



Maths Rationale



INTENT

At Glusburn, we deliver our Mathematics curriculum to ensure it follows the key aims of the National Curriculum. We aim to ensure that all pupils become fluent in the fundamentals of mathematics and in number so that pupils develop solid conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. Children at Glusburn are taught to reason mathematically by following a line of enquiry, finding connections and establishing relationships whilst using mathematical language. Our mathematics curriculum carefully sequences knowledge, concepts and procedures to build mathematical knowledge and skills systematically over time. Children are taught to solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

IMPLEMENTATION: Maths at Glusburn

Due to a whole class, step-by-step teaching approach, children at Glusburn are able to move through the curriculum at broadly the same pace. As a result of spending time on fundamentals, the children can establish firm foundations on which to build their understanding. Because of our concrete-pictorial-abstract approach, children learn to see the connections in maths and understand that mathematics can be represented in different ways.

The maths curriculum, provides sufficient opportunities for planned revisits of previously learned knowledge, concepts and procedures; this is to ensure that, once learned, mathematical knowledge becomes deeply embedded in pupils' memories; freeing pupils' attention to work with independence, apply their mathematical knowledge to more complex mathematics.

Those pupils behind age-related expectations are supported with targeted intervention outside of lessons, adapted independent activities and targeted support in lessons from adults. Children who grasp concepts rapidly are challenged with greater depth problems.

We use a textbook approach (Power Maths) as a basis of many lessons. Lessons typically begin with problem solving, involve open discussion and collaborative work before consolidation of their understanding in individual workbooks.

Teachers plan lessons based on the White Rose Maths long term overview aligned to the Power Maths books to meet the key objectives. Teachers plan lessons using their own professional judgement, daily formative assessment and feedback from pupils. Teachers use their professional judgement to determine the appropriate starting point and how long to spend on a particular objective. Teachers do not produce detailed written plans for each lesson. Feedback is provided to pupils verbally, through teacher marking, peer marking and self-marking. This informs teaching for the next lesson.

Maths is included in other subject areas where appropriate, exposing children to mathematical thinking and concepts across the curriculum. Home learning and deliberate practise of key number facts is encouraged across school through participation in Space Mission, Numbots and Time Tables Rockstars.

How is mathematics assessed?

Each unit of work begins by ascertaining the children's prior knowledge and any connected knowledge held in their long term memory. Any misconceptions that arise throughout the unit are identified and address appropriately. Children continue to recall their knowledge throughout a unit in order to ensure an alteration in long term memory.

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To further support ongoing formative assessment teachers review pupils' contributions in lessons, work in their books and record & report attainment in end of unit assessments. These are supported by end of term formative assessments and end of year tests. Progress & attainment is recorded and reported to m Maths Leads and then to SLT through pupil progress meetings. Head of Maths monitors the quality of teaching and learning through: biannual observations, professional dialogue, tracking data and through the recording of the impact of actions from the school development plan.



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IMPLEMENTATION: The Early Years

How is Maths enabled in the Early Years?

We believe that a structured Mastery approach, based on the White Rose Long Term Plan, and implemented throughout provision and focussed teaching sessions ensures children learn new concepts that they can then demonstrate in their own independent learning.

Maths is taught through the **Specific Area of Mathematics**. The component of *Number and Numerical Patterns* is enabled through for example: encouraging children to count the things they see and talk about and use numbers beyond ten; providing a wide range of number resources and encouraging children to be creative in identifying and devising problems and solutions in all areas of learning.

In addition, we value the importance of providing rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. For example having areas where children can explore the properties of objects and where they can weigh and measure, such as cookery area and building areas; planning opportunities for children to describe and compare shapes, measures and distance. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

In Early Years children are assessed against the Early Learning Goals:

ELG: Number Children at the expected level of development will:

Have a deep understanding of number to 10, including the composition of each number. Subitise (recognise quantities without counting) up to 5.

Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double fact.

ELG: Numerical Patterns Children at the expected level of development will: -Verbally count beyond 20, recognising the pattern of the counting system.

Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.



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IMPACT

EYFS 2020 as at March 2020.

% Glusburn EYFS children reaching EXS in Maths	72%
% EYFS Nationally	No data

% Glusburn EYFS children reaching GLD	6%
% EYFS Nationally	No data

KS1 2020 Teacher assessment as at March 2020.

	% Glusburn children achieving National Standard	% Glusburn children achieving Greater Depth Standard	% Children nationally achieving National Standard	% Children achieving Greater Depth Standard nationally
	52%	15%	No data	No data

KS2 2021 Teacher assessment

	% Glusburn children achieving National Standard	% Glusburn children achieving Greater Depth Standard	% Children nationally achieving National Standard	% Children achieving Greater Depth Standard nationally
	88%	6%	No data	No data