



Fierté Multi Academy Trust

**Edge Hill Academy**

**Maths Expectations - Intent document 2022-23**

**Subject Vision - Maths Everyone Can**



During maths lessons at Edge Hill Academy, visitors will see children engaging enthusiastically with their maths learning, showing stamina, resilience and perseverance even when the learning is challenging. Visitors will hear children discussing their learning in pairs, small groups or as a whole-class using correct vocabulary and reasoning explanations.

Visitors will see children being able to model their thinking in different ways including using formal methods or manipulatives and representations or any other support where appropriate. They will also see clear, correct recording in books with feedback that supports children to be accurate with answers, methods and vocabulary.

At the end of each lesson, children will have made progress against the Learning Outcome (small step) either independently, following carefully planned input from the teacher, or with support as identified by the child or an adult in the lesson. If the progress and attainment is limited, intervention will be put in place in a timely manner in order for all children to keep up with the maths learning. Displays in the room and around the school will further support the learning of maths. Overall, visitors will see teaching staff willing to embrace a mastery approach, developing our understanding and expertise collaboratively through discussion, practice, colleague support and review.



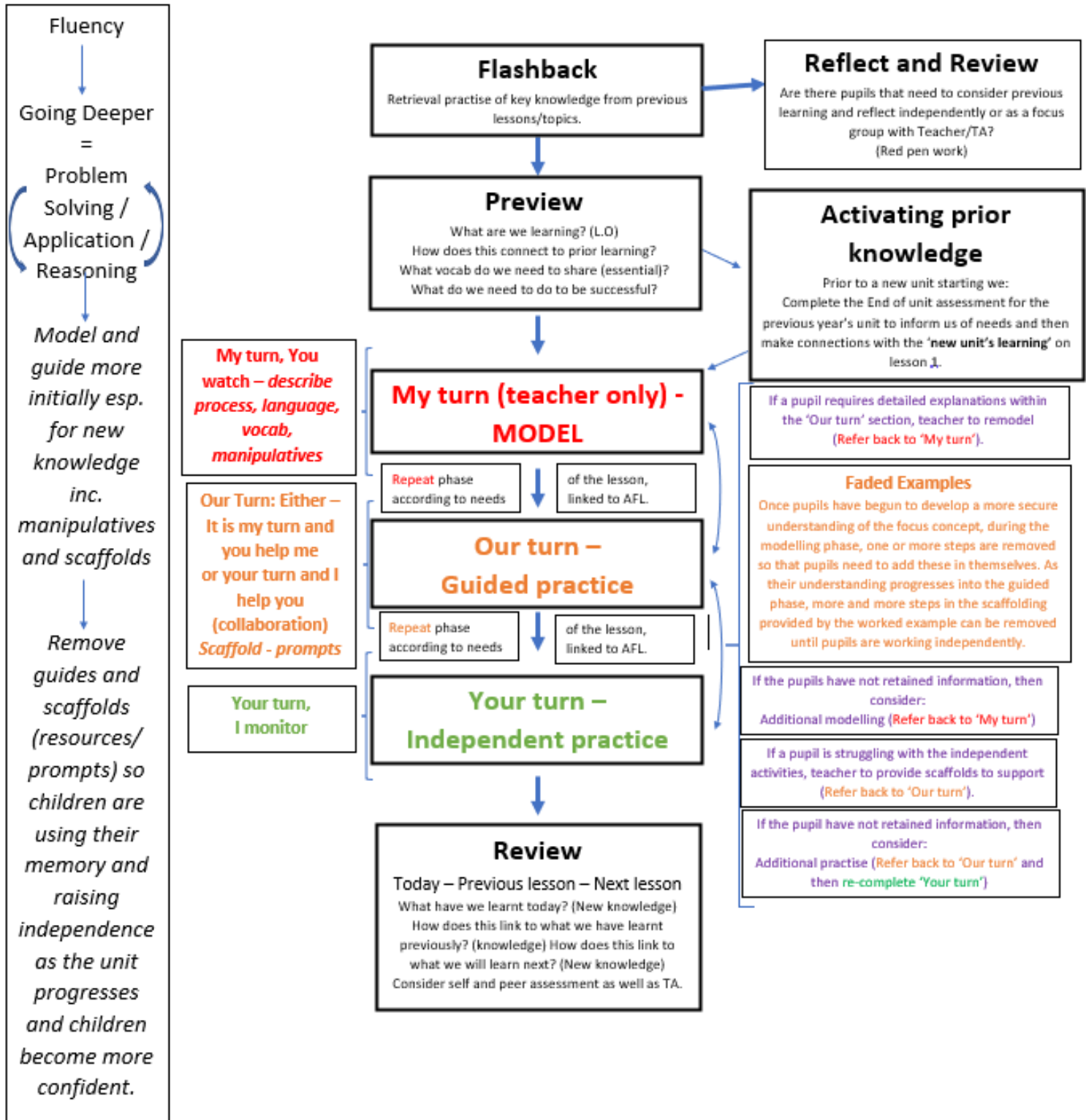
**Believe and Achieve, Shine Everyday**





Pedagogical approach in Maths –

Teaching Framework





1. **Flashback 4** (retrieval practice) – (Q1 – last lesson, Q2 – last week, Q3 – 2/3 weeks ago, Q4 – last term/year). Teacher judgement can be used to design own Flashback 4 when needed to consolidate recent learning.
2. **Reflect and review** from previous lesson – children to check for specific feedback/corrections (purple comments/corrections).
3. **Preview** - Clear LO using small step of learning (year group – yearly overview showing LO for each step). Think carefully about what you want the children to master in that lesson and how it connects with the previous learning. The lesson should stay focused on that one area of learning to enable the children to learn in small steps thoroughly.  
Show key vocabulary needed for the lesson. Mathematical vocabulary (and stem sentences) should be used correctly by everyone in lessons, including verbally and written. Children should be corrected if a reasoning explanation isn't mathematically correct. Repetition of stem sentences, generalisations, facts and definitions helps children to embed their new knowledge.
4. **Activating Prior Knowledge** – At the start of a unit to stimulate awareness. Revisit learning from the previous year group's unit to make connections. (End of unit assessment to be completed (from previous year group) to understand key next steps, and knowledge mastered, prior to introducing a topic).
5. **Guided Practice (My turn, Our turn)**  
Clear, specific learning opportunity. Learning skills that need to be mastered to achieve the LO broken down into small steps. Important to constantly reason where answers have come from. Can they justify the teachers, their own or their peers' answers? Look closely at the questions/images and look for similarities and differences. What do you notice? Visual prompts should be gradually removed to support independence.

When modelling a strategy or a process, teachers should be verbalising their thought processes and choice of strategy (metacognition). (**My Turn**)

Pupils should be given multiple chances to practice the learning and review with the teacher, talking together through the task before progressing to the independent stage (ping pong approach). (**Our Turn**)



Mixed ability pairs. Pair talk. Use mixed ability seating where possible even if it is only for the discussion. Children can move to ability groups for independent work if this works best.

In order for children to master a topic and become fluent in maths, we need them to build links between concepts. Some children naturally see those links themselves and build networks of knowledge for themselves but many children need the links and patterns to be shown and made explicit. We need to carefully plan examples/non-examples and questions into our lessons in order to give children a rich picture of the concept and avoid them making false connections.

‘The answer is only the beginning’. The teacher should facilitate opportunities for ALL pupils to verbalise mathematical thinking (reasoning). ‘How do you know? Do you agree? Is there another way?.....Can you build on someone else’s response?’ and therefore deepen their understanding of a concept. Each lesson MUST include opportunities to use reasoning and/or problem-solving for all children (not just in the plenary or for those who work at a faster pace). Verbal reasoning opportunities will be woven through the whole lesson.

The journey through the lesson should use procedural and conceptual variation for pupils to understand the concept from different perspectives, deepening their understanding and allowing them to move from fluency to reasoning and problem-solving (‘going deeper’).

Representation and Structure – resources/manipulatives should be used to reveal the maths. Pupils should have the opportunity to use concrete resources and pictorial resources to support their understanding. This scaffolding can be removed once a pupil is secure with a concept but pupils should have the choice and opportunity to continue to use this scaffolding if needed. CPA approach – Concrete, Pictorial, Abstract.



6. Independent Practice

Pupils work independently on tasks that build their fluency. Children should then have opportunities to go deeper and apply their knowledge through reasoning and problem-solving. (**Your turn**)

These tasks can be interwoven with the Guided Practice.

Task should be labelled:

- Fluency
- Going Deeper

Activities should give an access point for all children in the class and then the opportunity for going deeper with that learning point.

Pupils should give clear written or verbal mathematical explanations when required. The DAB approach can be used when appropriate as another scaffold to support pupils' reasoning explanations.

DAB – Decide, Assess, Back it Up.

7. **Review** – review of learning - looking at what has been learnt, whole-class feedback.
- .....

Marking/Feedback

Where possible/ appropriate, think about how to give on-the-spot feedback in the lesson in order to maximise learning opportunities quickly and address misconceptions.

- Sometimes it is appropriate to mark individual books during the lesson giving timely intervention and feedback when necessary, moving some/ all children on quickly when appropriate.
- Sometimes it is useful to stop the whole class during the lesson and go through answers so far with children using red pen to mark work up to that point. AFL can be used to then work with individuals/groups/whole class as needed.





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- When appropriate, provide answer sheets for pupils to self-mark. This can be done after giving guidelines on how children should do this e.g. during lessons of addition and subtraction, the children could use a calculator to check their answers. If they are wrong, they must write a short explanation of what they did wrong. If they don't know what they did wrong, they must ask for adult support.
- If live marking doesn't take place in the lesson, marking will take place after the lesson and purple comments may be given.

Non-Negotiables

Learning framed from Long term plan

White Rose – medium term planning supports unit taught

Start of unit assessment to support prior learning

Consistent Learning Outcomes across the phase (as appropriate for the learning)

Clear display of vocabulary needed for that lesson (on flipchart/whiteboard).

Interactive questioning with opportunities for children to discuss, model examples and give feedback. All children should be engaged with the questioning and feedback. Use 'Pose, Pause, Pounce, Bounce' type questioning styles. Ask children to justify answers with reasoning. Ask other children whether they agree/have other methods etc.

Clearly planned lessons/sequence of lessons that highlight correct concepts and non-examples.

Adult support directed where needed based on AfL.

Activities planned that support achievement against the L.O. and give opportunities for pupils to develop fluency and apply knowledge in reasoning/problem-solving activities.

Review (Plenary and middaries) that give feedback on learning so far, as appropriate, to move learning on at the appropriate pace; to address misconceptions or give opportunities to apply new knowledge in reasoning/problem-solving situations.







### Quality teaching and learning

#### 'My turn'



Use insights from the 'Preview' and 'Activating Prior Knowledge' phase to help pupils **establish purpose**.



**Explain content** clearly and explicitly to teach new content – ask no questions. Use visual representations, diagrams, images, videos and artefacts to support.



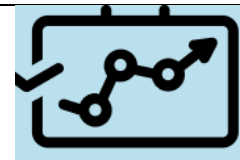
**Model** the process by walking through to show children an example. Teach in small steps to reduce cognitive load. Provide ambitious, high-level examples to model an answer for children to aspire to. Use correct terminology and vocabulary.



**Think aloud** and model the process (for example: model choosing specific vocabulary to have a particular effect).



**Repeat phase**, if required, according to AFL and the needs of the learner(s). Ensure purpose of lesson is still focused on the key need.



Use My turn boards to capture the core content by adding information to flipchart paper and displaying.