

## **Maths Policy**

### **Intent**

#### **Vision**

Mathematics is an essential skill in everyday life. It provides children with a way of viewing and making sense of the world in which they live. Building on their own experience it encourages thinking and reasoning skills, embraces natural curiosity and develops the confidence to tackle problems which arise, not only in mathematics, but also in other areas of the curriculum. At West Earlham Infant and Nursery School (WEINS) we endeavour to make maths a practical subject where challenges are accepted and solved, and mistakes are recognised as part of the learning journey. By adopting the NCETM's mastery approach to maths (as of September 2022), we aim to foster an environment where all children reach their full potential and develop resilience to problem solving.

#### **Aims**

1. To promote a positive attitude to mathematics for all children, enabling them to approach mathematical activities with confidence, understanding and pleasure.
2. To develop confidence and mental fluency with whole numbers, counting and place value.
3. To offer varied and frequent practise of problem solving, increasing in complexity over time.
4. To develop reasoning skills and independence in problem solving.
5. To provide a unique creative curriculum which meets the needs of The Early Years Foundation Stage and Key Stage 1 National Curriculum.
6. To provide clear methods and strategies for children to use to solve problems.
7. To enjoy the fascination of mathematics and develop an appreciation of numbers, patterns and relationships within mathematics and links to other curriculum areas.
8. To build upon and extend children's previous experiences and ensure progression in the development of their understanding, knowledge and use of mathematical language.
9. To accurately assess children's progress in mathematics using formative assessment to ensure we provide the appropriate next steps and support in their learning.
10. To engage families with the maths taught in school so that they can share in, and support, their children's learning journey.

### **Implementation**

#### **Teaching and Learning: Early Years Foundation Stage**

Mathematics is a specific area of learning in the Foundation Stage, divided in two:

1. number
2. numerical patterns.

In the Early Years, children are taught mathematics through songs, stories, routines, games and play. They have the opportunity to develop their understanding of number, measurement, pattern, shape and space. An explicit maths input is taught at least four times a week, with carefully planned linked activities and resources provided in the environment for the children to explore, and to support their mathematical development.

#### **Teaching and Learning: Key Stage 1**

In Years 1 and 2 lessons are focused on developing basic mathematical skills, fluency, reasoning, and problem solving, and providing opportunities for children to develop a deep understanding of mathematical concepts. Lessons are taught daily during the morning.

- All lessons start with a counting starter, e.g. counting in ones, twos, fives, tens, or counting on or back from given numbers.
- Adults introduce relevant maths vocabulary and refer to this.
- Children understand the focus of their learning. This might be through a shared learning objective, success criteria or an outcome.
- Throughout the lesson children are encouraged to talk to each other and develop their understanding and higher-order skills through activities.
- During maths lessons children work as a whole class, in groups, in pairs or independently depending on the concepts being taught.
- Each classroom has a specific maths area where the children can practise maths skills in the continuous provision. Activities are planned in accordance with the National Curriculum objectives being taught.
- Children have opportunities to use concrete objects to deepen their understanding and to avoid misconceptions.
- Plenary sessions can be used at different stages throughout a lesson to address misconceptions, review learning and to identify good role models.
- Most weeks in Year 1 and Year 2 learning consists of four sequenced lessons and on the final day children will do a REVISIT, REVIEW, RECAP lesson where they will have the opportunity to embed the skills learnt during the four days, have misconceptions challenged and have the chance to practise and revisit previously learnt skills through problem solving opportunities.
- Children in KS1 have access to Maths Challenge Mats, on which they can practise fluency of skills and either work on these in small groups with an adult or during independent learning time.

## **Display**

In Key Stage 1 classes maths words relevant to the current learning are displayed, building up a bank of maths vocabulary. All classes have a number line displayed at all times. In Reception the numbers lines are 1-20 and in Key Stage 1 the number lines are 1-100. All Key Stage 1 classes have a maths working wall showing the current maths learning for the year group. The working walls are updated with each change of objective to give clear learning support for the children.

## **Resources**

Each class has well organised concrete maths resources, which are 'real' where possible. These include:

- 100 number squares (KS1)
- Bead strings
- Clocks
- Coins
- Counters
- Dice
- Diennes / Base 10 (KS1)
- Dominoes
- Maths Challenge Mats (KS1)
- Maths games
- Multi-link
- Number cards
- Number lines
- Number fans (KS1)
- Number stick (one per class)
- Numicon
- Place value / arrow cards
- Rekenreks
- Rulers
- Tens frames
- Vocabulary display (KS1)
- Watches (KS1)

Children are encouraged to access these independently and look after resources appropriately. There is a centrally based selection of resources (e.g. scales, weights and capacity containers), which are available in the maths cupboard.

### **Feedback, Next Steps and Targets**

Oral feedback is the most common feedback for young learners. Next steps and targets are set for groups and individuals and are recorded in books. Children are given regular opportunities to work on errors in their work and to be successful.

Maths books are marked according to our feedback policy. Incorrect number formation and calculations are underlined by an adult for the children to correct.

In the Early Years Foundation Stage children's next steps are clearly shown in their learning journeys. These are shared with the child and their families.

### **Inclusion, Differentiation and Pupils with SEND**

At West Earlham Infant and Nursery School we are committed to ensuring the active participation and progress of all children in their learning. All children are given equal opportunities to achieve the best possible outcome, regardless of their current attainment and irrespective of gender, ethnic, social or cultural background, religion, home language, or any other aspect that could affect their participation or the progress of which they are capable.

The mastery supports differentiation through the support and intervention provided to different children, not in the topics taught. This means that the content taught is largely the same, but the questioning and scaffolding individual children receive in class as they work through problems will differ. In exceptional circumstances, if a child's needs are best met by adapting independent tasks, including coverage of the content from a previous year, specific arrangements for the provision of children with SEND are shared with relevant staff and are communicated to families at SEND reviews and parent meetings.

Children are not grouped according to their attainment in maths. Differentiation can be seen in planning, through questions and support given, through use of practical activities and different ways of recording by the children. It is led by the needs of the children as identified by their targets or School Support Plans. Adults in the classroom are deployed by the class teacher to support or extend children.

Some children sometimes need further support to grasp certain mathematical concepts. We work with all children at varying times in the day to make sure they have a chance to catch up on concepts they find challenging. This is done with an adult and can be on a 1:1 basis or small group work.

### **Home Links**

Parents are informed about their child's targets and next steps in their learning and supported to help their child at home. In Key Stage 1 parents are invited into class termly to look through their child's books and children are encouraged to talk about what they have learnt and what they are working towards (next steps). At parent review meetings, parents are given a sheet with their child's targets, as well as resources to support their child at home (for example number lines and number cards).

Parents are invited to Maths Cafes where they can enjoy maths-linked opportunities with their children in classes across the school.

Once every half term children are given a Whole School Maths Challenge. This is a fun, practical activity the children can enjoy at home which helps to develop children's mathematical fluency, reasoning and problem solving. Each Maths Challenge is introduced on Class Dojo to highlight the event. Stickers are given to the children as an acknowledgement of their participation.

All classes have a Maths Monkey. Children all get a chance to take Maths Monkey home and do an activity of their choosing, which they can evidence in the accompanying book.

On Maths Monkey's birthday (February) the children celebrate with a maths-themed day with activities to promote a love of maths from Nursery to Year 2. It is a non-uniform day where children have the opportunity to wear something maths related. They attend a whole school maths birthday assembly and enjoy maths throughout the day.

## **Maths Coordinator's Role and Responsibilities**

The maths lead attends regular training with other subject coordinators from the county and shares updates, new resources and strategies with the rest of the staff. In addition, it is their job to:

- Act as an advocate for maths through best practice by modelling lessons, as appropriate, to new staff, ECTs and peers, to support continued professional development.
- Ensure classroom environments are conducive to learning, through effective displays, vocabulary, and the accessibility and availability of resources.
- Review the maths policy and monitor its implementation.
- Develop a focused action plan for mathematics for the school and monitor its progress.
- Audit centrally held resources, and purchase additional resources when necessary.
- Monitor progression and continuity of maths learning across the school through regular learning walks, 'book looks' and phase meetings, when appropriate.
- Work collaboratively with staff to promote continuity and progression.
- Attend relevant inset courses, and disseminate developments.
- Organise, and if necessary deliver, staff training.
- Develop enthusiasm for maths through Maths Monkey, by providing a Maths Monkey for each class and a Whole School Maths Challenge each half term.
- Report to parents, governors and others when appropriate.

## **Impact**

The children at West Earlham Infant and Nursery School enjoy maths. It is a practical subject taught through the direct use of shared manipulatives. Teaching emphasis is on problem solving to ensure pupils have the confidence to independently reason through acquired knowledge and established fluency. We can see that children know more, remember more and that feedback is effective, with children understanding their next steps.

### **Assessment: Early Years Foundation Stage**

On entry to Reception, children are assessed using the Tapestry baseline and against the government's Reception Baseline Assessment. At the end of the Reception year children are assessed against the Early Learning Goal in Mathematics.

Teaching sequences ensure that children know how to be successful in their independent work and address common misconceptions. Children in the EYFS are assessed against an online tracking system from Tapestry. During the year, in Reception and Nursery, practitioners continually assess and plan informally and in-the-moment to support children's next steps and challenges in mathematics during continuous provision.

### **Assessment: Key Stage 1**

At the start of the year children are assessed in our school baseline assessment. This identifies children who require intervention on basic mathematical concepts and skills. The baseline assessment is reviewed at the end of the year. Children are assessed against the learning objective labels in their books using the marking policy. Children are given time to revisit errors and misconceptions during class time and during Friday Revisit, Review, Recap lessons. Formative assessment is used throughout lessons to support children's next steps in learning and to focus on the impact made; this might be through observations, conversations, use of resources or questioning.

Mid-term assessments for Year 1 and 2 are reported on Pupil Asset as 'pre key stage' for the time of year, 'well below age-related expectations' for the time of year, 'below age-related expectations' for the time of year, 'working towards age-related expectations' for the time of year, 'just meeting age-related expectations' for the time of year, 'meeting age-related expectations' for the time of year, 'securely meeting age-related expectations' for the time of year, 'exceeding age-related expectations' for the time of year and 'securely exceeding age-related expectations' for the time of year. At the end of the year both Year 1 and Year 2 children's progress is reported using the assessment terms outlined above.

**Other policies to refer to:**

- a. Calculations Policy
- b. Teaching and Learning Policy
- c. Assessment Policy
- d. Feedback Policy

**Approval**

This policy has been reviewed in line with the 2010 Equality Act and Public Sector Equality Act. Due regard has been given to equality.

This policy will be adopted in **September 2022**. The date of the next formal review will be **May 2025** and every three years thereafter, unless statutory legislation changes.

Policy approved by the Head Teacher of West Earlham Infant and Nursery School.