



# Mathematics and Numeracy Policy

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Nominated Governor:

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The November 2018 Ofsted Inspection report made the following comments:

Leaders ensure that the curriculum enables pupils to have many opportunities to learn through practical and real-life experiences.

You have carefully chosen a curriculum that supports pupils' learning across all subject areas. Teachers use the curriculum to plan learning that provides pupils with opportunities to transfer practical skills into real-life situations. In one lesson, pupils were enthusiastically learning about money and what it can buy. Visits to the supermarket give pupils the chance to practise how to behave appropriately and begin to understand how to use money and its value.

Additional adults support pupils well. During a mathematics lesson, pupils were learning about clockwise rotation and direction. Adults use skilful questioning to extend pupils' thinking. Adults provide appropriate support so that pupils can approach tasks with confidence and a degree of independence. Pupils enjoy the challenge of, and want to do well in, individual tasks that are closely matched to their ability.

#### **Policy Statement**

Numeracy/ Mathematics should be an integral part of all lessons with focus on children building functional numeracy skills to become as independent as possible when leaving school.

#### **Environment**

Heltwate School provides a rich learning environment in which all children can learn and achieve, alongside enjoying their education and time spent here. Resources are well planned and used to support all levels of ability. Expectations are high to ensure behaviours in class allow for all children to learn.

#### **Introduction**

Mathematics is a method of communication. It is a specific language through which very difficult concepts are explained in a precise and concise form. Ideas are explored and developed, and relationships can be described, patterns identified and hypothesis made and tested:

Mathematics includes the development of all numeracy skills; a proficiency that involves confidence and competence with numbers and measures. It requires an understanding of the number system, a repertoire of computational skills and an inclination and ability to solve number problems in a variety of contexts. Mathematics also demands practical understanding of the ways in which information is gathered by counting and measuring, and is presented in graphs, diagrams, charts and tables.

Therefore, a numerate person needs to understand the ways mathematics can be used for communication and this requires the possession of two attributes:

- Being at ease with those aspects of everyday life that enable a person to cope with the practical demands of everyday life.
- The ability to understand information presented in mathematical terms.

## **Our Aims**

Our principle aim is to develop student's knowledge, skills and understanding in all areas of Mathematics. Wherever possible we encourage the students to use and apply their learning in everyday situations.

- To equip pupils with a powerful mathematical tool that provides:
  - i) A precise means of communication using numbers, symbols and shapes;
  - ii) A universal language used to explain, predict and tackle problems.
- To promote and develop enjoyment and enthusiasm for learning through practical activity, exploration and discussion.
- To provide pupils with a sound understanding of basic mathematical concepts through practical and investigational work.
- To increase the confidence of each pupil in mathematics to enable them to apply the knowledge and skills with assurance.
- To develop a practical understanding of the ways in which information is gathered and presented.
- To encourage pupils to use mathematics as part of their everyday life in school and at home.
- To develop pupil's thinking skills and logically apply their mathematical knowledge to solve problems.
- To explore features of shape and space, and develop measuring skills in a range of contexts.

We also aim to:

- To develop staff skills to enable them to enhance and extend their teaching and learning.

## **Objectives**

- To enable all pupils to achieve their potential according to their abilities by providing them with interesting and challenging tasks that enable them to achieve.
- To encourage students to develop as independent learners who are able to make decisions about their own work.
- To promote confidence and competence so that children are 'proud to shine' about their achievements.
- To provide training and support that will develop an expert and knowledgeable staff.
- To ensure management systems and structures provide support for the aims and objectives for mathematics.
- To provide appropriate resources to ensure a rich and diverse curriculum.
- To ensure teaching and learning styles are varied and suited to the pupils being taught and the areas being studied.
- To ensure full coverage of the National Curriculum in mathematics across the whole school at the different key stages.

### Teaching & Learning Guidelines

Mathematics is taught as a standalone subject but is also integrated into other subject areas and across the whole curriculum. In this way, pupils learn the place of mathematics in the world around them. Lessons include practical investigations, problem solving and verbal activities. Students participate in regular speaking and listening activities in order to improve their use of appropriate mathematical vocabulary.

Teachers use a range of learning and teaching styles, incorporating individual, pair, class and group work into lessons. We make great use of age related software, such as 'Choose It' and websites such as 'Purple Mash' and 'Education City' along with games and real-life materials to engage students and help them to learn in the way that best suits their needs. Children are taught through exploration, discussion, practical activities, games, investigations, problem solving and recording which can be supported through the use of IT. The teaching style and methods are varied according to the subject matter and the pupils being taught. Teachers have access to Teach Active resources and are encouraged to use in lessons in order to engage and enthuse pupils whilst learning and keeping healthy through a range of practical activities.

Numicon is used throughout the school as a practical resource to support learners. Numicon is an approach to teaching maths that helps children to see connections between numbers. It supports children as they learn early maths skills and is a **multi-sensory** way of learning. This means that the students can learn by seeing and feeling.

Within Key Stages 1-3, pupils are assessed and placed on a Curriculum pathway that best suits their needs, (Engage, Explore, Develop). Within each of these curriculum journeys, pupils focus on the skills they need to progress on to the next stage and achieve future goals and aspirations. The curriculum is personalised to the child and targets are taken from academic, softskills and the child's EHCP. Mathematics targets will appear in the child's individual learning plan under the heading 'My skills to learn' (Engage) 'My learning'(Explore) and 'Maths' (Develop). Coverage will be based on the child's individual needs within the Engage and Explore journeys, and coverage is mapped against EYFS outcomes/Year 1 ARE/cornerstones topics at the Develop journey.

Pupils develop mathematics through using a variety of methods: exploration, mental strategies, practical activities, written calculations, problem solving, discussion, and application of basic skills.

Class teachers are required to provide lesson planning, resources and worksheets that meet the needs of individual learners.

Annual work and planning scrutinies take place to ensure consistency throughout the school.

## **Assessment**

- During each lesson, assessment will continually be monitored throughout against the child's individual learning plan objectives. At the end of each session these are marked by the class team as Red (no evidence), Orange (some evidence emerging) and Green (achieved and evidence available). When a child achieves a Green then this evidence is uploaded to Earwig to show success.
- Targets are continually reviewed to ensure that they are meaningful and purposeful to the child. If a target is not going to be achieved, then the work is uploaded to Earwig to show progress and then alternative target/targets are set to support the development of that skill area.
- Assessment will be based on the National Curriculum and Development Matters statements for Numeracy/ Mathematics and will be recorded in years and months through the school assessment tracker, Earwig.
- Pupils may have additional evidence collected using Earwig as an online learning journal.
- All staff members are expected to annotate children's work stating the amount of support given and provide children with constructive feedback where appropriate. This should build on positive attributes of the work produced, but also constructively highlight areas for improvement. In classes following our adapted Foundation curriculum, children's work will be annotated by what they have said and done rather than writing to the child, (see Marking policy).
- Assessment will take account of all children regardless of their abilities and physical difficulties.
- Effort grades should also be given to inform pupils and teaching staff of their efforts during the lesson and pupils are encouraged to self-evaluate their work, where appropriate.
- Year 10 & 11 students at St. George's undergo AQA ELC Step UP Maths Entry Level. Students are entered at Level Pre Entry, Entry 1, Entry 2 or Entry 3 based on their ability.
- In Post 16, students follow the EQUALS Moving On functional Maths modules. The units are designed to be flexible for the teacher to adapt to suit the cohort. They are practical and allow for greater functional aspects to be taught to pupils. The students will achieve unit certificates from Equals or ASDAN personal progress units, (which is dependent on individual cognitive abilities).

## **Written Calculations**

The policy contains the key calculation procedures that will be taught within our school. It has been written to ensure consistency and progression throughout the school and reflects a whole school agreement. Please see separate written calculations policy.

## **Equal Opportunities**

Heltwate School students will have equal opportunities to access, take part in and succeed in mathematics. All students, regardless of race, gender, physical or learning disabilities or social origins are entitled to be included and achieve. Our policy is to enable *all* students to experience success.

All aspects of safeguarding will be embedded into the life of the school and will be adhered to and be the responsibility of all staff.

## **Role of the Governing Body**

The Governing Body has:

- The duty to set the framework of the school's policy on Numeracy
- Responsibility to ensure that the school complies with this policy
- Delegated powers and responsibilities to the Head teacher to ensure that school personnel and pupils are aware of this policy
- Delegated powers and responsibilities to the Head teacher to ensure all visitors to the school are aware of and comply with this policy
- Appoint two coordinators for Numeracy to work with the Head teacher
- The duty to support the Head teacher and school personnel in maintaining high standards of work completed in Numeracy
- Responsibility for ensuring funding is in place to support this policy
- Responsibility for ensuring policies are made available to parents
- Nominate a link governor to visit the school regularly, to liaise with the coordinator and to report back to the Governing Body
- Responsibility for the effective implementation, monitoring and evaluation of this policy

### **Role of the Head teacher**

The Head teacher will:

- Monitor the effectiveness of this policy
- Annually report to the Governing Body on the success and development of this policy
- Support the coordinators to ensure the policy is implemented effectively throughout the school

### **Role of the Coordinators**

The coordinators will:

- Lead the development of this policy throughout the school
- Review and monitor
- Annually report to the Governing Body on the success and development of this policy
- Talk to members of staff and be approachable when asked for guidance about the Numeracy curriculum
- Collect examples of medium term plans and lesson plans, which will be asked for and kept in a curriculum folder alongside examples of childrens' work. The work collected will demonstrate effectiveness differentiation in planning
- Give all teachers a scheme of work to follow

### **Role of the Nominated Governor**

The Nominated Governor will:

- Work closely with the Head teacher and the coordinators
- Ensure this policy and other linked policies are up to date
- Ensure that everyone connected with the school is aware of this policy
- Annually report to the Governing Body on the success and development of this policy

### **Role of School Personnel**

School personnel are expected to:

- Comply with all aspects of this policy
- Develop planning from schemes of work in Numeracy based Cornerstones
- To ensure all teaching staff who are using Cornerstones are following the correct coverage for each topic
- To ensure lessons are supported by high quality resources, including ICT resources
- To make use of the school resources including Numicon and ICT software such as 'Choose It' and 'Purple Mash'
- Identify problems that may arise and offer solutions to the problem
- To ask for resources to be ordered which will benefit the learning of individuals, the class, or the school as a whole
- To complete assessment using the following moderation tools: National Curriculum level descriptors and Development Matters and provide evidence of these in end of year reports
- Teachers and support staff are to ensure all work is differentiated according to levels and physical needs of all children. Where possible symbols will be used to support children to ensure they can assess a full curriculum

### **Role of Pupils**

Pupils are expected to:

- Behave in a way that allows learning to take place
- To respect resources used to support learning in class
- To engage in lessons
- To develop an interest in Numeracy lessons

### **Role of Parents/Carers**

Parents/carers are encouraged to:

- Encourage numeracy activities wherever possible
- Encourage independence when out in the community e.g. shopping
- Have a positive attitude towards Numeracy and learning
- Encourage children to solve Mathematical problems in relation to everyday living

### **Raising Awareness of this Policy**

We will raise awareness of this policy via:

- The school website
- The School Handbook/Prospectus
- The Staff Handbook
- Meetings with school personnel
- Reports to the Governing Body