



Policy Document Title:	Mathematics Policy
Reviewed:	09/22
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## Philosophy

Mathematics:

- Provides a means of communication which can be used to illustrate, to interpret, to predict and to explain.
- Is used to convey meaning.
- Is vital to many subjects in the National Curriculum.

## Equal Opportunities

- Mathematics provision is inclusive. All students are given equal opportunities regardless of age, gender, religion, ethnic origin, or disability.
- Specific topics in mathematics will draw attention to awareness of the Spiritual, Cultural, Social and Moral aspects in a student's development.
- For students with additional disability potential areas of additional need are identified and addressed at the outset of work.
- Equipment can be modified to understand the concepts covered.

## Introduction

Mathematics is a core subject and is compulsory throughout the education of all students aged 4-16. The domains of the Mathematics Curriculum are divided into Programmes of Study (PoS) within six areas.

1. Number
2. Measurement
3. Geometry
4. Statistics
5. Ratio and Proportion
6. Algebra

## **Aims**

- To ensure delivery of mathematical development in the Foundation Stage
- To ensure delivery of the National Curriculum in Maths
- To ensure delivery of the National Numeracy Strategy at KS1 and KS2
- To secure and build in achievement gained through the National Numeracy Strategy across the Key Stages
- To seek and ensure continuity and progression through National Curriculum provision
- To provide an integrated programme of learning experiences that will develop the student's ability to use mathematical skills effectively throughout the different key stages.

## **Objectives**

The specific objectives of the mathematics curriculum are:

- To develop the potential of each child in their knowledge, skills and understanding of mathematics by, effective planning, delivery and assessment
- To enable each child to become numerate by, effective planning, delivery and assessment.
- To enable pupils to become successful and reflective learners, confident individuals and responsible citizens.
- To equip pupils with skills to achieve economic wellbeing.
- To enable pupils to know, understand and use the technical and specialist vocabulary of mathematics.
- To provide opportunities to apply and develop their ICT skills to support their learning in mathematics.
- To promote a fascination in mathematics and an enthusiasm for the subject.
- To develop independent learners

## **Organisation**

- In Foundation Stage – mathematical development is interpreted into a range of activities.
- At Key Stage 1 and 2 students are taught through 5 daily numeracy lessons.
- At Key Stage 3 students are taught in 3 x 55 minute sessions.
- At Key Stage 4 students are taught in 3 x 55 minute lessons. Some students have an extra lesson used as a support session to consolidate the work covered in class.
- Post 16 students are taught in 2 x 55 minute lessons. Some students have an extra lesson used as a support session to consolidate the work covered in class.

## **Differentiation**

- Foundation, KS1 and KS2 activities are differentiated within the class group
- At KS3 and KS4 where possible students are set according to ability within each key stage.
- Where possible work is prepared to accommodate the content/level of work being studied to meet individual needs.
- Extra challenges given to more able students to aid progression to expected target level.
- Specific needs are identified:
  - According to VI condition
  - High achievers
  - Additional physical
  - Additional sensory
  - Additional numeracy
  - Behavioural
  - EAL

## **Classroom Approaches**

The maths curriculum is designed to help pupils gain increasing proficiency and build confidence in their ability.

The classroom approach is based on:

- Clear learning objectives by the teacher.
- New learning is introduced using a variety of stimuli and appropriate resources.
- Encouraging reflective learning.
- Building on previous learning through questioning and intervention to a group or to an individual pupil. Retrieval practice is built into the start of every lesson.
- Pupils having the opportunity to demonstrate what they understand and what they can do.
- High levels of achievement are expected of all pupils.
- Achievement may be reviewed, using a variety of means.

## **Teaching Methods**

A variety of methods are used allowing the use of the most appropriate for the situation

### **Grouping**

- Individual
- Pair work
- Group
- Whole class

### **Methods**

- Teacher presentation
- Written sources materials
- Brailled source materials
- Maths texts
- Discussion
- Flexible learning
- Mental maths
- Use of Interactive White Board
- Videotapes
- Role-play
- ICT
- Practical maths, investigations, research.
- Singing, Dancing, Movement.
- Use of children's literature to prepare mathematics work that they are interested in.
- Use of the school grounds and the environment outside of the classroom.

### **Progression**

Students will progress according to their ability in this subject. The students will be continually assessed and entered for the appropriate exam.

### **Schemes of Work**

Each teacher provides schemes appropriate to teaching group/ individuals were necessary.

## Assessment

At EYFS, KS1, KS2, KS3 and KS4:

- Foundation Stage: Each child's progress is monitored using checklists based on the Early Learning Goals and using observational methods. During the Reception year progress is demonstrated using the Foundation Stage Profile.
- At all Key Stages pupils are teacher assessed.
- Discussion/oral/aural – there is no formal assessment of oral work; but the small teaching groups in KS3 and KS4 allow an ongoing awareness of an individual's oral contributions.
- Written work – class/prep/exercise work is marked and discussed individually. Specific difficulties are noted on teachers' lesson plans, or directly on their work.
- Certificated courses are offered at KS4
  - GCSE (Linear)
  - AQA Entry Level Certificate.
  - AQA Unit Award Scheme
- At post 16 students are offered a suitable maths course from:
  - Functional Skills
  - BTEC Managing Money (were appropriate) or Barclays moneyskills courses
  - GCSE is offered at this stage where appropriate.
  - AQA Entry level Certificate.

## Cross Curricular Links

Mathematics has cross-curricular links with:

- Science
- Geography
- Food Technology
- Environmental Studies
- ICT
- PSHEE/Citizenship
- Art
- English
- Music and dance.
- RE

## **Special Educational Needs (VI)**

These must be specific to the student and are met through

- groupings
- Variety of recording methods, Braille, enlarged print, coloured paper and font.
- lighting and seating arrangements
- modified materials/tactile aids
- LVAs
- LSA support
- presentation
- emphasis on AT1 skills, particularly at KS1/2
- emphasis on communication skills, particularly at FS

Full use of technology is made to facilitate access to all aspects of the curriculum.

- Research
- Use of Interactive Whiteboard
- Working with the ICT department on specific topics.

Training in manual dexterity, spatial awareness and visual enhancement is given where necessary.

## **Citizenship**

The Maths Curriculum plays an important role in helping students to develop the knowledge, skills and understanding they need to lead confident, healthy and independent lives. This means as individuals, parents, workers and members of society. It aims to give them the confidence and conviction they need to become informed and responsible citizens who can play effective roles in society.

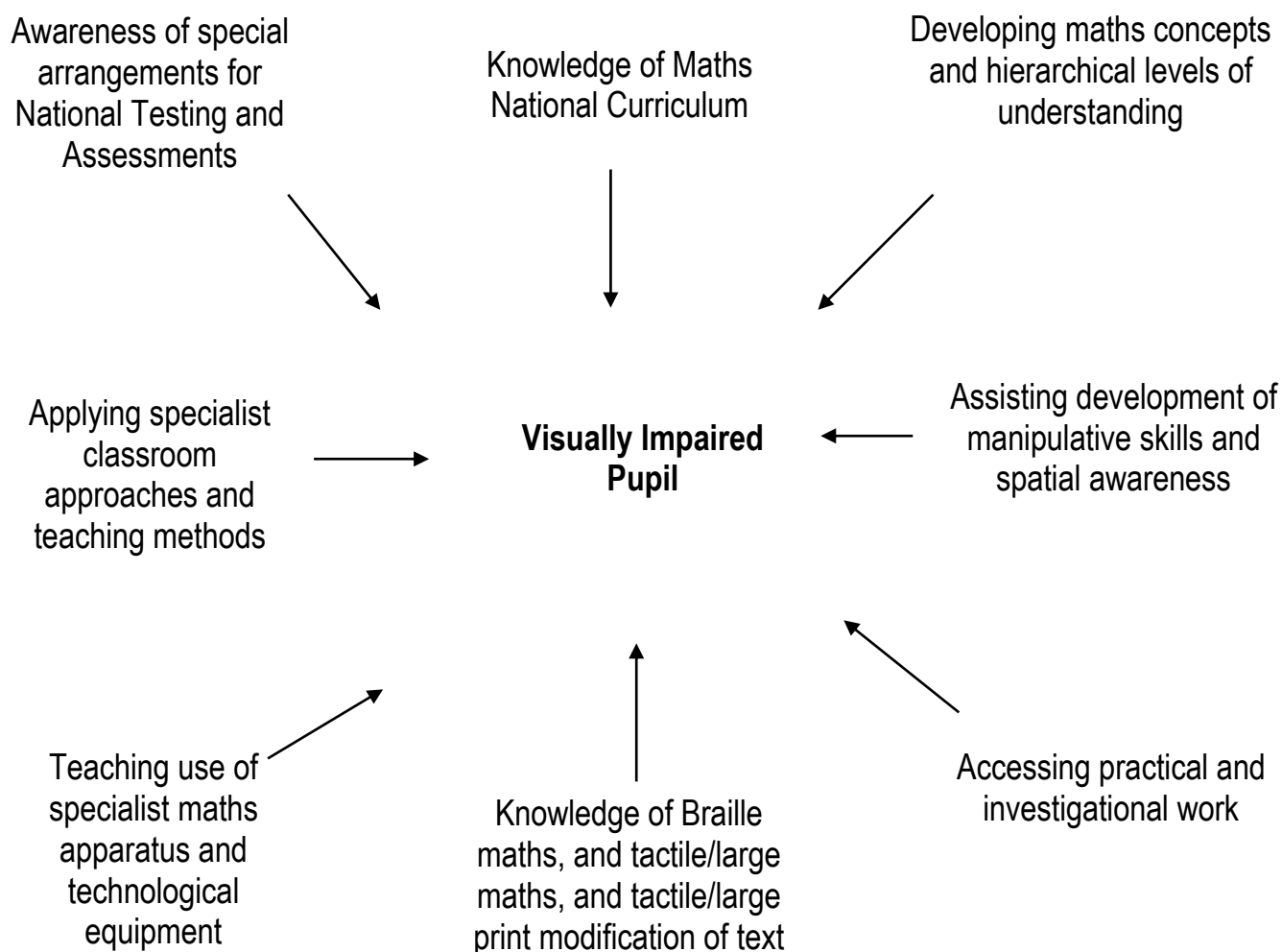
## **ICT**

Maths gives all students the opportunity to apply and develop their ICT capability through the use of ICT tools to support their learning.

## Cross - Key Stage Links

In order to foster a school identity and sense of progression, Maths adopts a whole school approach. Classroom activities across the transition key stages are encouraged, along with a sharing of expertise and resources.

## Appendix 1



## SMSC in Mathematics

### Spiritual

- Sequences, patterns, symmetry and scale in mathematics around the world. Islamic Art, meaning of the shapes in the Art work. Heaven, Earth etc.
- Looking at the diet of different countries and relating it to the population of various religions. (percentages, ratios etc).

### Cultural

- Mathematics around the world. Islamic art, colour shape. Arabic numbers. Chinese abacus.
- Elections, % of votes.
- World populations, density.
- Minimum wage/ legal age for working in different countries.
- Comparisons of Custodial sentences verses crime around the world.
- Different methods from different countries

### Moral

- Effect of waste/ amount of waste on the planet.
- Minimum wage/ legal age for working in different countries.
- NSPCC Number Day.
- Problem solving and choices
- Analysing data for bias

### Social

- To handle money efficiently in order to become independent adults.
- To research mathematics on the internet to promote independent learners and confidence.
- Healthy Diet. Daily Recommended Amount, Percentages, Weight, Vitamins, Fat etc
- Investigating what is a healthy portion of fat, salt? etc
- Project on healthy eating.
- To explain concepts and support each other in their learning
- To become more independent and resilient learners