ASPIRE • SUCCEED • LEAD
LADY ROYD PRIMARY
BRADFORD GIRLS' GRAMMAR SCHOOL CAMPUS
For girls and boys up to 11 years

Curriculum Intent – Mathematics

Our Vision

Lady Royd Primary School's vision is to provide an exceptional education: rich in learning opportunities in a supportive and nurturing environment that challenges our pupils to raise their aspirations and to develop the confidence and resilience to reach their full potential.

Our ASPIRE values provide a strong focus on the personal development of every child; encouraging accountability, self-confidence, perseverance, integrity, respect and empathy for those around them, pupils will leave as well-rounded, confident, independent young people, fully prepared to take their place in the world.

The aims of the curriculum

- Provide a broad and balanced educational experience that meets the needs of the pupils, introducing them to the best that has been thought and said and preparing them to be well-educated 21st century citizens.
- Take account of the previous learning of pupils and their readiness for new experiences
- Stretch the most able whilst providing enrichment for all pupils.
- Provide personalised support for pupils with additional needs.
- Ensure that the curriculum in place at any given time provides an appropriate and relevant educational experience and that no pupils are disadvantaged by its provisions.

Intent

At Lady Royd, we believe that it is our duty to inspire young people to see the true beauty of Mathematics by bringing maths alive, making it interesting, developing deeper understanding and broaden their understanding of mathematical concepts for an ever more technical future.

These core beliefs and ideals should be modelled in our practice, which promotes the value and enjoyment of the study of Mathematics to students, parents/guardians, and colleagues.

Retrieval Practice:

The teaching of Mathematics employs a minimum operational standard which is used primarily to embed long term memory. This is done in the first section of the lesson and involves a mixture of past and current short questions.

Our lessons are planned on a 4:1 ratio of White Rose coverage to core skills lessons to allow pupils to revisit weekly the importance of arithmetic. Each White Rose unit starts with a pre-learn task to ensure the teaching is targeted exactly where is needed, and post learn tasks allow pupils to demonstrate progress made within each unit. Each lesson will start with either a short retrieval task, known as a 'Spiral' task, or a Class Follow Up

task (CFU) to respond to a misconception from a previous day. Lessons follow an 'I do / We do / You do' structure. Additional expectations have been shared with staff within our Maths Non-Negotiable document.

Literacy practices:

Many of the resources used are generated from the White Rose Maths Hub and adapted to reflect the school's ambitious intentions. Reasoning and problems solving tasks are used to ensure a deeper understanding for all, and all pupils are encouraged to read for meaning during lessons – either aloud in class so that key information and concepts can be discussed and unpicked or individually to build resilience in a certain topic.

Implementation

In every Mathematics lesson you should see the following:

- 'Quality first' teaching; tailored to meet the needs of the learners in each class, and immediate intervention to address gaps in learning where necessary,
- Resilient learners with Growth Mindsets and a 'We Can' attitude to Mathematics, whatever their previous level of attainment,
- Teachers using high-quality questioning to explore children's understanding and develop it further.
- Teachers making use of misconceptions to further understanding of key concepts,
- Teachers using a range of methods to explore key Mathematical concepts which appeal to pupils' different styles of learning, employing concrete/pictorial/abstract representations of Mathematical concepts.
- Learners being given the opportunity, through careful planning, to 'linger longer' on and 'go deeper' in mathematical concepts,
- Pupils learning together.
- Development of fluency, reasoning and problem solving.

EYFS

By the end of EYFS, children should be able to:
· Challenge their mathematical thinking by explaining how they know.
· Count reliably with numbers from 1 to 20 orally and by 1-1 using objects.
· Add and subtract using objects up to the value of 20.
· Solve problems including doubling, halving and sharing using tangible resources.
· Use language around size, weight, capacity, position, distance, time and money to solve problems.
· Use mathematical language to describe characteristics of everyday objects and shapes

Key Stage 1

· The principal focus of mathematics teaching in Key Stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools].

· At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.
· By the end of Year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.
· Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at Key Stage 1.

Lower Key Stage 2

· The principal focus of mathematics teaching in Lower Key Stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.
· At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.
· By the end of Year 4, pupils should have memorised their multiplication tables up to and including the 12x multiplication table and show precision and fluency in their work.
· Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

Upper Key Stage 2

· The principal focus of mathematics teaching in Upper Key Stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.
· At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.
· By the end of Year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages.
· Pupils should read, spell and pronounce mathematical vocabulary correctly.

Key Stage 3

By the time our pupils leave us for high school, they will have a secure Mathematical knowledgebase to serve as the foundation for future success at secondary level (and beyond, if they so choose).

Impact

Assessment opportunities, both formative and summative, are routinely built into lesson planning at all key stages. Starter tasks regularly check understanding of prior learning and reinforce key vocabulary. Exam-style questions are also built into lessons throughout the year to build confidence and familiarity. Low stakes tests such as end of topic tests are designed to quickly check knowledge and understanding of units taught.

Each year group completes a termly summative assessment test which provides teachers with gap analysis information following a QLA task.

Data should show continuing progress as children progress through the school and those at risk of not meeting end of year expectations receive support and adaptation as required.

Reviewed: May 2024
Reviewed by: BWD

Next Review: May 2025