



# Mithian School Mathematics Policy

## Aims

- To ensure full coverage of the **National Curriculum 2014 and EYFS Framework**.
- To enable pupils to be **proficient, competent and confident with numbers and measures**, and to have an ability to **solve number problems in a variety of contexts**.
- To foster **positive attitudes towards mathematics** by developing pupils confidence, independence, persistence and co-operation skills.
- To develop an awareness of the **relevance of mathematics to the real world**.
- To appreciate **pattern and relationships** in mathematics.
- To encourage and **develop mental strategies**.
- To ensure **equal opportunities** (through *equity*, not through providing the same to all)
- To develop **number fluency and confidence using the four operations**.
- For pupils to leave primary school with a **mastery of calculation and problem solving skills underpinned by secure understanding (reasoning)**

## Objectives

To provide opportunities for the following:

- Independent working
- Co-operative working
- Learning mathematical facts (e.g. *times tables*) and application of this knowledge (*fluency*)
- Acquiring the skills and concepts of mathematics including *mental strategies* and those required for *problem solving*
- Acquiring the skills and confidence to conduct mathematical investigations (*EMERGE*)

- Conceptual and Procedural work which develops a mastery of mathematics
- Developing *reasoning* skills ensuring pupils are given opportunities to discuss what they know and how they know it

## How Teachers Plan Maths Lessons

- All teachers plan using the programmes of study set out by the National Curriculum and EYFS Framework. Teachers also use the '*White Rose Documents*' and various additional resources (such as from websites including but not limited to *twinkl/tes*) to support their ***bespoke*** planning of lessons and ensure there is a linked coverage of ***fluency, reasoning and problem solving*** in lessons.
- There is **no need** for teachers to plan lessons a week in advance and wherever possible teachers **should plan in a daily format which responds to the learners needs.**
- Teachers plan with a '**teach, learn, confuse, understand**' approach which focusses on developing a mastery of mathematics. Mastery elements include - *variation, missing numbers, reasoning responses, children creating a question, active argument (conjecture) and problem solving questions*. Misconceptions are dealt with explicitly during lessons and (where possible) **immediate (same day) intervention** takes place to ensure pupils are not left behind with their learning.
- Teachers use **their professional judgement** to assess how long to spend on a topic and homework is used to consolidate and extend understanding at home.

## ICT

ICT is used to support mathematics. We use a range of resources from the internet (websites such as TES, Twinkl, Classroom Secrets, Grammarsaurus,) as well as activities and worksheets made by teachers.

Laptops and iPads are used for the enrichment of maths at all stages. There are 16 chromebooks per class in Classes 1, 2 and 3 and, in addition to this, 16 iPads which teachers can book for their class in school. Teachers also have personal iPads to demonstrate apps on as well as to act as visualisers using Air Server. They may use these to model learning, or evaluate and celebrate work as a class.

## Lessons and Learning Format

Children are encouraged to record their maths in a variety of ways. Formal written methods are taught from Key Stage 1 onwards. There is a school calculation policy defining which strategies are appropriate and the progression of them which is in line with the National Curriculum as of 2014. Pupils may use whiteboards during teacher input and throughout lessons and may use photographs to capture their work during lesson time. Teachers and pupils (where appropriate) share photographic and video evidence on 'Seesaw' which allows parents to access individual pupil learning journals at home.

Pupils from Year 1 onwards have maths books/folders which demonstrate a pupils' learning journey. There is no expectation for daily work within these books and there may be times where **evidence of a rich learning activity is through photographs and videos only**. Wherever possible these will be included on pupils' seesaw journals. Work that *is* in pupils' maths books should be neat and presentable with a clear learning objective set by the teacher and short format date. In KS1 pupils may have a 'child friendly learning objective' in the form of an 'I can statement.'

Where teachers have used worksheets these are to be trimmed to fit pupils' maths books and stuck in unfolded.

Fundamentally, books/folders should demonstrate the same learning in a variety of formats (variation) with progression in difficulty and challenge. There is no expectation for all tasks/worksheets to be differentiated and different; the only requirement is that tasks are rich enough to encourage deep mathematical thinking for all learners (such as with *low entry, high threshold tasks*)

## **Assessment**

Children are assessed by teachers both internally and externally using Formative and Summative Assessment.

Teachers use their discretion regarding what and when to do these assessments, though there is an expectation from the Maths and School Leaders that this is done *at least termly*.

Pupil's summative assessments are recorded onto Target Tracker using the 'stamped steps.' A pupil working at the national age related expectation will be stamped as 'W+' or 'S' for the year group of that pupil (Yr2= 2w+). A pupil working below this may even be tracked in a previous year. A pupil who demonstrates a deeper understanding of mathematics may be assessed as 'S+') This is equivalent to 'Greater Depth.'

Pupils are expected to make *at least 6 steps* in an academic year.

Pupils with SEN may make less steps during an academic year and will have targets and expectations appropriate to that pupils learning development.

In Reception the children are assessed against the EYFS assessment scales. (EYFS Profile 2022) In mathematics these goals are related to 'Number' and 'Numerical Patterns.'

These assessments inform teachers as to who may need additional intervention or consolidation of covered mathematics, and/or what pupils need moving forward.

## Equal Opportunities

There is a school policy on equal opportunities. Teachers should ensure all pupils have the skills and understanding to access the whole curriculum, and are fully supported in keeping broadly in-line with their peers.

We believe that the development of positive attitudes alongside mathematical understanding is **essential**. Therefore the school's EMERGE ethos is present throughout mathematics lessons.

## Marking in Maths

Teachers mark using a variety of approaches as appropriate for the lesson type. For fluency and procedural work a 'tick cross' approach is used so that teachers can quickly mark books and put intervention in place as soon as possible before the following lesson is taught. In other, conceptual, problem solving and reasoning based work teachers may mark in a way which requires pupil response **using a green pen**. Teachers marking should always be formative and support teacher lesson planning or move pupil learning forward.

Where Teaching Assistants have worked with groups of individual pupils (either during a lesson or intervention) they will **use orange pen** to make assessments of pupils learning or to provide teaching or pupil feedback.

## Resources

The school has a range of mathematical equipment. Frequently used equipment is stored in each classroom and other equipment is centrally stored in the ZOOM and Meeting Room.

The children are expected to manage the resources themselves, thus they are easily accessible.

## **Parental Support**

Parents are encouraged to support pupils at home wherever possible and are invited bi-annually (covid-permitting) to open workshops in which the school's approach to teaching mathematics is shared. Parental support includes (but is not limited to) knowing numbers, number bonds, times tables, homework tasks set by teachers, telling the time and practical maths-based activities (e.g. baking)

Parental workshop slides are uploaded to Seesaw for parents who may not have attended the workshop.

## **Monitoring and Evaluation**

The subject co-ordinator is Dominic Faint. There is an agreed action plan made annually as part of the SIP where in-school summative data determines target groups/pupils for intervention. Pupils on FSM and PP are tracked separately as are services pupils and pupil with EAL. The subject co-ordinator also tracks gender and year group progress in order to identify any additional provision that may be necessary in order for those pupils to make good or better progress within mathematics. Success criteria are included in the detail action plan which is written by the co-ordinator every Autumn Term.

Maths lessons are observed internally by the subject co-ordinator and/or headteacher as well as by externally by visitors such as: teachers in school and from other schools as part of CPD; headteachers from other schools (e.g. during SHIP); Academy Trust Leadership or as part of auditing during a RSC or OFSTED inspection.

Work and assessments are moderated internally by the teaching staff at Mithian School and externally as part of our academy chain (Truro and Penwith Academy Trust), by external moderators (at EYFS and KS1) or by Regional School Commissioners and Ofsted Inspectors.

