



The Essence of Mastery at St Ann's Junior and Infant School

We believe that all children can learn mathematics.

- All children work on the **same concept** at the same time. As often as possible this is the learning from their **current age group**.
- Children choose or are encouraged to move to **deeper tasks** as soon as they are able to ensure there is **challenge for all**.
- We use the **CPA (Concrete-Pictorial-Abstract) approach** with a strong focus on **language**.
- **Resources** are accessible and in regular use.
- Lessons are supported with '**talk frames**' to support language.
- Lessons are designed to encourage a **balance of fluency, problem solving and reasoning**.
- **Fluency** is taught regularly and practised.
- Teachers are expected to plan for **reasoning** in their lessons. This can be done as part of discrete lessons (CHIPS - Challenge, Ideas, Possible Solutions) and as part of main teaching lessons.
- There is a **clear progression of learning** through blocks based on the children's needs.
- Wherever possible, **planning links aspects of maths together** to ensure that skills are revisited and used.
- A weekly 'Skills Stop' lesson **revisits skills and concepts** which children are finding challenging, or which have not been used for some time.
- Pupils are specifically taught that **mistakes and misunderstandings help us to learn** and can therefore be a good thing. They are taught to be resilient and tenacious.
- Maths is taught in the context of **REAL Projects** and real life wherever connections allow.
- **Interventions** are used to ensure misconceptions are addressed. These may be Same Day Interventions (after the lesson or as a pre-teach) or a 'Catch Up' intervention such as 1stClass@Number.

The Essence of Mastery at St Ann's J & I School

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- All children work on the **same concept at the same time**. As often as possible this is the learning from their current age group.
- Children choose or are encouraged to move to **deeper tasks** as soon as they are able to ensure there is **challenge for all**. Deeper tasks involve more complex thought and application of what has been learned.
- **Hinge questions** are used when appropriate to gauge the pupils' understanding and following these there is consolidation or challenge.
- We use the **CPA (Concrete-Pictorial-Abstract) approach** to learning concepts with the added focus on language. There is a strong focus throughout school on using practical apparatus to embed the learning. Children are encouraged to draw representations in order to internalise their understanding.
- Lessons are supported with '**talk frames**' to embed language. These are modelled by adults and pupils use them with encouragement and support.
- Children are expected and encouraged to use **full sentences** when responding to questions.
- Lessons are designed to encourage a **balance of fluency, problem solving and reasoning**.
- **Fluency** is taught initially through SUMMS (Securing Understanding of Mental Maths Strategies), following our fluency guidance documents. These lessons have three parts: Teach, Practise, Apply. Strategies are taught, children practise these and then there is the opportunity to apply them, which is carried forward into lessons in general.
- **Fluency** is further practised through ICT in the form of Times Tables Rock Stars and Numbots. Children have the opportunity to use these at home and the school has regular challenges (Battles) to raise the profile of maths.

- Teachers are expected to plan for **reasoning** in their lessons. This can be done as part of discrete lessons (CHIPS - Challenge, Ideas, Possible Solutions) and as part of main teaching lessons.
- Teachers (particularly in Y4-6 currently) are focused on **deepening reasoning skills**.
 - The first stage of reasoning we look for is the children's ability to **describe**. By describing, the children are showing they have attempted the problem and can say what they did.
 - Next, we encourage the children to **explain** what they are doing. These explanations can be correct or incorrect initially.
 - This stage is followed by the children **convincing** us that their reasoning is correct. Talk frames we expect to be used might be: **It must be...because...** or **It can't be...because...**
 - The highest stage of reasoning is when children can **justify** or **prove** their thinking which involves giving more complex reasons and generalising beyond the current example.

It is important to note that children of all ages and attainment should be given the opportunity and support to generalise. (E.g. 'When I add 0 nothing changes.')

- A **coherent learning journey** is planned through a combination of the Chris Quigley Essentials curriculum (identifying gaps) and the White Rose Medium Term Plans. A long-term plan for the year is outlined for each year group and Medium Term Plans produced before each block, based on gaps in pupils' understanding found in 'Cold Maths' assessments.
- Other main resources used to support **planning** are:
 - NCETM planning materials
 - I See Reasoning / Problem Solving
 - nRich resources
- Wherever possible, planning links aspects of maths together to ensure that **skills are revisited and used**.
- A **weekly 'Skills Stop' lesson revisits skills and concepts** which children are finding challenging, or which have not been used for some time.

- Pupils are specifically taught that **mistakes and misunderstandings help us to learn** and can therefore be a good thing. They are taught to be **resilient and tenacious**.
- Maths is taught in the context of **REAL Projects** and **real life** wherever connections allow.