



Maths On A Page

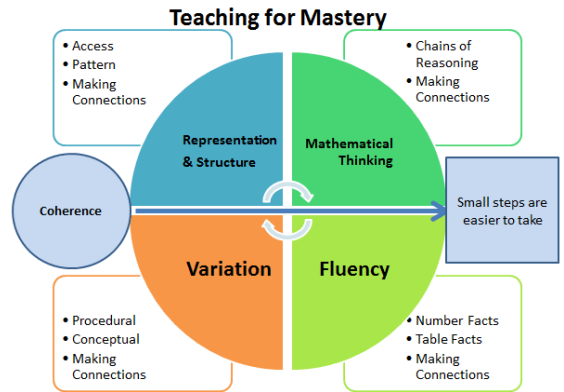
INTENT:

At Harrow Gate we recognise that Mathematics is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment.

We aim to provide a high quality mathematics education with a mastery approach so that all children can apply their fluency in a variety of different problem solving and reasoning contexts.

We intend on delivering a curriculum which:

- Allows children to be a part of creative and engaging lessons that will give them a range of opportunities to explore mathematics following a mastery curriculum White Rose Hub approach.
- Gives each pupil a chance to believe in themselves as mathematicians and develop the power of resilience and perseverance when faced with mathematical challenges linked to our school A.R.T. focus.
- Engages all children and entitles them to the same quality of teaching and learning opportunities, striving to achieve their potential.
- Makes rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.
- Provides equal opportunities for children to apply their mathematical knowledge to other subjects (cross-curricular links).
- Enable children to develop a passion for mathematics and celebrate maths in all areas of life.



IMPLEMENTAION:

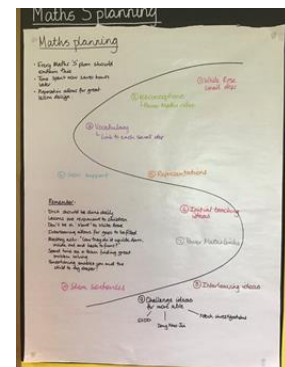
White Rose gives guidance on when, how long to deliver and the sequence of the delivery in small steps. However, this year the key focus is on the **'Ready to Progress'** statements produced by NCETM in addition to our own assessments of the children.



Medium term planning:

While long term planning identifies the order of the teaching adapted by the teacher, the medium term plan (S plan) is completed prior to the delivery of the unit. This will identify the thinking prior to the teaching of the lessons. There are multiple areas to be prepared for:

- Small steps suggested by White Rose
- Potential misconceptions
- New vocabulary to be taught
- Support for the less able children
- Objectives for those children attaining below ARE
- The representations used throughout the unit
- Initial teaching ideas
- Links to resources and Power Maths activities
- Interleaving ideas for tasks and DNA
- Challenge for GDS tasks
- Stem sentences to aid reasoning
- The key objectives outlined in the Ready To Progress statements

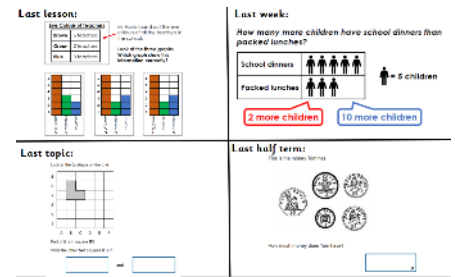


Lesson planning:

The S plan is referred to daily throughout the unit. The teaching team will meet up daily to discuss assessments from the previous lesson and identify how best to progress. Within this planning session, **task design** is the main focus.

Lesson structure:

- Every lesson begins with a review of previous learning. Alongside the usual DNA format, the teacher may use different methods to enable effective recall practise. Some examples are Kahoot, quizzing, Kagen group activities, spot the mistakes and many more. The method of recording this is up to the teacher.
- Lessons will contain aspects of fluency through intelligent practice. This may be through variation activities in addition to using multiple representations
- Problem solving and reasoning is at the heart of gaining a deeper understanding of Maths and the teacher will develop Mathematical thinking by adapting these tasks where necessary.



Working Walls:

- Vocabulary cards for the maths currently being learned and not pristine 'wallpaper'
- Work and learning prompts, chiefly created by/with the children, should be put up on display
- The wall should be directly relevant to that week's learning.
- Prompts from previous units should also be kept on display to encourage children to keep using their new knowledge.
- Other displays in the classroom, e.g. science and foundation subject displays, should showcase excellent mathematics work from across the curriculum.

Feedback:

- All marking and feedback is given at the point of learning in real time, where necessary, written feedback should be in red pen
- Children are encouraged to mark their own work and correct errors using a different colour
- Regular review sessions should be in place in order to support memory recall.



- All work should be acknowledged to thoroughly check the children's marking and to assess for next steps in learning, even where it is self-marked by the child.
- Verbal feedback is given where and when necessary, to individuals, small groups and whole class and encourages the children to be **persistent, resilient, and focused**
- For a large number of pupils, the lesson is paused and the misconception addressed immediately, or the errors are addressed in the next lesson.

Calculation / Arithmetic:

- A separate calculation day, possibly unrelated to the regular teaching of Maths, is delivered once a week.
- An arithmetic test is completed bi-weekly timetable alternating with the explicit teaching of skills. This allows the children targeted practise of specific calculation objectives.
- Week 1 will be the teaching and practise of the skill using a variety of methods including variation questioning and practical resources.
- Week 2 has a focus on test technique and gives the children the opportunity to practise the new skills taught in addition to timed arithmetic questions. Test technique should be taught alongside this.

Basic skills practise:

- Opportunities for practising Rapid Recall are given to all children in Year 1-4. This is then assessed on a weekly basis.
- Times tables are a key focus for the school and every opportunity should be given to children to practise. For those children who struggle to maintain these facts should be explicitly taught strategies to aid them in rapid recall of facts such as skip counting, using known facts, chanting and singing, and to develop a bank of different strategies to rely on so they increase in confidence and resilience.
- Times Table Rock Stars can be used to encourage practise but this should be used alongside other methods.