



Maths Curriculum Implementation

Statement of intent

At Barkisland, we embrace the Mastery approach to teaching mathematics through our topic approach to Maths. Our teachers ensure that mathematical skills are taught every day following our topic approach to Maths. They also use cross curricular opportunities to develop pupils' mathematical fluency. Our pupils understand the importance of mathematics, 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 equips the children with the skills they need to become effective citizens of the 21st century.

Schemes of work

Development Matters
National Curriculum 2014
Topic Approach to teaching Maths
Active Maths

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 timestables and number facts to reasoning skills. We use a wide variety of resources to motivate and inspire our children.

Our Maths Curriculum is topic led so that children can make links easily between the different areas of Maths, rather than seeing each strand as an isolated concept for example, fractions tying in with position and direction, area and perimeter tying in with addition and multiplication. Where possible, links are made across the Curriculum e.g. time zones in Geography, timelines in History, data handling in Science, measuring in DT and position and direction in Computing. When developing our topic approach to Maths, it was crucial that we wanted to develop creative and critical thinkers, develop interpersonal skills and become successful mathematicians.

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. Children make their way through the bands to achieve the following early learning goals:

EYFS- Number

Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

EYFS- Shape and Space

Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

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 pupils work

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

- Exercise books
- Folders
- Twitter
- Learning Book (EYFS)
- 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.

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

Year 4 take the National timestable test.

EYFS use formative ongoing assessments through observations surrounding the elements of Development Matters. Teachers record these observations on an electronic Learning Journey and parents are encouraged to contribute also.

Years 2-6 take part in summative assessments throughout the year.

Cross curricular

At Barkisland, we have been very careful to develop a Maths curriculum to support other areas and vice-versa, to inspire children, help children make links, make better progress and become successful in their learning.

Links with PE:

Children are involved in weekly Active Maths sessions; 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 programming 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, Top Marks etc
- 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 PSHCE:

Through PSCHE, 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):

Our progressive Spanish curriculum enables the children to learn a number a 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. Trips often lend themselves to Mathematical thinking. Year 2's trip to Fairburn Ings Nature Reserve involves looking at and classifying different species of birds; 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 online Learning Journey 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: worksheets, talking homework, projects or online learning.

The school have developed a calculation policy to support the learning, progression and understanding of how we teach the children the 4 operations.

Our website sets out our Maths Curriculum, and termly class newsletters, including our topic approach to Maths, give parents more detail about what their child will be covering.