of the week should be evident on number lines on working walls.

Mathematical Development in the Foundation Stage

(Also see 'The Foundation Stage Policy for Mathematical Development: Problem Solving, Reasoning and Numeracy')

- Mathematics in the Foundation Stage will be taught daily by teacher/adult-led sessions and through continuous provision.
- We use 'Mastery Maths' to plan progressive maths across nursery and EYFS

Aim:

- The Foundation Stage aim is to support, foster, promote and develop children's mathematical development by providing opportunities for all children to develop their understanding of number, measurement pattern and space in a broad range of contexts in which they can explore, enjoy, learn and talk.

A stimulating mathematical curriculum is provided by:

- Planning a range of activities that promote mathematical development;
- Ensuring that the continuous provision in all areas of the Foundation Stage stimulates mathematical thinking thus embracing the notion of the hidden curriculum;
- Providing a range of extra curricular activities such as number and shape walks, shopping trips, baking and visits to the park.
- Developing mathematical thinking through spontaneous activities, all of which help to promote children's mathematical development.

Strategies for the teaching of Mathematics in the Foundation Stage include

- Planning the environment carefully so that children can initiate activities that promote the learning of mathematical skills and which can be extended;
- Planning activities that are purposeful;
- Planning games that give children opportunities to practise their mathematical skills and knowledge thus consolidating and extending their learning;
- Creating an environment where the children are confident and enthusiastic to join in with or talk about mathematical activities.

INTERVENTION

Using formative assessment gathered through the 'assessment questions', teacher questioning and other formative assessment methods, any pupils who have not grasped the concept or who have misconceptions will have a rapid intervention to ensure that they are ready for the next step of learning. This will occur on the same

day (as part of SDI lessons) to ensure that gaps are rapidly addressed, ready for the next steps.

If, after receiving this intervention, any child is still struggling with the concept covered, they will receive further intervention on an afternoon.

Interventions can be denoted in books through the use of intervention stickers (Appendix A) in Maths books. Additionally, written work can be recorded in Maths Fluency books. They will also be recorded in teacher's 'Feed Forwards' along with the impact of these and any further intervention required.

ASSESSMENT

Teachers will use targeted questions and problems that require pupils to remember, understand, apply, analyse and evaluate their knowledge and skills in all Maths sessions. These formative assessments along with half-termly summative assessments will then be used to inform the Maths RAG to assess the pupils on an ongoing basis and make a judgement about whether a pupil is on track to achieve age-related or greater depth expectations. This information will be discussed at RAG Meetings.

Children in years 1-6 will complete a termly 'Six skills Assessment', which focuses on the 6 core numeracy skills required to be fluent mathematicians.

Children in year 3-6 will complete half termly 'Multiplication Checks' using Emile.

Teachers will also complete Question Level Analysis of any testing to inform their planning and teaching.

EYFS continually assess their children in Maths using professional discussions and assessments, which are made half-termly through an evidence base of children's work, incidentals, and long observations.

MARKING

- Daily marking is expected of ALL Maths work using a green highlighter. If the answer is correct, it will be swiped to the right. A green dot is marked to the right if the answer is incorrect. When marking ATS, ATG, ATD, green swipe over the code if the task has been achieved and dot to the left if not achieved.
- The letters 'LO' are highlighted at the end of the second session indicating 'achieved' if children have correctly achieved ATS, ATG or ATD. A green dot is marked to the left of the letters 'LO' if they have not achieved objective (SDIB or made multiple errors in ATS.)
- If a child has needed scaffolding during their work, the teacher will write VF (Verbal Feedback) or G (Guided) next to the answer in green biro and put a circle around it. The green square process stated above will still happen.
- Where work is self-marked by pupils, a purple dot or square will be used as above. LOs and Assessment Codes must still be highlighted by a member of staff to ensure accurate formative assessment.

PRESENTATION


- Learning objective at the start of each piece of new learning
- 1 number per square
- High expectations of handwriting – should match English books
- Rulers must be used for all lines drawn


Y1 - Y2 - Date already written


Y3 - Y4 - Date in numbers


Y5 – Y6 - The date to be written in Roman numerals

To be completed in green biro by the member of staff delivering the intervention:

 ...Changing lives	
Time	Date
Adult	
Session focus	
<input type="checkbox"/> 1:1 intervention <input type="checkbox"/> Group intervention <input type="checkbox"/> SD <input type="checkbox"/> Pre-teach <input type="checkbox"/> consolidation	
Evaluation	
Secure	Requires further intervention

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Adult	
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Evaluation	
Secure	Requires further intervention

To be used where photo evidence is more appropriate:

 ...Changing lives	
<input type="checkbox"/> Group intervention <input type="checkbox"/> consolidation <input type="checkbox"/> SD <input type="checkbox"/> 1:1 intervention <input type="checkbox"/> Pre-teach	
	
To develop understanding of word problems that require multiple steps to solve	
Secure	Requires further intervention

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<input type="checkbox"/> Group intervention <input type="checkbox"/> consolidation <input type="checkbox"/> SD <input type="checkbox"/> 1:1 intervention <input type="checkbox"/> Pre-teach	
	
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Glossary

ARE – Age Related Expectations

ARC – Age related Curriculum

Conceptual Variation - the opportunity to work on different representations of the same mathematical idea.

CPA – concrete, pictorial, abstract.

Live Marking – circulating the class making questions as they are completed and offering immediate feedback and/or intervention where needed.

LTP – Long term plan(ing)

Manipulatives - an object that is designed so that a learner can perceive some mathematical concept by manipulating it.

MTP – Medium term plan(ing)

Procedural Variation - choosing to vary one aspect to expose a mathematical structure or connection.

QLA – question level analysis

SDI – Same Day Intervention

WRM – White Rose Maths

