



Believe. Achieve. Succeed Together.

Iver Village Junior School

Mathematics Policy

Articles 28/29 - Every child has the right to a good quality education and it should help children use and develop their talents and abilities.

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Purpose

The purpose of this policy is

1. To ensure that the principles of mastery maths is understood and being taught consistently across the school.
2. To ensure that all learners make good progress in maths.
3. To raise attainment in maths for all pupils.

Aims & Objectives

Mathematics teaches us how to make sense of the world around us. By developing a child's ability to calculate, to reason and to solve problems within maths will prepare them to lead fulfilled and productive lives. Additionally, it enables children to understand and appreciate relationships and patterns in number and space both in lessons and in their everyday lives.

Our objectives in the teaching of mathematics are:

- To ensure all children enjoy maths and understand it's benefits to their everyday life and future.
- To support children in help developing a secure, long term and adaptable understanding of the key areas of maths; number, the number system, shape, measure and statistics
- To provide opportunities for pupil to develop reasoning, fluency and problem solving through a range of activities.
- To help children to make connections, explore the chains of reasoning and develop their fluency, reasoning and problem solving ability.
- To provide different opportunities to access learning including the use of practical activity, exploration and discussion.
- To ensure children understand the importance of mathematics in everyday life and provide opportunities for maths to be used across the curriculum.
- To ensure that pupils are equipped with the necessary understanding of mathematical language and vocabulary needed to access the curriculum and solve a range of problems.
- To develop confidence and competence with numbers and the number system.
- To develop the ability to solve problems through decision-making and reasoning in a range of contexts.
- To develop a practical understanding of the ways in which information is gathered and presented.
- To explore features of shape and space, and developing measuring skills in a range of contexts.

Teaching and Learning.

At Iver Village Junior School we believe that all our children have the potential and ability to succeed in maths. We ensure that all children have the opportunity to access learning in different ways; including practical work and teach self-regulation and meta cognitive strategies to allow

learners to take charge of their own learning. We understand that maths can feel challenging and scary to many children and teach everyone to embrace challenge as an essential part of learning.

- Maths lessons are taught using a whole class interactive teaching, where the focus is on **all** pupils working together so that all can master the concepts before moving on to the next part of the curriculum sequence, allowing no pupil to be left behind.
- Children's understanding is developed using concrete and pictorial examples before abstract concepts are introduced. Teachers appreciate that some children may need concrete and pictorial examples for longer than others and this is available in all lessons.
- Children have the opportunity to use a wide range of resources such as Numicon, number lines, number squares, digit cards and small apparatus to support their learning and are encouraged to choose what they feel best supports them.
- Teachers will use a variety of teaching and learning styles in mathematics lessons to make it interactive, engaging and accessible to all pupils. Our principal aim is to develop children's knowledge, skills and understanding in mathematics.
- Children are encouraged to ask as well as answer mathematical questions. With the support of STEM sentences, pupils are encouraged to explain their mathematical reasoning in full sentences rather than one word answers. Teachers ensure that children understand the STEM sentence they are using to answer questions through the use of concrete and pictorial examples.
- 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.
- Throughout lessons a range of strategies are used to ensure effective differentiation. There will be 4 tasks in each lesson labelled: **Hard, Harder, Hardest and Herculean**. These tasks will all be relevant to the day's learning question and offer support and challenge where needed. Problems will be presented in different ways and encourage pupils to apply and manipulate their mathematical understanding.
- Children will be encouraged to "self-mark" their learning in each lesson and take responsibility to moving to the most appropriate challenge for them. Teachers will support children in this decision where necessary.
- Teachers will make use of pupils as a "knowledgeable other" to support the learning of peers. This will develop both children's learning and quality of understanding.

- Times tables booklets are available for all pupils to work through. They support children in representing their times tables and making links between similar times tables. They also provide opportunity to develop fluency and speed with times tables.
- All children will have a **cracking times tables** test weekly and move through levels at their own pace. This provides support and challenge to pupils where necessary.
- Times table mastery league is carried out termly. This provides a motivation to learn their tables
- Maths lessons will be taught in a sequence of 4 following medium term planning (underpinned by the National Curriculum and the White Rose small steps guidance). The fifth lesson a week will be arithmetic. An arithmetic test will be given every other week which will allow teachers to identify key gap areas. Key gap areas will be taught explicitly the following week.

The teaching mathematics to children with special needs

It is part of the school curriculum policy to provide a broad and balanced education to all children. We provide learning opportunities that are matched to the needs of children with learning difficulties. Learning in mathematics takes into account the targets set for individual children in their Educational Health Care Plans (ECH) or Individual Education Plans (IEP). All children, regardless of need, can and will be taught in a whole class setting. Pre teaching, individual support, effective questioning and additional resources can be used where necessary to ensure effective differentiation. Additional intervention sessions take place outside of the maths lessons to ensure gaps are closing and knowledge is secured.

Mathematics curriculum planning

We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term). Using the National Curriculum and documents created by White Rose, we develop the following:

- Our long term teaching programme identifies the key objectives in mathematics that we teach throughout each year and ensures progression from one year to the next as well as full curriculum coverage. This is identifiable on the White Rose planning for each year group.
- Our medium-term mathematics plans give details of the main teaching objectives for each term. These define what we teach and how we sequence lessons. Ensuring that a balance of approaches can be used. It also identifies key vocabulary that children will need to access learning and when it should be taught. This is created on the school format by maths leader and class teachers.
- Our short terms, or daily plans, are the responsibility of the class teacher prepares PowerPoint slides and resources required for the lesson. These plans should always include a

starter activity, presenting of Learning Question and Success Criteria, discussion of key vocabulary and/or stem sentence where appropriate, key teaching points with opportunity for practice at different stages as well as a clear explanation of children's tasks. These can be discussed on an informal basis with the subject leader.

Assessment and recording

Assessment in maths forms part of the assessment for learning cycle. It is an on-going process which takes a number of different forms.

- Daily assessments are used to help regularly adjust plans and review progress to meeting the lessons learning intention, as well as objectives stated in the Primary National Curriculum and on Target Tracker. Learning questions and skills based success criteria are shared with the children in every lesson, common misconceptions are identified by the class teacher and recorded on daily recording sheets. Children in need of additional support or further stretch and challenge are also identified for focus groups in the following lesson. Teachers monitor the acquisition of skills, knowledge and understanding through appropriate teacher intervention, observations and discussions with groups and individuals.
- Daily assessments are made in mark books by highlighting on the learning pit to show the understanding of every child in the lesson and recorded on daily record sheets.
- Summative assessments are made at the end of each half term in a dedicated assessment week. The first half term will be based on teacher assessment on target tracker objectives. The second half term will use written assessments in which scores are converted into a target tracker step. Children's progress and attainment will be reviewed in half termly pupil progress meetings and will identify those children who need additional intervention.
- Final assessments of the children's learning are made towards the end of the school year, and we use these to assess progress against school and national targets. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents. We pass this information on to the next teacher at the end of the year, so that s/he can plan for the new school year.
We use the national tests for children in year 6.

Monitoring and Review

Monitoring of the children's learning and of the quality teaching in mathematics is the responsibility of the mathematics subject leader. This will be monitored each half term in four ways:

- Book scrutinies,
- Learning walks/observations.
- Planning scrutines and
- Data analysis.

The mathematics subject leader will give the Head teacher half termly, termly and an annual evaluation of the subject, identifying strengths and weaknesses and areas for further improvement. The head teacher allocates regular management time to the mathematics subject leader so that the subject can be monitored. Finally, a named member of the school's governing body is assigned to oversee the teaching of numeracy and this governor meets regularly with the subject leader to review progress.