



*"Through a knowledge-engaged curriculum, children will develop a love of maths, inspiring them to be confident, fluent mathematicians".*

*At Slade Primary School, we aim to equip all children with a conceptual understanding of the content, to enable to access various problem solving problems, through fluency and mathematical reasoning. At the heart of everything we do, we encourage the children to immerse themselves in maths through their daily lives and enjoy gaining and developing life long skills in this subject.*

*At Slade, we work closely with the Central Maths Hub to provide high quality training and support from other schools. We use Maths No Problem (MNP) in Years 1-6 as a resource to structure our lessons. We broadly follow the textbook progression, adapting the lessons to meet the needs of the children.*

*We pride ourselves on the mastery approach to learning, we ensure deep and sustainable learning for all pupils, with depth been at the forefront of everything that we aim to achieve. Our building blocks for learning help our children to achieve mastery, at their own level, regardless of their previous academic ability. It allows pupils to reason and make connections in order to deepen conceptual understanding.*

*At Slade, we use stem sentences to identify the main concept of a lesson, this is used to allow the children to understand the main learning points from the lesson. It can be used as a scaffold for some struggling learners and allow our rapid graspers to excel. These are rehearsed throughout the lesson and recorded in their journals, so that they can refer back to it. It ensures that children are also using precise vocabulary from the beginning of the lesson. By repeating this sentence, it helps to embed key conceptual knowledge. The National Centre for Excellence in the Teaching of Mathematics (NCETM) say, "The quality of children's mathematical reasoning and conceptual understanding is significantly enhanced if they are consistently expected to use correct mathematical terminology (e.g. saying 'digit' rather than 'number') and to explain their mathematical thinking in complete sentences.*

*I say, you say, you say, you say, we all say*

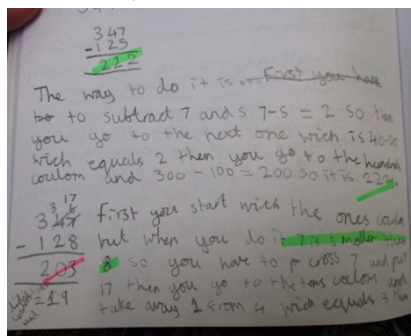
*This technique enables the teacher to provide a sentence stem for children to communicate their ideas with mathematical precision and clarity. These sentence structures often express key conceptual ideas or generalities and provide a framework to embed conceptual knowledge and build understanding."*

#### Lesson structure

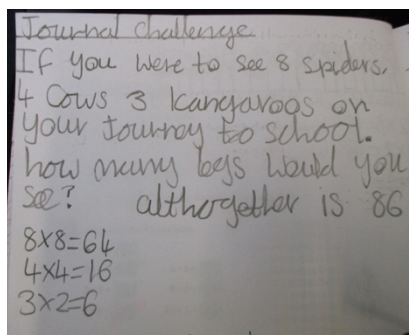
- Exploration: We begin every lesson with an anchor task, where the children are encouraged to explore the mathematical concept of the lesson, with their peers, before any direct teaching begins. The purpose of this is to allow the children to*

begin problem solving collaboratively, addressing any misconceptions and drawing on their prior knowledge. The teacher will do little talking at this stage, there will be question prompts throughout this to encourage depth of understanding.

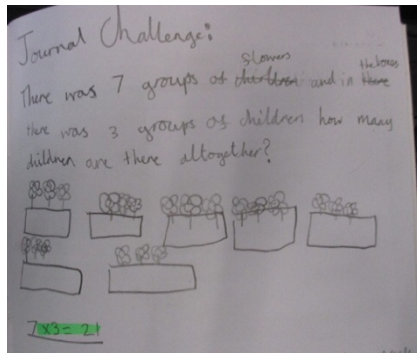
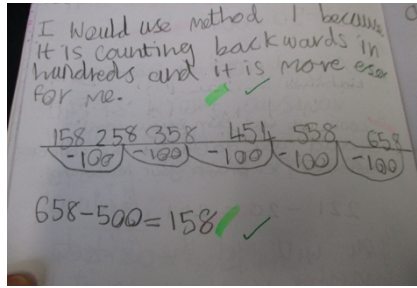
- Develop reasoning and deep understanding: Problems are often based on real life contexts, with manipulatives and pictures available to explore, to support the Concrete, Pictorial, Abstract (CPA) approach. The exploration of the context is paramount in understanding subsequent learning, the focus is on this, rather than completing a list of calculations. At all stages of learning, the children are encouraged to use their journal to record their ideas and reflections.
- Structuring: Once the children have explored the concept, the teacher will organise the findings of the exploration and guide them towards the main concept for the lesson.
- Step by step approach: This is the journey through the mathematical concepts, these can appear small, but they are vital to the children's deeper understanding. The teacher will use questioning to challenge thinking throughout all stages of the lesson. This is not only to challenge thinking, but to check understanding and address misconceptions.
- Journaling: At Slade, journaling is fundamental to our children's learning. It is used to allow the children to express their own understanding, whilst also providing depth and challenge. It is not a list of calculations at this stage, it is to demonstrate the children's conceptual understanding of the content learnt so far. The journals may look different for every child as a result of this. In Key Stage Two (KS2), the children are encouraged to use their journals as a diary of their own learning, with some structure from the teachers to organise their thinking. We place an emphasis on journaling, as it explores fluency, reasoning and problem solving. All journals should reflect the CPA approach and the 4 types of journaling that we have at Slade, which link closely to conceptual and procedural variation: Descriptive, Investigative, Creative and Evaluative (DICE).
  - Descriptive: This is the children showing the steps that they have taken to solve a problem.



- Investigative: This allows the children to explore the possible answers, and showing multiple ways of solving the problem.
- Creative: The children can do mathematical stories about their current topic, this can be written or drawn or a mixture of the two.



- Evaluative: This allows the children to compare methods and models and to say what they like and dislike about them.



At Slade, we have introduced 'dive deeper' challenges. These enable our pupils to go deeper into their learning, it can be a question that is accessible to all pupils and could have varied responses. It is different to a challenge, as it is not another activity or question for the children to answer, it is their opportunity to explore something further. These are done as part of our journaling and is not limited to Maths, it is across all of our subjects.

Practising: We use the MNP workbooks for our independent practise. These workbooks carefully plan for progression throughout them, building on the foundations to allow for depth throughout the lesson. You will also see another level of differentiation within these textbooks for children who may not be able to access the content. Some children may need additional support to complete these pages and some will need further challenges to deepen their learning.

SEND: For those pupils who are working 2 years + below their current year group, we would use the workbook from that year group to support them. If the children are working approximately 1 years behind their current year group, we would do everything to support them, by using additional adults, resources and manipulatives and scaffolds to help them to make rapid progress.

Continuous provision: In EYFS, they use mastering number to support their teaching of maths mastery and through their provision, they provide further opportunities for problem solving, within the EYFS framework. In Reception, they use mastering number to embed number knowledge across the year to ensure that they have a depth of understanding of number. Year 1 and 2 also do daily 10 minute sessions,

using mastering number, to further secure their knowledge of number and build upon prior learning.

The use of mastering number provides them with a solid foundation enabling them to develop mathematical skills as they progress throughout their schooling journey. In Year 1 and 2, the children follow a similar structure to Years 3 -6, with the addition of continuous provision opportunities, the teachers adapt the lessons in order to meet the needs of the children.

Core reteach: For those children who haven't understood the concept from the lesson, in order to progress to the next lesson, they must have a 'keep up' session when appropriate. Additional fluency activities can be done in this time too. Year 5 and 6 complete weekly arithmetic tests and Year 4 use TT rockstars to prepare for the Multiplication Check (MTC).

TT rockstars and 99 club:

At Slade, we subscribe to Times Tables Rockstars, this is for children in Years 2-6, it is a fun and engaging way to learn their times table. The children can also access this at home, they are provided with a log in.

99 Club is done weekly for Years 1-6, it is a progression from addition to multiplication and division, the children receive a badge when they have completed the club 3 times and got full marks each time.