Maths Intent, Implementation, and Impact

Intent: Introduction, Vision, and Philosophy

The purpose of this document is to clarify the how, why, and what of maths teaching at Fleetdown Primary Academy. This is to be used by staff to clarify expectations, highlight the resources that we have at our disposal, and to ensure that a high-quality maths curriculum is being taught to all. At Fleetdown, we want our children to be confident mathematicians, fluent mathematicians, and able to solve problems. We teach maths *for* mastery. This means that we are teaching children to have a deep conceptual understanding rather than teaching so that children can get a correct answer. Being able to explain how they got an answer, why that answer is right, and what might happen if a particular variable was changed are the hallmarks of a mathematician – simply getting the answer right ought to be a given.

At Fleetdown, we believe that all children can succeed mathematically, and that one of our primary tasks as maths teachers is to find ways of presenting, scaffolding, and teaching concepts in such a way that everyone will achieve.

Staff receive regular CPD on the teaching and planning of maths within school.

Implementation: What does maths look like at Fleetdown? Overview:

At Fleetdown, we teach maths in units, usually spending a few weeks on each topic. We try to develop children's understanding from the Concrete (actual physical manifestation of the maths), on to the Pictorial (being able to approach the maths using pictures rather than physical resources), and finally onto the Abstract (being able to approach mathematics without physical or pictorial resources). As typical misconceptions crop-up during lessons, children might only finish on orange or red for the lesson. This will then be addressed in an intervention or during the next lesson, as teachers will constantly be revisiting concepts during *Knowing More, Remembering More* and throughout the course of the year. For

example, multiplication and division will be revisited during fractions, area of shapes etc.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number Place value			Number Addition and subtraction					Number Multiplication and division A			
Spring	Number Multiplication and division B			Measurement Length and perimeter			Number Fractions A			Measurement Mass and capacity		
Summer	Number Fractions B		Measurement Money		Measurement Time			Geometry Shape		Statistics		Consolidation

Unit

When planning a unit, teachers use a range of resources and areas to support and structure their overviews. Generally, teachers will follow the recommended progression from the White Rose Maths Small steps. Teachers will follow the sensible order recommended to teach each unit. Teachers then download the lesson slides from each small step to use as a starting point, ensuring that there is appropriate modelling within lessons. This can then be cross-referenced with the available effective maths slides to identify which lessons will need self-resourcing.

Typical Daily Lesson

Individual teachers have individual styles, different classes have different needs, and sometimes it's good to shake things up a bit. At the start of the year, Year 1s will find that they need more time for the task, however, a typical maths lesson should consist of these elements:

Starter- Retrieval Practice: *Knowing More, Remembering More* activity, consisting of 4 questions recapping prior learning.

Multiplication Practice: Review of the times tables for the year group.

Pre-assessment: The teacher will share the Learning Intention with the class and allow children time to choose their starting point for the lesson. A red question should be available for children to check prior knowledge and the teacher can use this as a tool for assessment for learning.

Guided practice: (10 minutes) – Here the teacher gives a whole-class input, with lots of opportunities for children to talk to their partner about particular questions, apply their learning to mini-tasks, and clarify misconceptions (The teacher isn't talking for 10 minutes).

Understanding Check: This can be in the form of a reasoning/application question for children to apply their knowledge.

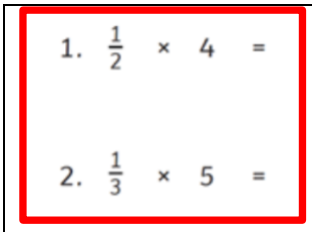
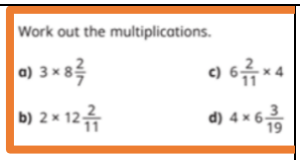
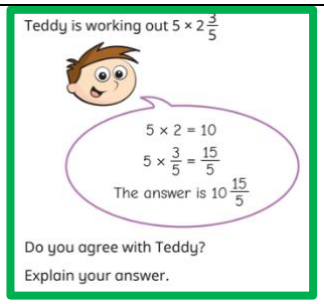
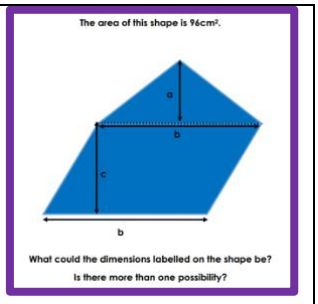
Independent Activities: (15-20 minutes) – Here the children are independently completing the fluency, reasoning/application and problem-solving tasks.

When teaching a practical photo lesson, record the learning on a sheet with the L.O, Date and photos.

Depending on the length of the unit, a consolidation lesson will be conducted at the end of the unit to assess and challenge pupils reasoning and understanding of the unit. For greater depth children, reasoning and problem-solving activities will be available.

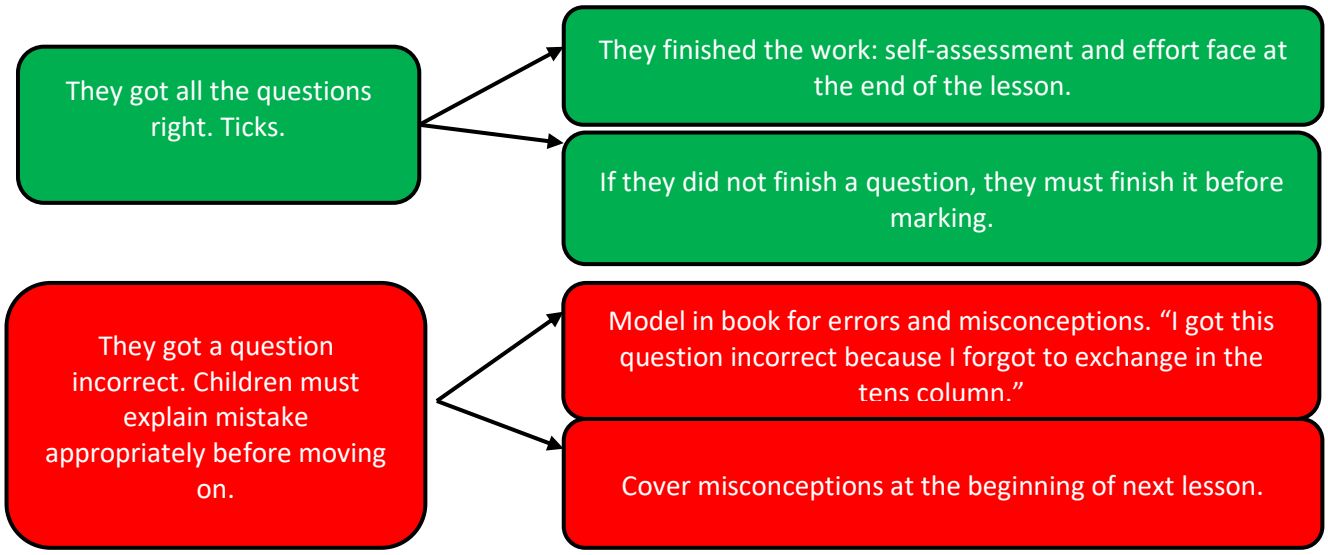
When children are doing a written task, this will typically be presented in worksheets, colour-coded with fluency, reasoning and problem solving. Some units, like statistics, might need another format, in which case teachers will us their own judgement. Not all children will complete all activities, and early on in year 1, most will only be completing one or two stickers. For ideas and support on making independent tasks, teachers should use White Rose activities or PlanPanion.

The tasks ought to follow a clear progression:

			
Fluency Tasks (from previous knowledge/year group- Red Task) - **Must be accessible by *all*** in your class (to allow children to access the learning for each lesson. This will be different for every class. Ask yourself – will everyone get this question, right? - This will be either a question from a previous year group or previous small step.	**Fluency Tasks (within year group- Orange Task** - is an abstracted form of the first question appropriate for the year group (e.g. might be three or four column method questions, with a pattern). - Allows children to become fluent in activity before moving on to reasoning tasks.	**Reasoning Tasks- Green Task** - Is applying the mathematical skill in a *different way*, e.g. - Matching questions - "Misconception questions" (e.g. "John thinks X – is he right? Is he correct?) - True or false and why questions - Word Problems	**Problem-solving Tasks- Purple Task** - Is **often** an open-ended, challenging, deepening question. -Usually has more than one possibility, where children are encouraged to find *all possibilities.* - These can often be taken or adapted from the White Rose Maths Hub,

- This Is *often* pictorial (could be a representation of your partner task). - Not all children will need to red task as most children's starting point at the independent activity will be orange.		They might need to explain, or **reason.**	PlanPanion, NCETM mastery assessment documents, NRICH.

Marking

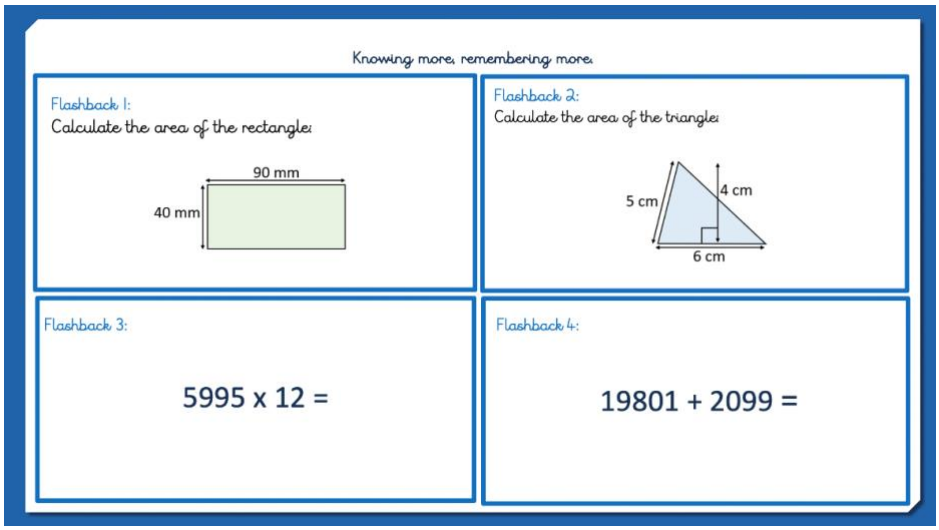


Additionally, in lessons we use formative assessment to help decide on what we should do next with pupils and the progress they are making. This allows us to understand how to support and extend our pupils appropriately.

Teachers recognise the difference between performance and learning and understand that pupil performance in the lesson today does not necessarily translate into the type of learning that will be evident tomorrow. As a result, the use of low stakes tests (in the form of spaced retrieval practice, the Knowing More, Remembering More) enable staff to regularly assess what learning has been retained by pupils over longer periods of time. This also provides pupils with the regular opportunity of retrieving information from memory, which consequently facilitates learning.

This includes:

- assessment for learning
- pupil voice
- challenge tasks
- quizzing, multiple choice and end of unit questions
- standards of learning in books
- spaced retrieval practice (see example below)



At three assessment points (four in Year 2 and 6), pupils also sit a standardised test so that gaps can be analysed on a class, academy, and trust level. These assessments address the three key elements of the curriculum: fluency, reasoning and problem solving.