

Intent

Mathematics ‘helps learners to develop logical and methodical thinking, to focus and to solve a wide range of mathematical problems’ ([Ofsted, 2023](#)). We believe that mathematical skills and knowledge should be delivered, explored and revisited regularly, and in response to children's progress, needs and abilities. Children should develop resilience and self-confidence in applying their learning skills. The collaboration between peers, and the relationship between learners and their class teacher should drive the learning and inform the content, strategies and real-world contextualisation to maximise on the progress and learning opportunities.

Implementation

A ‘mastery’ approach has been adapted and implemented at Al-Islamia for the planning, delivery and engagement with mathematics. The NCETM has a clear explanation of mastery on their website: <https://www.ncetm.org.uk/teaching-for-mastery/mastery-explained/>. Review and feedback following the implementation of units as repeated blocks over the academic year, with little to no interlinking and relating of skills and knowledge, was highlighted as one of the main reasons for clear gaps in knowledge and one of the possible causes for slower progression.

We have therefore used the White Rose Maths Scheme of Work to timetable mathematical units that are explored progressively, drawing on resources, data and suggestions from reliable sources such as NCETM and nrich.co.uk to link mathematical talk and knowledge across the various units (e.g. multiplication and area). Individual units draw on prior knowledge, e.g., including money when multiplying or dividing by 100, increasing the opportunity for children to make links between and across mathematical concepts. To consolidate learning further, we have also scheduled 20 minutes a day to review Maths Fluency and times tables.

Session delivery begins with a rapid recall of four arithmetic questions linked to previous and current learning.

When planning for objective coverage, teachers are expected to take the following mastery strategies into account to ensure that all learners are challenged appropriately:

- Small steps
- Ping pong style of delivery
- Implementing the Concrete, Pictorial and Abstract (CPA) approach to introducing, exploring and applying mathematical concepts
- Applying/using the Bar Model approach as a strategy to approach calculation/problems
- Considering key questions and mathematical vocabulary at the point of unit planning
- Multiple opportunities for verbal and written/drawn reasoning (explaining and using mathematical vocabulary to explain methods or reasoning) within unit exploration
- Inclusion of relevant problem-solving opportunities, where children are expected to draw on and apply multiple concepts to address or approach a challenge
- Modelling of all skills and approaches
- Modelling and sharing of efficient and accurate application of methods, drawing on the calculation policies to ensure progressive development as children learn more
- Opportunities to explore maths concepts/objectives at ‘greater depth’
- Include all learners, providing relevant support for those with additional needs (educational, medical or otherwise)



Units of work will be assessed upon completion systematically, with teachers asked to use those published by WRM in the first instance, and to look to other sources (or create their own) if the pitch is too high/low. A WRM end-of-term assessment will be completed at the end of each term. The end-of-year assessment will be completed in May (Years 2 and 6 SATs) or late June (rest of the school) to provide an overall picture of individual annual progress.

Teachers are expected to audit their subject knowledge of Maths; complete training for understanding and implementing the Bar Model strategy; research application of the CPA approach for the teaching concepts and consistently identify and address (with SLT or peers) areas for development within Maths.

CPD is an ongoing process at both whole-school and individual level. This includes training via INSETs focusing on implementing the Ready-to-Progress document. Individual CPD, such as working with Maths Hubs, and completing the NCETM Professional Spines CPD provide staff with the opportunity to cascade their learning and understanding to the rest of the team. It also allows for learning conversations that interrogate current practice and analyse the effectiveness of individual delivery of mathematics.

The Subject Lead team works closely with the SLT and teaching staff to analyse and evaluate the effective delivery of mathematics across the school. They are responsible for identifying priorities to ensure that Mathematics continues to be delivered appropriately, and for creating a clear progression for vocabulary development linked to the relevant mathematical units within each year group.

Impact

The exploration of mathematics should be interactive and engaging, with content made relevant to children's real-world experiences and contextualised thus to support consolidation and retainment of knowledge and skill.

Children should approach mathematical study with confidence and enthusiasm, and view tasks and challenges that call for application of varied knowledge across units of work and the selection of multiple skills with self-assuredly and a willingness to collaborate.

Approach and response to reasoning activities should improve term on term, with the expectation that progressively, more and more children can accurately define and use mathematical vocabulary introduced by their teacher, as well as complete stem sentences to complete mathematical statements or reasoning. Reasoning questions should be embedded into daily practice tasks, so children have regular opportunities to apply terminology accurately and coherently.

Standards for delivery and learning are high, with contextualisation of concepts and an implementation of reasoning and problem solving embedded within the learning. Staff are confident and sure, and the White Rose Maths scheme is delivered in every class, with supplementary resources from White Rose Maths and NCETM.

Practice is strongest when delivering concepts using the CPA approach – teachers are innovative and reflective of their practice so they can ensure that resources are relevant and can be contextualised. This is evident when children talk about their learning – they are confident to explain their understanding, drawing on resources they have used to explain their reasoning.

Bar modelling is an area we are working on – some teachers are more confident using this method/strategy than others. This is an area we are developing by drawing on the explicit direction via the scheme for the use/analysis of bar models within learning tasks.



We promote **IKHLAS**:

Inspiration – **Knowledge** – **Healthy Living** – **Leadership** – **Aspiration** – **Spirituality**

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70% of the school cohort met or exceeded age-related expectations in Summer 2024 and 75% of the Year 6 cohort met the expected standard in their SATs assessments. We expect attainment to improve as teachers continue to respond to individual needs and abilities to ensure that Maths teaching and learning is appropriate and granular.

Review Date: September 2024



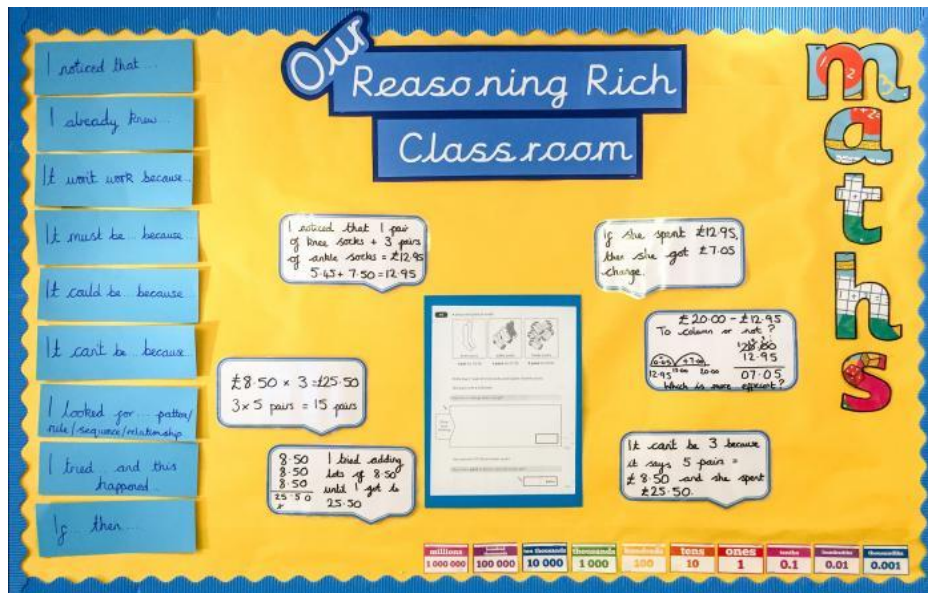
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Appendix

Appendix 1 - examples of evidence of reasoning and problem solving using mathematical vocabulary



Appendix 2 - vocabulary bank for each maths unit for every year group:

<http://www.lindfieldprimaryacademy.org.uk/docs/Mathematical%20Vocabulary%20ePDF.pdf>. A copy is also on the SharePoint within the Maths Planning folder

Appendix 3 – reliable sources for resources or ideas:

Nrich: https://nrich.maths.org/
Third Space Learning: https://thirdspacelearning.com/blog/
WRM PowerPoints: https://thirdspacelearning.com/blog/white-rose-maths-resources/
Mastery Professional Development: https://www.ncetm.org.uk/resources/50639?utm_source=NCETM+Newsletters&utm_campaign=35186b9d97-primary-round-up-008-september-2019&utm_medium=email&utm_term=0_13f8d631f4-35186b9d97-222882701
Challenges/reasoning tasks https://www.ncetm.org.uk/resources/41211
Assessment materials: https://www.ncetm.org.uk/resources/46689
Maths strategies: CPA: https://mathsnoproblem.com/en/mastery/concrete-pictorial-abstract/
NCETM Curriculum: https://www.ncetm.org.uk/classroom-resources/cp-year-1-curriculum-map/ [select the appropriate year group]

Appendix 6 - suggested format for STP

UNIT NAME: Number: Place value
NC objectives relevant to learners/year group: Objective 1, Objective 2,
Prior learning (NC objectives) linked to unit content: xxx
Key Vocabulary: Roman Numerals, ones, tens, hundreds, thousands, portioning, pattern, rounding...
Stem questions/sentences: What is the next/previous multiple of 10? Why do numbers up to 49 round down to the nearest 100, and numbers 50 to 99 round up? ...

Day/date	LQ	Rapid Recall Questions	Fluency and questioning	Fluency and application	Resources
Monday Xx/xx/xx	Can we use Roman numerals to represent numbers?	Feedback 4 link	- Link numbers 1 to 12 to Roman Numerals on a number line and clock face - Identify/discuss/elicite rule from above task to create numbers 1 to 100 - Can you spot any patterns? If 20 is XX, what might 200 be? - How can you check you have represented the Roman numeral accurately? Can you use numbers you know, such as 10 and 100 to help you?	Worksheet (differentiated size of numbers): - Write numbers from English to Roman numeral - Complete input/output machine. Input/output in Roman numeral; function in English	- Clock - Number line - Roman numerals: one symbol per sheet, multiple copies of each - Worksheets (differentiated)
Tuesday Xx/xx/xx					



Wednesday Xx/xx/xx					
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