



Mathematics – Two Page Policy

Intent – Our guiding principles

We believe that Maths is for everyone. It is a crucial life skill that everyone deserves to feel comfortable with and confident enough to use in their daily life. We promote this through our whole school number celebration days in recognition of National Numeracy Day and consistently make cross-curricular links where appropriate and valuable, for instance using weighing and measuring skills within Design and Technology and understanding chronology within History. We welcome visitors to view our Maths Across the Curriculum Display to see Maths in action, beyond Maths lessons including posters illustrating how members of the Chesswood community use Maths in their jobs – helping to emphasise the life opportunities that Maths presents. We seek to celebrate progress and high achievement through competitions, certificates, badges and top 10s.

- We follow the national curriculum for primary mathematics.
- At the end of key stage 2, children should be at ARE for mathematics at least in line with national figures. Children should acquire GDS for mathematics at least in line with national figures. Where children aren't at ARE, they will have been supported to make at least expected progress from their starting point at Chesswood.
- Chesswood mathematicians by the end of KS2 will:

Be confident with compact written methods for all 4 operations.

Have secure knowledge and fluent recall of times table knowledge and division facts.

Be confident to talk about their mathematical understanding – those who struggle to talk may use diagrams or jottings to reflect this. Children will be fluent in using knowledge of related facts.

Be familiar with key mathematical language and visual representations.

Have a range of problem-solving strategies to help solve problems.

Maths should be accessible for all with enrichment and celebration opportunities provided.

Implementation – What Maths looks like at Chesswood

5 core lessons of 1 hour (5 hours)

4 morning starter boards based on written methods (28 minutes) (NOTE – in Y5, one of these morning sessions focusses on multiplication to help recall knowledge acquired in previous years)

At least 2 Turbo Maths sessions per week (1 hour in total – suggested 2 x 30 mins but can be 3 x 20, 4 x 15) (NOTE – in Y6, half of this time is assigned to arithmetic practice)

- Maths coverage at Chesswood follows a mastery approach supported by White Rose Schemes of Learning. Children follow a concrete, pictorial and abstract approach to support them in achieving mastery in the subject. To ensure topics are regularly visited across the school year, Turbo Maths sessions are used to revisit the breadth of curriculum topics. Children are encouraged to talk about maths routinely in sessions, including making connections with related facts.
- White Rose resources are supplemented where appropriate with rich resources including CGP, Target Maths (for extra fluency) and I See Reasoning and I See Problem Solving (for extra reasoning and problem solving). These resources allow for declarative, procedural and conditional knowledge to be covered.
- Most Maths lessons begin with Nasty Maths assessment. This is to establish the starting point in learning. Where possible, this question should include planning for error – including common misconceptions as possible answers which can then efficiently be addressed during the feedback to the Nasty Maths. Planners should follow the REACT model to misconceptions (Research-Explore-Address-Consider-Tasks). Most of the class should attempt the Mega Challenge, which is pitched at ARE for the current year group. A small group of children who are working significantly below may need to access the Challenge, which would be aimed below ARE but on related content – it may also be a more heavily scaffolded version of the Mega Challenge depending on coverage intentions for the lesson. On occasions, a lesson may not need a Nasty Maths assessment – for example if the starting point for an objective was already established in the previous lesson. This should then give rise to identifying which children require further input and support and which children can be moved on to work independently and tackle richer questions. In sessions where Nasty Maths assessment isn't required, children should be exposed to an ARE-level problem based on the same topic/objectives.
- Maths planners should use planning guidance provided by both White Rose and the non-statutory June 2020 guidance to help ensure appropriate visual representations and key vocabulary are embedded within lessons. These are key to



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developing understanding and equipping children with tools for reasoning. These include but are not limited to bar models, part-whole models, Dienes, counters in place value columns.

- Metacognition should be used to train children how to solve questions using their knowledge. Children should be taught problem solving strategies when they have the knowledge to attempt solving the problem. Problem Solving – this is not a generic skill – there will be overlaps but children need training how to solve topic-specific problems once they have the requisite prior knowledge to access it.
- Where possible, children should be exposed to current year group coverage and scaffolded to access it where needed. Extra fluency can be used to help support the overlearning of skills and build confidence before trying problems.
- Frequent assessment opportunities enable staff to identify priorities for coverage and adapt coverage as necessary – these include Nasty Maths assessments within lessons, end of unit assessments based on White Rose materials and termly PUMA assessments. A detailed question level analysis is carried out on the Autumn PUMA assessment. Starter Boards follow Trivium model of novice to expert - I do, We do, You do – depending on need in year group and confidence with the methods being used.
- Number Stacks is used to help support children who are working below ARE to help address their gaps in knowledge.

Progression, Coverage and Consistencies

To support recall and consistency of provision at Chesswood we use the following:

Calculation Policy, supplemented by White Rose progression documents detailing how resources can support this. Accessible here: Y:\Teaching & Learning\Subjects\Mathematics\2022-23\Calculation Policy

Adjustments to Long Term Planning Overview grid, where adjustments to White Rose is required. Accessible here: Y:\Teaching & Learning\Subjects\Mathematics\2022-23\Planning

Turbo Maths – Mental Maths Coverage and Reasoning Coverage grids. Accessible here: Y:\Teaching & Learning\Subjects\Mathematics\2022-23\Turbo Maths

Each classroom should have a Maths working wall to support current learning. This would typically include worked examples, key pictures/diagrams/symbols and vocabulary to support the learning. Children's reasoning should be supported using the Maths talk mat.

Whole School celebrations & Apps

Numbots – All children begin using Numbots when they join the school in Year 3. The expectation is that the number of children using Numbots will reduce as the years go up. At the end of the Autumn term, children who are at least securely meeting in Y3 will no longer be expected to use Numbots routinely. Children in older year groups will still use Numbots as appropriate if they are below ARE.

TT Rock Stars – All children begin using TT Rock Stars when they join the school in Year 3 – however this only becomes the main focus of homework for those that are securely meeting or above from the end of the Autumn term. Children set a baseline speed during test week in Autumn 1. In some cases, children are unable to set a baseline speed due to lack of times table knowledge and so will revisit this termly. All children should attempt Studio 10 times as a minimum termly. Planning time from Maths sessions during test week should be allocated to this. Badges are awarded for children who earn Rock Star, Rock Legend and Rock Hero status with 80% accuracy. It is expected that the bulk of children who earn badges will do so when in Year 4, but there will be exceptions to this.

Weekly top 10s – Coins Earned and Studio Speed for all year groups.

Display – In Computing Suite and on the TT Rock Stars Hall of Fame in Y4 corridor.

Competitions - Make £5 Grow - Young Enterprise opportunity which provides Y6 children with the opportunity to earn the funding for end of year enrichment tasks; Battle of the Bands – we run various Battle of the Bands competitions in recognition of World Maths Day and National Numeracy Day and to support children's engagement with TT Rock Stars; Primary Maths Challenge