Maths Curriculum Implementation

Statement of intent

At Barkisland, we embrace the Mastery approach to teaching mathematics by using the White Rose Maths Scheme which supports our school vision 'We believe, We nurture, We succeed'. Mathematics is a key aspect of our curriculum where children, are encouraged to be confident in numeracy and to apply the skills that they learn to simple problem solving. The activities and learning we provide are planned to develop our children's interpersonal skills, to build resilience, enable our children to become critical thinkers, challenge themselves and others, and become successful. Our teaching of Maths across the entire curriculum equips the children with the skills they need to become effective citizens of the 21st century.

Schemes of work

Development Matters
National Curriculum 2014
White Rose Maths Schemes (YR-Y6)
Master the Curriculum Maths Scheme (Nursery)

Curriculum content

The aims set out in our intent, are embedded across our Maths lessons and the wider curriculum. We have a rigorous and well organised Maths curriculum that provides many purposeful opportunities for developing Mathematical skills from the quick recall of times tables and number facts to reasoning skills. We use a wide variety of resources to motivate and inspire our children.

Using a nationally recognised scheme enables the teaching of skills and knowledge to be planned carefully in a progressive manner.
Children are given ample opportunities to apply their skills and knowledge through regular problem solving and reasoning activities.

In our EYFS Unit, we follow the Development Matters Curriculum alongside the Master the Curriculum Maths Scheme for Nursery and the White Rose Maths for our Reception children. Children make their way through the bands to achieve the following early learning goals:

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 facts.

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.

For Key Stage One and Two, the Maths Programmes of Study Consist of:

Key Stage One:
Number - number and place value; addition and subtraction; multiplication and division; fractions
Measurement
Geometry-properties of shape; position and direction;
Statistics

Lower Key Stage Two:
Number - number and place value; addition and subtraction; multiplication and division; fractions (decimals Y4)
Measurement
Geometry-properties of shape; position and direction;
Statistics

Upper Key Stage 2:
Number - number and place value; addition and subtraction; multiplication and division; fractions, decimals and percentages
Ratio and proportion (Year 6)
Algebra (Year 6)
Measurement
Geometry-properties of shape; position and direction;
Statistics

Record of pupil's work

At Barkisland the children's English work is stored in a variety of ways:

- Exercise books
- Workbooks
- Class Maths Books
- Folders
- Twitter
- Pictures on the teacher drive

Assessment

As a school, we have developed our own formative assessment system through the use of target cards for Years 1 to 6, including a bridging band for the transition from EYFS to Year 1. Teachers use day to day assessments for Maths, assessing children against the statements set out in the target cards.
The White Rose Maths Assessment materials are also used to support assessment (YR-Y6)

Feedback on a daily basis is used to help children progress, know their strengths and identify errors. This could be teacher feedback or peer feedback.

Children are often involved in their own assessment through activities such as marking their own answers within the lesson and then working on corrections either alone, with a peer or an adult.

Year 6 are assessed at the end of the year using the national SAT tests for arithmetic and reasoning.

Year 4 take the National Multiplication Check

EYFS use formative ongoing assessments through observations surrounding the elements of Development Matters

Cross curricular

Links with PE:
Children are involved in Active Maths sessions regualrly; they are encouraged to beat their personal best, recording times and measurements in a variety of ways e.g. counting for our younger children progressing to measuring with stop watches and metre sticks.

Links with Geography:
Across the school, children use age-appropriate atlases to find out more about the world. The children become exposed to numbers, working out scaled distances, signs and symbols and time zones. To support the teaching of data and handling in Maths, we use atlases. For example, looking at temperatures around the world and populations. We use Mathematical language to compare Geographical aspects, such as, longest river, tallest mountain, shortest distance and so on.

Links with History:
Children are exposed to timelines in History and are expected to be able to order events in History. In the EYFS and Key Stage One, Mathematical language is used to compare times in History, for instance, long ago, before, after, next. Key dates are learnt where appropriate, and children enjoy learning about Mathematical number systems from past.

Links with Art & DT:
Art provides the children with opportunities to explore colour, shape, space and measures. Through artist studies, children learn about their lives and key events. DT allows the children to apply mathematical skills to projects such as, quantities, scaling, ratio and proportion, measuring length, manipulating 3D shapes and problem solving. Food technology enables the children to consolidate their understanding of measuring, ratio and proportion, colours and quantities.

Links with Computing:
Computing enables the children to apply Mathematical skills and concept in a variety of ways:

- Collecting data and presenting as graphs
- Following and inputting instructions using programing devices such as Beebot.
- Following and inputting instructions using online programmes such as Beebot and Scratch
- Using online learning programmes such as, Timestable Rock Stars, Mathsframe
- Sorting and using data via a branching data base

Links with Science:
As part of the Science curriculum, children collect and record data from observations in a number of ways across the school. For example: sorting and classifying into categories; recording using tally charts; presenting findings in charts and graphs; measuring temperatures; comparing objects. The children are exposed to vocabulary linked to Maths through their Scientific topics such as floating and sinking, evolution, forces, sound, seasons and light and dark.

Links with PSHE:
Through PSHE, children develop Mathematical skills through their learning about healthy living, such as, portion sizes, amount of sugar in drinks, how much sleep they need, screen time and amount of exercise they need.

Links with MFL (Spanish & French):
Our progressive French and Spanish curriculum enables the children to learn a number of Mathematical skills such as, counting, colours, days of the week, months of the year and how to ask for directions and tell the time.

Enrichment

It is difficult to separate out specific Mathematical enrichment focuses across the year, with many of our enrichment opportunities covering the different aspects of the Maths curriculum. Many of our enrichment days involve using and applying Mathematical skills. For example, Year 3 hold a Greek Mythology day which incorporates looking at the Greek number system. EYFS children had a visit from someone with a baby and learnt all about the sequence of a baby's day. The Year 5 and 6 residential involve many activities where critical thinking and problem solving are involved.

Home school links

Timestable Rockstars is an online programme the school have invested in to support the rapid recall of timetables.
It is an expectation in the EYFS that parents contribute to their children's learning and assessment. Parents are encouraged to upload any learning to the SeeSaw platform or discuss their child's achievements etc with the EYFS staff.
Parents' Evenings are used to share children's Mathematical achievements and current assessments.
Homework is sent home in variety of ways: My Maths (online platform), talking homework, projects or other online learning.
Our website sets out our Maths Curriculum, and termly class newsletters give parents more detail about what their child will be covering.