



**Mathematics Policy**

**Agreed on: October 2019**

**Review date: October 2020**

## **Mathematics Policy 2019-2020**

### **Policy Statement**

Children that have mathematical fluency are able to apply their mathematical knowledge and skills both at school and in their daily lives. At Frome vale academy, mathematics is perceived as a vital life skill as well as an academic pursuit. Throughout our school, all children will be given practical opportunities to use models and look at real life situations. This will enable them to confidently reason logically, use skills to solve problems and think in abstract ways.

### **Intent**

At Frome Vale we believe that all children can achieve in mathematics and that there is no such thing as a 'maths person'. We aim for all children to be able to say 'I am a Mathematician'. As such, we intend for all children to leave Frome Vale feeling confident and competent mathematicians by ensuring maths lessons are creative, challenging and exciting.

At Frome Vale we intend to:

- Ensure our children have access to a high-quality maths curriculum that is both challenging and enjoyable, and tackles misconceptions.
- Provide our children with a variety of mathematical opportunities, which will enable them to make the connections in learning needed to enjoy greater depth in learning.
- Involves generalising about pattern and relationships
- Ensure children are confident mathematicians who are not afraid to take risks.
- Fully develop independent learners with inquisitive minds who have secure mathematical foundations and an interest in self-improvement.
- Ensure children have strong mental maths skills
- Ensure children know 'why' as well as 'how'

### **Implementation**

A typical Maths lesson will provide the opportunity for all children, regardless of their current attainment, to work through Fluency, application AND Problem-Solving activities. In each lesson there will be opportunities for children to practice mental calculation as well as building conceptual understanding through carefully designed activities, that build on previous knowledge and understanding. Maths is therefore progressive and cumulative.

Lessons provide an open context for discussion, including planned opportunities for 'Number Talk' reasoning and investigation. The Academy uses a variety of teaching and learning styles in mathematics lessons. Our main aim is to develop children's knowledge, skills and understanding. We do this through a daily lesson that has a high degree of challenge and plenty of opportunity to apply new and existing skills. During lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources such as number lines, number squares, digit cards, Numicon, Base 10 and small apparatus to support their work and their thinking. Children and teachers use ICT in mathematics lessons where it will enhance their learning,

and to assist with modelling ideas and methods. Wherever possible, we encourage the children to use and apply their learning in everyday situations.

In addition, we provide mathematical experiences within other subjects, such as Science and The Big Question, enabling the children to have opportunities to apply and use maths in real life contexts.

In addition to discrete maths lesson, there are also Daily 'Number Talk' sessions, which provides opportunity for children to develop mental strategies by exploring, discussing and reflecting different strategies.

### **Planning and Organisation of Maths Lessons**

Our long-term plans give details of the main teaching objectives for each term. Together they ensure an appropriate balance and distribution of work across the year. We use a variety of resources to ensure a progressive curriculum, such as mAthEmaTics (AET).

Our short-term plans ensure that there is a dedicated maths lesson which as an explicit and clear learning object which is translated to the children as 'We are Learning to' or WALT. An example of this is for addition would be, WALT: add. The lesson commences with a starter, which could include such things as counting, singing, rehearsal of a previous taught and recalling of facts. Also included in the lesson will be teacher modelling, rehearsal of skill and application. Independent learning will be structured using:

'Giving it a go': Children practice a skill for fluency but not necessarily identical to those explored during direct teaching time.

'Got it': Children who are secure in the objective and are applying the skill- e.g correct mistakes, worded problems

'Flying': Children will take part in learning opportunities that require solving a problem and require deeper thinking. There may not be one answer.

In Reception the Early Learning Goals have been adopted. At this stage pupils experience some mathematics on a daily basis. This early introduction to mathematics will generally be undertaken orally and often in the context of a class theme. Wherever possible, opportunities for mathematics are exploited such as when taking the register. Overtime, they will adopt the same structure as the rest of the school.

### **Assessment, Recording and Reporting**

Assessment is an integral part of teaching and learning and is a continuous process. At Frome Vale, this is always used as a formative process.

Assessment is carried out:

- orally through questioning
- by observation of children at work
- marking of children's work, in which a dialogue of 'next steps'
- Informal assessments take place continuously which results in teacher's showing who is working towards, in line or above age related expectations (ARE). See the assessment policy for further information.
- Pixl tests are used in all year groups from year 1.

At the end of each term, teachers are expected to making a judgment of where a child is working and this is used to identify next steps. See assessment policy for further details.

During T6 annual reports will be given to parents; these include comments on pupil progress, pupil effort and attitude.

### **Equal Opportunities**

The maths policy firmly supports the equal opportunities philosophies of the school and all the children will have access to the maths curriculum.

### **Special Educational Needs**

Where necessary, adaptations will be made to the curriculum, to equipment and to resources to allow access to maths for pupils with SEN, including provision for pupils that are exceptionally able in mathematics.

### **Curriculum Leadership**

The role follows the leadership expectations, which include:

1. All leaders will have action plans in the agreed format.
2. Literacy and numeracy lead attend leadership meetings second week of every term and report on what they have done and impact made.
3. All leaders must know how their subject is developing – know key assessment data and what areas of strength there are and how to improve
4. Leaders will be expected to have clear direction about how they are going to develop and improve their subject area.
5. All curriculum books will be scrutinised once a term, with feedback, actions and follow up evident.
6. Children working at Y or A – fortnightly monitoring to see impact and improvement – Progress.
7. **All leaders model** expectations of the school.
8. All leaders are skills progression focused.
9. All leaders are able to report succinctly on current issues and areas for improvement across the school.
10. All leaders have a clear "Frome Vale way" for each subject!
11. All leaders follow the 'How to..' guides

In addition, the numeracy lead will:

- Support maths teaching through advice, guidance, professional development and resources.
- Share information acquired from courses or other sources that may be beneficial to staff as necessary and through staff meeting time.
- Continually ensure the maths policy is reflective of practice
- Regularly monitor a selected sample of maths books in each year group, with SLT.
- To audit, manage, maintain and purchase maths resources
- When required to share relevant information with stake holders, such as Academy Council, families and the wider Cabot Learning Federation
- Ensure that the Maths Action plan impacts on the standard of maths within the school and that it is reviewed to ensure that the school's needs are being met
- To monitor progress within each year group and implement necessary actions to further improve outcomes.

### Impact

Children at Frome Vale will be able to:

- Quickly recall of facts and procedures
- Have the flexibility and fluidity to move between different contexts and representations of mathematics.
- Use intelligent practice – 'If I know this, then I know this...'
- Recognise relationships and make connections in mathematics
- Explain ideas in a concise and mathematical way
- Feel like mathematicians
- Achieve national standards and above
- Enjoy this subject.