



Castle Hill School

MATHEMATICS POLICY

Policy Created	2010
Committee	joint
Last review	2019
Frequency	3 years
Date to be reviewed	2022

General Policy Statement

At Castle Hill School, we intend to provide a safe, secure, caring environment where everyone is valued and respected equally. We aim to provide an inclusive education where pupils develop independent learning skills and are taught according to need whatever their age, gender, background, beliefs or abilities.

National legislation re disabilities, race relations and special education needs underpin this policy, which has also taken into consideration national, local and school policies on Special Educational Needs, Equal Opportunities and Health and Safety.

General Curriculum Statement

The fundamental principle behind curriculum design at Castle Hill School is personalisation. The learning needs of each pupil are rigorously assessed on entry to the school and on a regular basis through their school career. This work has included a full audit of learning needs (initially carried out in the spring and summer terms of 2014, but ongoing as required). In this, every aspect of each pupil's learning needs is reviewed, bringing in the experience and expertise of a wide range of staff, professionals and parents/carers to identify priority areas for the pupil's personalised curriculum. Each pupil's curriculum is therefore bespoke.

For more information please refer to the Curriculum Statement (a separate policy).

Mathematics Policy

Through the teaching of this subject, we aim to:

Enable pupils to explore their environment and make sense of the world around them, initially through the application of schema and later through the application of functional number and problem solving skills.

Philosophy

The skills developed in mathematics provide pupils with tools for exploring, investigating and understanding the world. At each developmental level, the pupils are given opportunities and experiences to explore and compare objects, materials and events. The pupils are supported to find differences and similarities, to notice relationships and connections and use this knowledge to further guide their learning. At first these opportunities will be of a sensory and perceptual nature, becoming gradually more concrete and varied, thus helping pupils make sense of change, for example, in space, time, pattern and quantity. Later on in their development, the skills learnt will aid representational thought and the ability to anticipate, predict and problem solve. This allows the pupils to plan ahead, to evaluate, improve own learning and begin to use number in a representational way. The skills developed in mathematics are life-long skills that will support the pupils into adulthood. There is a particular focus on the application of mathematical skills that can solve problems in real life situations, for example, using money when shopping.

We encourage our pupils to understand the world around them through play and exploration. This is an essential process for all pupils with complex needs. Only when understanding of the world is achieved, through the application of schema, can further learning progress.

Many of our pupils have visual, auditory or physical disabilities, and some have a multi-sensory impairment. It is therefore important that our pupils have access to a range of mathematical activities that accommodate their individual needs and allow individuals to reach their potential within the subject. Our pupils use a range of ICT/communication systems and resources to access a wide variety of mathematical activities.

We should also consider multicultural diversity and gender issues of our pupils when delivering mathematical activities.

Practice

The teaching of mathematical skills needs to be explicit in planning, but it may be taught as a discrete subject, across the curriculum and throughout continuous provision.

Early Years

Pupils in the Early Years class will follow the Early Years Framework which covers the following areas:

Prime areas:

- Communication and language
- Physical development
- Personal, social and emotional development

Specific areas

- Literacy
- Mathematics
- Understanding the world
- Expressive arts and design

Primary and Secondary

Staff should teach knowledge, skills and understanding in age-appropriate ways that match and challenge their pupil's abilities.

Continuous provision is provided in each class (known as Extended provision in Secondary), and within this there will always be opportunities for mathematical learning through the range of activities and investigations available to the pupils. Some weekly sessions will focus more specifically on mathematical activities. There will be group work or focused individual work for pupils who will benefit from this.

Both Primary and Secondary pupils follow the new Castle Hill Curriculum. This is topic-based, with activities clearly differentiated for age and developmental level. Programmes of study are drawn from a variety of sources, for example; The Victoria School's MSI curriculum, Routes for Learning, Quest and Equals.

Staff should ensure that all pupils at Key Stage 3 and 4 complete 3 numeracy based AQA Unit Awards annually. Key Stage 4 pupils take part in ASDAN Personal Progress units of work.

Post 16

Post 16 pupils follow a Life Skills curriculum, augmented by accreditation at an appropriate level through:
ASDAN Personal Progress, Entry Level 1,
ASDAN Personal and Social Development, Entry Level 1, or
OCR Entry Level 1 Functional skills

Teaching Styles

It is important to use a range of multi-sensory teaching styles to reflect the different learning abilities of individuals in any group of pupils. Teaching will be delivered on an individual basis, small groups or whole class groups as appropriate.

Teaching content

Mathematics is a developmental subject and needs to be taught according to the developmental level of understanding of individual pupils.

Breadth and variety of experience will be maintained through the use of imaginative and motivating resources and activities.

Schema and Enabling Schema

For pupils from P1-P4, the teaching focus will be on encouraging and extending early developmental schema (Please see book 'Again, again' for more details). Throughout all of the key stages, pupils will be given opportunities to explore a wide range of schema, such as trajectory, orientation, connecting, rotation, enclosing, enveloping, positioning and transporting. Particular emphasis will be placed on developing and extending the preferred schema of individuals. Support will be given to ensure that pupils with complex and profound learning difficulties, including multi-sensory impairment, will have access to the teaching and exploration of schema (Enabling Schema).

Pupils from P1-P4 will also be given frequent opportunities to explore their environment to get concrete experience of similarities and differences in space, shape and quantity. They will be supported in developing an awareness of permanence and change, and the rules and patterns governing this. They will be encouraged to use this awareness to anticipate and predict events across a wide range of experiences and activities.

Numicon resources

At P4-P7 the pupils will continue to explore their environment using concrete objects. They will be encouraged and given opportunities to use symbolic thought and consider the relationships and patterns within their environment. At P7 and beyond, concrete explorations and demonstrations will still be important but more emphasis will begin to be placed on symbolic number work and representational images, using these to find and describe relationships and connections.

Numicon resources support learning by providing a multi-sensory means of understanding connections between numbers. Numicon uses patterns to represent each numeral; these patterns are structured so that number relationships can be presented in a way not provided by written numerals.

Planning

The new Castle Hill curriculum guides provide the basis for medium-term planning. These link to the long-term plan, which is based on a three-yearly cycle. The maths guides are produced by the maths curriculum team. Individual teachers use suggested activities to inform their short-term weekly planning.

Assessing and recording progress

Assessment is built into the teaching and learning process for all pupils. It is a valuable tool for informing staff of the next steps in learning. Assessment at Castle Hill is ongoing, however formal assessment takes place each year in November and June when data is collected and progress measured. Assessment currently remains based on the 'P' levels 1 – 8, although staff are also referring to Pre Key

Stage Standards (reportable at end of year for Yrs 2 and 6, 2018-19). Each pupil has a minimum of one MAPP target in Maths, which is based on targets set within the EHC Plan. Pupil progress is measured against the indicators of prompting, fluency, maintenance and generalisation. Personalised PIP targets are set for each pupil, building towards achievement of the MAPP targets.

Observation is also used as an assessment tool. Photographs, Engagement Profiling videos and other forms of qualitative assessment can be used to demonstrate pupil progress. This formative assessment process helps staff understand how each child is learning and informs further planning and progression.

Ongoing focused commentary, and the plenary at the end of each session, are both used as opportunities for staff to share learning, progress and meeting of targets by individual pupils. Pupils are encouraged to reflect on their own learning. All staff are encouraged to consider 'next steps' for pupils.

Learning objectives are set based on pupils' MAPP and PIP targets. These are evaluated daily and weekly as appropriate and amended when necessary.

Progress in mathematics is reported to pupils, parents, carers and other professionals through the Learning Journals, EHCPs and photographs or videos.

Achievement is reflected in accreditation and qualifications for Year 6, secondary and post-16 pupils. Achievement is also reflected in displays around school and 'Star of the Week' assemblies.

Planning for progression

Careful sequencing of curriculum content and experiences build on previous learning and achievements to promote future learning. Long and medium term curriculum plans should therefore show progression from age group to age group and within each key stage. This progression can be shown through the application of skills and experiences.

Planning for progression for individuals or groups might focus on:

- Skill development
- Breadth of curriculum content
- A range of contexts for learning
- A variety of support equipment
- A range of teaching methods
- Application of skills, knowledge and understanding in new settings
- Strategies to promote independence

For our pupils, progression is not necessarily only movement up a hierarchical ladder of skills and knowledge. Horizontal progression and maintenance of skills is also important.

As pupils make progress they will access core strands of maths learning. The strands (Number, Using and Applying, and Shape, Space and Measures) will be taught through age appropriate topic themes.

The Role of the Maths Team

The Maths Curriculum Team are responsible for the completion of the following tasks:

- *Subject development.*
- *Learning audit*
- *Data analysis*
- *Collation of photographic evidence of learning and planning evidence*
- *Learning Walks (These replace P level data analysis for those subject areas that no longer use P-levels*. The learning walk should be carried out with as many members of the Curriculum team as possible - it might be beneficial to invite those members of support staff who don't attend teachers' meetings. Follow-up interviews should take place if possible to discuss findings from the learning walk and possible strategies that may be needed. If possible, interviews to be carried out with one teacher per phase)*
- *Formulation of Curriculum Guides, to be completed for each coming term.*
- *Displays*
- *Resource purchase/availability, resource audits and resource accessibility*
- *Policy updates*
- *Support of Continued Professional Development.*

The over-riding task must be to provide support for all who participate in Maths and so improve the quality and continuity of Maths teaching and learning throughout the school.

Approved by the Chair of Governors

Reviewed: Spring Term 2010

Reviewed: Autumn 2012

Reviewed: Spring 2014

Reviewed: Spring 2015

Reviewed: Spring 2017

Reviewed: Spring 2019