

# Viking Academy Trust



## Maths Policy Chilton Primary School

The VIKING ACADEMY TRUST **Maths Policy** for Chilton Primary School has been written after consultation with staff and following DfE guidance.

**Approved by the Trust: Term 6 2017**

**Reviewed annually: Term 6**

**Last review date: Term 6 2017**

**Signed:**

**Chair of Trust**

# Maths Policy

## The Viking Academy Trust

### Chilton Primary School

#### Schools in the Viking Academy Trust (VAT)

We start 2016-17 academic year with three schools in the Viking Academy Trust.

These are:

Chilton Primary School  
Ramsgate Free School  
Upton Junior School

This Maths Policy is specific to Chilton primary School

*"Mathematics provides a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas, and to tackle a range of practical tasks and real-life problems.*

*Mathematics also provides the material and means of creating new imaginative worlds to explore. Through exploration within mathematics itself, new mathematics is created and current ideas are modified." DES*

*Being numerate is a vital life skill and at Chilton Primary School we are committed to giving all pupils the opportunities to develop the knowledge, skills and understanding of mathematics necessary to function in their life outside school.*

#### School Aims and Objectives

At Chilton Primary School we aim to:

- Provide children with the mathematical skills necessary for life and an awareness of the uses of mathematics in the world outside the classroom;

- Provide a foundation of mathematical knowledge, skills and understanding;
- Encourage the development of a confident, independent and positive attitude towards mathematics;
- Develop an awareness of the power of mathematics when communicating and explaining;
- Meet the requirements of the National Curriculum.

In order to achieve our aims we have set out the following objectives. During their time in our school, children should:

- Learn maths facts, e.g. number bonds, names of and properties of shapes, etc;
- Develop their knowledge and rapid recall of all multiplication tables, including related division facts.
- Become confident in their use of all four operations including being able to select efficient methods (mental, written and calculator) when calculating
- Develop their practical skills, e.g. using calculators, measuring equipment, etc.
- Learn mathematical strategies, processes and methods
- Work systematically when problem-solving
- Become active mathematicians, both individually and as part of a group, able to apply knowledge to new concepts, investigate mathematical statements, and identify suitable operations and methods to solve word-based problems and explain their reasoning
- Be able to communicate methods and reasoning in a variety of contexts

### **The Teaching of Mathematics**

Maths is 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. Maths 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. The approach to teaching recommended by the new National Curriculum for Mathematics is based on three key principles:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

Pupils at Chilton Primary School are taught mathematics in mixed-ability classes in the infant and junior years.

Each class teacher, with the exception of those working in the Foundation Stage (and at the start of Year 1), is expected to provide a daily lesson for mathematics, which should last for at least an hour. Typical lessons should include:

- **Oral work and mental calculation:** whole-class or group work to rehearse, sharpen and develop mental and oral skills.
- **The main teaching activity:** direct teaching and pupil activities, working as a whole class, in groups, or as individuals. This may include mini-plenaries to further support, consolidate or extend children's learning. Chunking may take place within this part of the lesson to suit the needs of the children in the class.
- **A plenary:** to round off the lesson. Teachers work with the whole class to identify progress in relation to the learning objective, summarise key facts and processes covered, to make links to other work and discuss the next steps, and to set work to do at home where appropriate.
- During each lesson the teacher should aim to spend as much time as possible in the direct teaching and questioning of the whole class, a group of pupils, or individuals. Teaching assistants work with specified groups of pupils or individuals identified by the teacher and are provided with a plan for the lesson in advance.

## **The Planning of Maths**

Chilton Primary School follows the **National Curriculum for Maths (2014)**.

Teachers can use the schools planning sheet or smartboard pages to plan:

- Mental/oral starter focus and activity;
- Learning objectives and success criteria for each lesson (children should help to generate the success criteria in some lessons);
- Direct Teaching to take place
- Differentiated activities through which the pupil will be taught;
- How teaching assistants will be used to support learning in all parts of the lesson;
- Details of the plenary;
- Resources required during the lesson including appropriate uses of ICT;

### ➤ Key Vocabulary.

Teachers can use Smartboard pages as their basis for their Maths planning. Senior Leaders will ask teachers who are not providing regular 'good' lessons to use the formal planning grids.

Currently, teachers plan 'skeleton' lessons for the whole week but are expected to adapt their plans during the week in light of teacher assessment. Where possible, year group teaching colleagues discuss ideas for teaching particular objectives but each teacher plans individually to suit the needs of the children in their class.

Teachers aim to incorporate opportunities for pupils to use and apply their maths skills within every lesson. This may be by asking open ended questions or setting open-ended activities in any part of the lesson.

### Planning and Support Materials

Teachers at Chilton Primary School will use Primary Advantage Maths (PA Maths) documents to support them with their planning. They will also use additional materials such as Target Your Maths, Maths No Problem, the NCETM Mastery Documents and Chilton Progression Documents to support with appropriate questions, pitch and expectations. Teachers will use the Singapore Maths model in lessons (introducing the lesson with a focus question with resources made available for the children, taking feedback from the children and using misconceptions as teaching points. The children will also be taught how to use the Bar Model correctly when appropriate).

### Assessment

The assessment of pupils learning aims to:

- inform teachers of pupils' progress in relation to a learning objective;
- enable teacher to plan lessons which suit the ability and age range of pupils;
- ensure progression of pupil learning;
- inform other parties of pupil progress, e.g. Headteacher, parents, etc.

Teachers use the following assessment methods:

**Daily Informal Assessments** of pupil progress in relation to the learning objective through interaction with pupils during direct teaching, activities, plenary sessions, marking of work, and teaching assistant feedback. These assessments are recorded as lesson evaluations on each teacher's copy of their maths weekly plan (or Smartboard pages) and may feed in to other assessments. Daily assessments are used primarily to

make adjustment to subsequent lessons where further input is required to achieve the learning objective or pupils can be moved on.

**Assessment Grids** (designed by the Compass Partnership) will be updated on an ongoing basis for each pupil in a class by the class teacher(s). There should be 3 examples of evidence across three samples before a statement is highlighted. The framework works on a 'best fit' model. To achieve 'Expected' within the year group approximately two thirds of the statements must be highlighted. A child will be awarded 'Emerging', 'Expected' or 'Exceeding' within a year group although they may be 'Emerging', 'Expected' or 'Exceeding' within a year group different from their chronological age (e.g. you could have a Year 3 child working on Year 1 objectives or a Year 2 child working on Year 4 objectives). These judgments will then be translated into 'points' and therefore attainment and achievement can be tracked (using the John Sinnott tracking system). Time will be set aside in INSET throughout the year for staff to moderate the points/judgement awarded for pupils.

### **Statutory SATS**

are used in Year 2 and Year 6. Analysis of results is performed by each teacher in order to track pupil progress and to identify strengths and weaknesses of the class and is used to inform planning. Gap Analysis and pupil progress is discussed at Pupil Progress Meetings with Senior Leadership Team. Pupils who are underachieving or not on track to meet targets will, where possible, be targeted through focus Wave 1 teaching or Wave 2 or 3 intervention groups. Findings may also be used by the Senior Leadership Team and Maths Leader to identify weaknesses common to all year groups and set targets that aim to improve pupil performance in these areas through focused programmes and teacher inset.

### **Home Learning**

Home Learning challenges or activities are set out in Weekly newsletters to parents. Love to Learn activities will have a Maths focus fortnightly. Years 4-6 (and Year 3 from Term 6) may be set a 'My Maths' home learning challenge which is a website which can be accessed at home. Pupils have the opportunity to complete the activity after school with a teaching assistant. All pupils are expected to practise a number fact theme on a daily basis at home e.g. number bonds or times tables.

### **Liaison with Parents**

Parents are regularly informed of pupil progress through the sharing of assessment outcomes, parents' evenings and formal reports. These aim to celebrate pupils' successes and highlight areas where pupils could improve. For pupils in Years 2 and 6 the end of year report includes pupils' results in the SATs. Teachers will inform parents of any programmes/support that pupils are receiving and encourage them to support pupils in their learning.

### **Additional Support Programmes**

The school aims to ensure that pupils have the opportunity to maximise their achievement through funded support programmes, e.g. Springboard and 1stClass@Number2. When used, teachers work with the Maths Leader and Inclusion Manager to ensure that such programmes target pupils who will benefit most from additional support.

### **Equal Opportunities and Special Educational Needs**

There is an Equal Opportunities policy which is applied to Mathematics. Teaching materials are chosen to reflect the cultural and ethnic diversity of our society. We avoid stereotyping by gender or race. Pupils' performance is monitored to ensure that no group of pupils is disadvantaged.

In lessons, the full participation of both girls and boys is encouraged and care is taken to ensure the emphasis on whole class teaching does not disadvantage any gender or racial group.

Care is taken to ensure that stereotypes are challenged through positive promotion, e.g. by ensuring that both boys and girls are given equal opportunities to demonstrate their understanding and achievements.

Pupils should be enabled to demonstrate their ability in mathematics. This is achieved through:

- targeted support for pupils with additional educational needs;
- differentiated activities planned to meet pupil's educational needs;
- self-differentiation in some lessons to enable children the choice of which level they would like to work at;
- teaching strategies and techniques to match pupils preferred learning style where appropriate;
- assessment techniques which enable all pupils to demonstrate their level of mathematical understanding.

All pupils should have the opportunity to work independently during each school week. To best meet the needs of pupils, however, some children may undertake tasks targeting their needs outside of the classroom. This may happen in the Mental & Oral Starter or during pupil activity times. All pupils should be present for any direct teaching and the plenary.

Pupils with Additional Educational Needs in maths may be given targets on their Provision Map.

## Cross Curricular Links

It is important that pupils see that mathematics is a life skill and not an abstract subject.

Pupils should also be provided with additional opportunities, outside the daily maths lesson to consolidate their skills and apply them. Therefore teachers should identify areas across the curriculum where pupils' mathematical knowledge and skills can be applied at the planning stage, e.g., statistical analysis/time/measurement in Athletics and History, co-ordinates in Geography, graphs and tables in I.T. and budgeting in Design and Technology. Pupil's attention should be drawn to the application of mathematics in other subjects by discussion and identifying the mathematical learning objective being applied.

## Resources

Essential teaching resources are allocated to each classroom. Further resources to support the teaching of maths are held in a central resource area. Each class is provided with a range of resources to promote effective teaching and ensure availability. The Maths Leader carries out regular inventories of resources and, where possible, buys in new resources in response to teachers' needs. Teachers are also kept informed on online/website resources and encouraged to give feedback on their usefulness. It is imperative that resources are used throughout the school in Maths lessons.

## Health and Safety

In line with the school's Health and Safety policy, children are instructed in the safe use of all equipment. For example, extra care is taken when children are using heavy weights with balances on the floor or using small apparatus, e.g. counting objects. Children working outside of the classroom will work in pairs or groups, monitored by a member of staff.

## The Role of the Subject Leader

**The subject manager will:**

- take the lead in policy development and the production of schemes of work designed to ensure progression and continuity on maths throughout the school;
- support colleagues in their development of detailed short term plans, the implementation of the scheme of work and in the assessment and record keeping;
- monitor the delivery of the maths curriculum and advise the Head of School on the action required
- take responsibility for the purchase and organisation of resources for Maths
- keep up-to-date with developments in maths and disseminate information to colleagues as appropriate
- ensure progression of pupil learning;

