# What does Mathematics look like at St. Luke's?

## This is our philosophy:

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## What a Maths lesson looks like in our school:

- Mixed ability groupings / seating which allows children to work with different people over the course of time.
- Maths readily accessible through continuous provision in EYFS/Y1.
- Lots of talk—reasoning (**Conditional)**
- Problem solving throughout (**Conditional)**
- Mini plenaries to share misconceptions, pose questions, challenge ideas
- Access to manipulatives/concrete resources to help scaffold learning.

## How does it work?

- We follow the White Rose Maths scheme where the learning is broken down into small steps. (**procedural)**
- KS1 follow the Mastering Number programme (Phonics for Maths) which is designed to embed firm foundations with number before children start KS2. (**declarative/procedural)**
- Focus on mathematical language – children in Y1-6 complete a concept map at the beginning of a block and then add to this over the course of the unit. (**procedural)**
- Many opportunities to talk mathematically (**Conditional/procedural)**
- TA's sometimes used to pre-teach a concept ahead of the lesson and to consolidate learning after a lesson.
- Weekly arithmetic sessions where children have the opportunity to revise and consolidate key mathematical concepts. (**declarative)**
- Key Instant Recall Facts (KIRFS) are designed to support the development of the mental skills and key knowledge that underpin much of the maths we do here at St. Luke's. (**declarative)**

**Categories of rehearsal/consolidation of learning**

| Content category | Type 1 practice | Type 2 practice |
|---|---|---|
| **Declarative** | Fact retrieval (recall) | Explaining relationships between facts (derivation and parsing of number) |
| **Procedural** | Method rehearsal (exercises) | Explaining principles, proving conceptual understanding (such as, use of informal methods, creating bar models and interpreting context) |
| **Conditional** | Strategies rehearsal (collections of problems with the same deep structure) | Describing relationships between the problem and choices of strategy (proof/reasoning) |

**This is what we do:**

- Staff are able to plan to suit themselves. We don't use a fixed planning pro forma and encourage teachers to plan for the needs of their own class following the WR small steps.
- Positive use of mistakes/misconceptions that are identified during live marking.
- Regular book scrutiny, learning walks & pupil voice.
- Whole school PD
- Raised profile of Mathematics – termly maths days

**This is what you might typically see:**

- Open ended investigations- low threshold/high ceiling tasks
- Word problems & reasoning tasks
- Different representations of calculations
- Paired/group work
- Active maths where children move around the room/outside (cross curricular orienteering)
- Engagement and perseverance
- Children being challenged in their learning
- Learning being displayed on working walls in the classroom

**This is how we know how well our pupils are doing:**

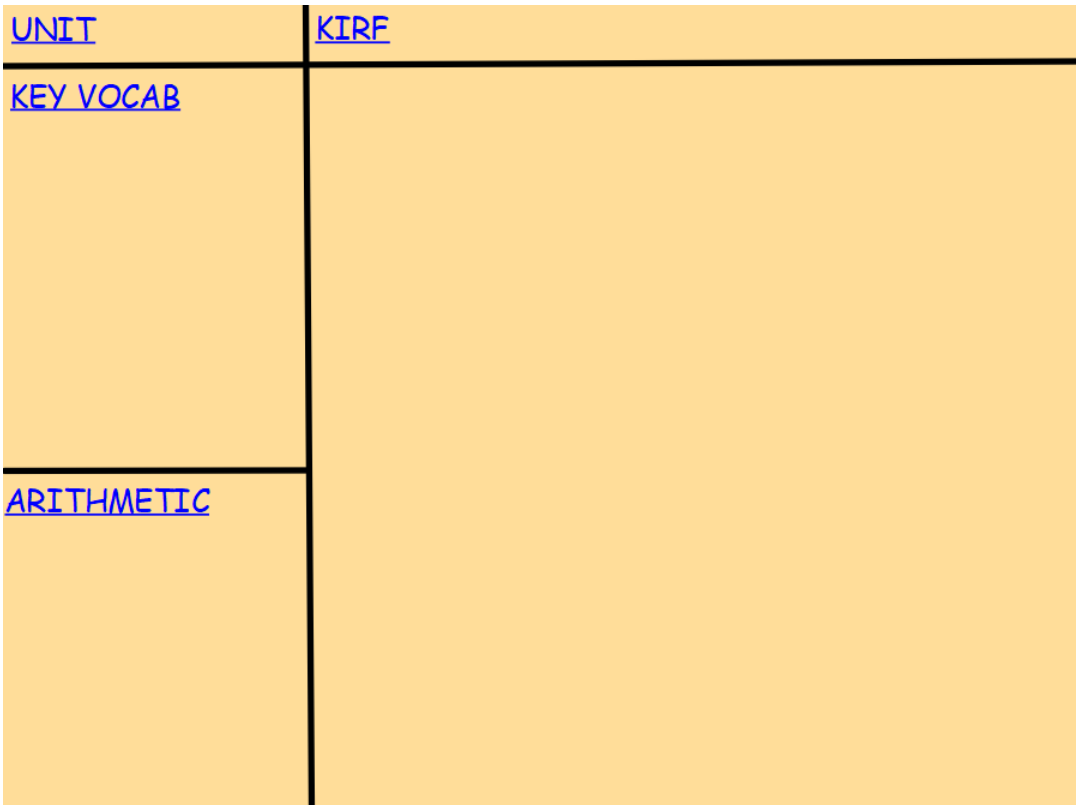
- Internal tracking following our assessment criteria
- Concept maps
- End of unit assessments
- NFER assessments
- Pupil progress meetings
- Teacher assessment/targets
- Marking and feedback
- Photo evidence of practical maths
- Targeted use of TAs – working with different groups of children and delivering daily intervention which is reported back to the class teacher.

**This is the impact of the teaching:**

- Confident children who can talk about maths
- A love of Maths
- Depth of understanding/application in different contexts
- Externally reported data – KS1/2 SATs, Y4 MTC


Homework – Expectation chn use TT rockstars/practise KIRFs

Concept maps – chn making links between concepts and allows them




Around the working wall, stick up key concepts that your children will need to refer to throughout the year.

Maths Books

- Date and WALT (underlined with a ruler)
- Underlined subheadings
- 1 number per box
- Concept maps to be used at the beginning of a unit (children to complete initially in pencil then add to it in colour as unit progresses).
- Yellow paper to be used for assessments at the end of the unit with questions taken from Testbase.

Maths Fluency Books

- Arithmetic
- KIRFs
- Interventions

## KIRFS overview Y1-6

| | Year 1 blue | Year 2 yellow | Year 3 orange | Year 4 purple | Year 5 red | Year 6 green |
|---|---|---|---|---|---|---|
| Autumn 1 | I know number bonds for each number to 5 | I know number bonds to 20 | I know number bonds for each number up to 20 | I know number bonds of 100 | I can find factor pairs of a number | I can identify common factors of a pair of numbers |
| Autumn 2 | I know number bonds to 10 | I know doubles and halves for numbers to 20 | I know the 3 times table (× and ÷) | I know the 6 and 9 times table (× and ÷) | I can recognise prime numbers up to 20 | I can convert between fractions, decimals and %s |
| Spring 1 | I can recognise numbers to 50 | I know the 2 times table (× and ÷) | I know the 4 times table (× and ÷) | I know the 7 and 11 times table (× and ÷) | I can recognise equivalent fractions and decimals. | I can find a fraction of an amount |
| Spring 2 | I know halves and doubles to 10 | I know the 10 times table (× and ÷) | I know the 8 times table (× and ÷) | I know all times tables up to 12 ×12 (× and ÷) | I know decimal number bonds to 1 and 10 | I can find a percentage of an amount |
| Summer 1 | I know number bonds for each number up to 10 | I know the 5 times table (× and ÷) | I can recall facts about durations of time | I can multiply and divide a single digit by 10 and 100 | I can recall metric conversion | |
| Summer 2 | I can tell the time to the nearest half an hour | I can tell the time to the nearest 5 minutes | I can tell the time to the nearest minute | I can recognise simple equivalent fractions | I can recall square numbers to 12 and their square roots | |