

Mathematics Policy

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Subject Weighting; 5 hours per week.

Introduction:

Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways.

Mathematics is important in everyday life. It is integral to all aspects of life and we endeavour to ensure that children develop a healthy and enthusiastic attitude towards mathematics that will endure.

The National Curriculum order for mathematics describes what must be taught in each Key Stage. This ensures continuity and progression in the teaching of mathematics. In early years the curriculum is guided by the Early Learning Goals.

This policy follows a whole school format and rationale.

Rationale:

At The BECC we believe that mathematics is an essential element of communication, individually, nationally and internationally.

Mathematics can be used to present information in so many ways, figures, letters, tables, charts, diagrams, graphs, drawings and symbols. It provides a means of communicating information concisely and unambiguously. It is a powerful tool as it is fundamental to the study of other subjects, science, engineering, medicine, economics and management studies; fields in which children may become involved in their adult life.

Mathematics contributes to the development of powers of logical thinking, accuracy and spatial awareness, at the same time giving children the opportunity to understand the creative achievements of the human mind, through the observation of pattern, shape, line and texture. It

enables the child more easily to understand the behaviour of the natural world, through shape, space, symmetry and time.

We believe that for many children mathematics has an inherent interest and appeal and it is our duty and pleasure to develop such latent talent.

Children should be encouraged to appreciate the relevance of the power of mathematics and be aware of its occurrence in the environment and be persuaded to seek it out.

Aims:

In the nine years' children study mathematics at The BECC (2 – 11) it is our aim that they will learn:

- to become numerate (proficient and confident with numbers and measures)
- to develop a mental approach to calculations
- to attain high standards through effective teaching
- to have a positive and enjoyable attitude to mathematics
- to think and reason logically with confidence
- to use mathematics as a tool to solve problems
- to have a sense of the size of a number
- to know by heart number facts such as number bonds, multiplication tables, doubles and halves
- to use mathematical language appropriately and with confidence
- to calculate accurately and efficiently, both mentally and in writing on paper, drawing on a range of calculation strategies
- to recognise when it is appropriate to use a calculator and be able to do so effectively
- to make sense of number problems, including complex problems and recognise the operations needed to solve them
- to explain their methods and reasoning using correct mathematical terms
- to judge if their answers are reasonable and have strategies for checking them where necessary
- to suggest suitable units for measuring and make sensible estimates of measurement
- to explain and make predictions from the numbers in graphs, diagrams, charts and tables
- to develop spatial awareness and an understanding of the properties of 2d and 3d shapes

Purpose:

It is our intention that each child should proceed from their individual starting points in Reception to the EYFS (exceeding where possible) through to a minimum of Level 2b in Year 2 (where a student has been through all year groups), to a minimum of Level 4a in Year 6 (where a student has been through all year groups), and provision will be made for children to continue through Level 5 and possibly to Level 6 where appropriate.

Provision:

Pupils are provided with a variety of opportunities to develop and extend their mathematical skills in and across each phase of education.

The teaching of mathematics at The BECC provides opportunities for:

- group work
- paired work
- whole class teaching
- individual work

Pupils engage in:

- the development of mental strategies
- written methods
- practical work
- investigational work
- problem solving
- mathematical discussion
- consolidation of number skills and basic facts

Approach:

Individuals learn in different ways; therefore provision is made for a flexible and varied delivery of the mathematics curriculum. At the early years stage, the emphasis is on learning through play and child initiated activities. Each child will experience a teacher led introduction to lessons followed by group work and a plenary session. Where children are organised into ability groups, these are flexible and movement between groups occurs when necessary with many of the activities occurring in free flow play.

The organisation of the teaching of maths topics in the school varies with the needs of the children but in general a strand of number progresses continually. Topics from other areas of the maths curriculum are introduced and developed alongside.

For all the mathematical topics children will be encouraged with:

- ◆ clear, progressive development of maths knowledge, skills and understanding
- ◆ concrete experiences to acquire sound maths concepts
- ◆ a mental approach to calculations
- ◆ investigations and making their own discoveries
- ◆ talking about their own thinking and explanation of what they have done
- ◆ a rich and wide variety of experiences

- ◆ personal methods of working
- ◆ conventions of maths when children are confident in their own knowledge, concepts and skills
- ◆ calculators and computers to ensure they can function effectively
- ◆ opportunities to apply what they have learnt and to relate their maths work to other areas of the curriculum and to their lives in general
- ◆ seeing relevance and enjoyment in what they are doing.

Continuity and progression:

Planning for continuity and progression is achieved throughout the school by:

- ◆ using a standardized resource to deliver maths – currently The Hamilton Trust

All classes must use the targets from The Hamilton Trust as the basis for their teaching. This will ensure the curriculum targets are met in all areas of teaching maths.

- ◆ whole staff agreement of maths policy
- ◆ agreed marking policy throughout the school
- ◆ reports and records sent to next school of leaving pupils
- ◆ reports and records received from previous school of new pupils.

Monitoring:

- Children's knowledge and understanding is continually monitored by examining their written work and through discussing and questioning orally.
- At the end of each topic, teachers run summative assessments in order to ascertain the children's overall understanding.

Differentiation:

All children have needs that are individual, special and ever changing. All our classes are composed of children who have a range of ability. In our planning it is important that we include structured activities to ensure success for all children. The objectives of a lesson reflect the needs of the learners, and differentiation is introduced by either task or outcome.

Assessment:

Assessment is at the heart of the process of promoting children's learning. The informal assessment of a child's or group's work is necessary in deciding what the next learning experience should be. This can be ascertained by:

- observation of the child's work

- discussion with the children
children's written and practical work.

In the Early Years, this will be by observations of child's understanding through class activities.

This can be used in a variety of ways for:

- deciding if planned work is appropriate to the child's current needs before beginning for monitoring progress whilst the child is engaged in the work
- assessing when the child is ready to move on.

Informal assessments are recorded for the class teacher's own benefit or to be used in ensuring continuity and progression of children's learning in future classes.

Role of class teacher

- to ensure progression in the acquisition of mathematical skills with due regard to the Early Years Foundation Stage curriculum and the National Curriculum for mathematics
 - to develop and update skills, knowledge and understanding of mathematics
 - to identify INSET needs in mathematics and take advantage of training opportunities
 - to keep appropriate on-going records
 - to plan effectively for mathematics, (with year group partners), liaising with subject leader when necessary.
- To inform parents of pupils' progress, achievements and attainment

Parental involvement

At The BECC we encourage parents to be involved by:

- inviting them into school in term 1 and 3 to discuss the progress of their child
- circulating information via newsletters when significant
- sharing relevant information through Dojo

Resources

The BECC has numerous resources for teaching maths to EYFS, KS1 and KS2. Any supplementary resources required should be communicated to the school office and will be sourced as and when the budget allows. It is well resourced to provide mathematics for KS1 and KS2 children. Hamilton Trust contains planning, resources and assessment material. All teachers are given an account. The school also subscribes to Twinkl that has many more supporting resources.