

Implementation Audit for Maths



Key questions	How will you address this?
<p>(i) Teachers have expert knowledge of the subjects that they teach and, where they do not, they are supported to address these gaps so that pupils are not disadvantaged by ineffective teaching</p>	<p>Free, high-quality subject knowledge enhancement courses are available at the NW Turing Maths Hub. This enthuses teachers as it is up-to-date and the mastery approach the school has adapted has made Maths teaching and learning for staff far more engaging for staff as well as the children. Staff subject knowledge has also developed with the implementation of Maths No Problem textbooks to build subject knowledge of the small steps in Maths. As teachers develop, there will now be a focus on developing use of concrete, pictorial and abstract approaches in all areas of learning in Maths. Use of the NCETM Professional Development in future staff professional development will supplement staff's knowledge.</p> <p>Teachers encourage children in class to raise their own, develop each other's understanding as peer coaches and are able to use target setting procedures in class to identify talent in their group. As of 2019-20, the children can locate their weekly target for their Maths set on a target board displayed in the classroom. The target is displayed in the centre and then the children's names are placed on the outside of the target board. As the week progresses, the teacher, or children, can move their name towards the centre as they move towards achieving this target.</p>
<p>(ii) Teachers enable pupils to understand key concepts, presenting information clearly and promoting appropriate discussion</p>	<p>Consistency in recently delivered training around lesson structure to be reinforced through team teaching pairs with collaborative planning and evaluating. This will also inform and develop teacher's uses of key vocabulary - which will be based on a glossary of mathematical terms for their year group.</p> <p>The Power Pairs Cycle will also have opportunities to focus on high-level questioning and lesson structure. This will include signposting quality multimedia materials such as Third Space Learning and Classroom Secrets videos and interactive tools.</p>

(iii) Teachers check pupils' understanding effectively, identifying and correcting misunderstandings


Staff are to be reminded and consolidate their understanding and use of feedback in Maths.
















Each piece of work in children's books should be in line with the school's presentation policy.


When complete, each piece of work should be marked by the class teacher. Please find below the marking key for Maths which can also be requested as a separate document from the Maths Coordinator:

✓	<u>correct</u>
X	incorrect but corrections may not be appropriate at this point
.	<u>correction</u> needed
C	corrected work
?	<u>check this/I</u> (the teacher) do not understand this
I	worked independently
TA	teacher assistant supported
T	group worked with the Class Teacher
WWM	work with me
VF	verbal feedback given
ST	supply teacher
PM	peer marked
LOA	learning objective achieved

Teachers are encouraged to use these questions and prompts when leaving the children effective feedback and these will be placed in children's Maths books. There needs to be a shift from feedback being given after a lesson to during and at the end of the lesson - training to be given to staff through team teaching process to see how children's understanding can be addressed during session with small groups. This may include the use of 'critical friends' or peer coaching. These opportunities can be planned with questions found below:



-  • I agree/disagree with you because...
-  • What I heard you say was...
-  • Can you explain this to me?
-  • What were you thinking here?
-  • How did you solve it?
-  • What did you start with?
-  • Why did you choose that operation?
-  • What strategy did you use? Why?
-  • Why did you choose that strategy?
-  • How did you know your answer was right? Can you prove it?
-  • Is there another way you could solve it?
-  • What key words helped you understand?
-  • Can you explain this part to me?
-  • Does that make sense?
-  • How is this like other problems you've solved?



(iv) Teachers ensure that pupils embed key concepts in their long-term memory and apply them fluently

Staff will continue to use elements of the Talk4Maths Strategy to embed key concepts in their teaching, including kinaesthetic actions and oral retelling of stem sentences and visual concept maps. Along with these techniques, staff will continue to plan regular Ruler of Reasoning sessions (as well as regular problem solving opportunities in most Maths sessions for all) to apply concepts to unfamiliar contexts.

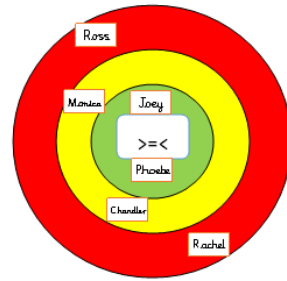
The key skills planned for progressively in the Learning Ladders demonstrate a clear pathway for the children to build on prior knowledge and deepen their understanding of that concept.

(v) The subject curriculum that classes follow is designed and delivered in a

The teacher will set targets weekly for the class. These targets will be displayed on a 'Target Board' with the children's names on that they can move throughout the week closer to the centre.

way that allows pupils to transfer key knowledge to long-term memory; it is sequenced so

that new knowledge and skills build on what has been taught before and towards defined end points



Using this policy will engage teacher's in reflecting on a regular end point for the children's learning and will involve the children in this process. These targets will be selected from objectives in the White Rose Planning and Learning Ladders, which are based on key objective located in the National Curriculum.

Regular monitoring exercises such as book looks, learning walks and pupil voice discussions will inform the Maths Lead's understanding of whether this progression of learning is being followed and whether training is required in this area.

(vi) Teachers use assessment to check pupils' understanding in order to inform teaching

Teachers will continue to be encouraged to implement pre-learning and then end of unit tasks in each unit of learning so clear reference points are identified to work from.

Feedback will be delivered to children in a variety of ways. These include teachers addressing misconceptions during the Maths lessons with verbal feedback, targeted groups and peer assessment. Children are also encouraged to engage in self-assessment to supplement these approaches.

Teachers will also be expected to review each piece of learning with marking codes and allow children time at the start of most sessions to engage in meaningful feedback opportunities including editing in purple pen and being given follow up challenges to embed learning. Formative assessment strategies are used throughout the lesson to inform this feedback, including key questioning, individual whiteboards, books and ruler of reasoning sessions.

Summative assessment will be collected at the end of each term using the White Rose Assessments which fit seamlessly with the Mastery Curriculum adopted by the school, assessing key learning that has taken place in that term. This, along with teacher assessment, then is recorded, reported on and tracked by senior leaders, curriculum leads and the teaching staff to plan and implement interventions to support learners in their progress.

(vii) Teachers use assessment to help pupils embed and use knowledge fluently, develop their understanding, and not simply memorise disconnected facts.

Teaching and learning in Maths will be planned collaboratively across year groups. Staff will be trained to use Mastery resources such as White Rose Documents, Maths No Problem Textbooks and NCETM Professional Development Tools to deliver learning that is embedded. When crafting quality-first teaching, staff will also be trained to ensure that problem solving is involved in most sessions for all learners. This will be an expectation across the school and applied further in Ruler of Reasoning problem solving sessions.

In many classes, particularly in KS2, children are to be trained to make selections in their learning of what task to complete. As a result of this, children will become more aware of their next steps and able to discuss a rationale why they have selected certain challenges (to either consolidate or challenge their learning).