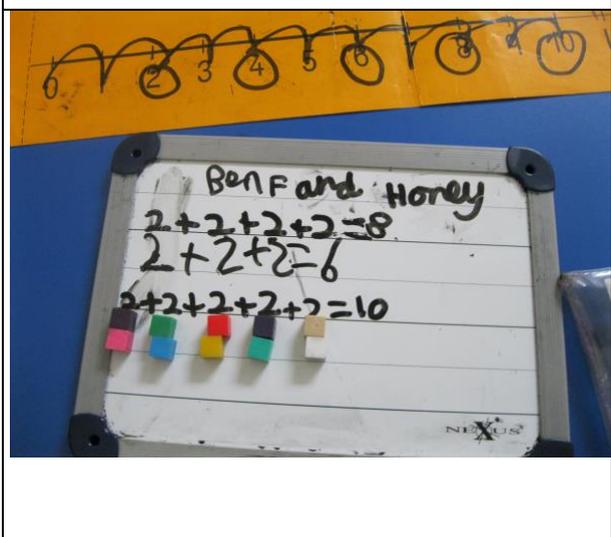


West Rise Community Infant School

Mathematics Policy



Policy updated: June 2019

Review date: June 2020

Updated by Melissa Gilkes in consultation with the staff of West Rise Community Infant School

This policy document sets out the schools aims, principles and approaches for the teaching of Mathematics. In order to take account of new initiatives and learning and teaching strategies, the policy will be updated on a regular basis.

Aims and principles

At West Rise the teaching of Maths is seen as a valuable way of encouraging children to feel confident enough to take risks in their learning and to understand that a “wrong” answer can be a useful and interesting challenge to find a way to get to the “correct” one. We also believe that the children should be able to see the fun and real-life relevance in maths and aim to provide as many opportunities as possible to reflect this.



”Knowing, learning and understanding are not linear...A field of understanding such as Mathematics is a territory, and knowing is not just a matter of knowing all the items in the territory, but of knowing how they compare to, and fit in with each other...[It is the difference between knowing the names of all the streets in a city and being able to get from any place, by any desired route to another place.]”

The aims of Maths at West Rise School are:

- To promote enjoyment and enthusiasm for learning through practical activities and also, where possible, linking maths to the current class topic for a lively approach and to “hook” the children into their learning.
- To nurture a “growth mindset” attitude through the West Rise “Wise Old Owl” approach, encouraging children to see “Problems” and misconceptions as a “Juicy worm” of a challenge to be tackled with “relish” by themselves, staff and the class.

- To develop logical thinking and reasoning skills through a natural curiosity and investigative approach.
- To promote confidence and competence so that children are 'proud to shine' about their achievements.
- To encourage children to see the value of self-evaluating, and to take some responsibility for their learning in maths.
- To develop a thorough knowledge and understanding of 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 develop measuring skills in a range of contexts.
- To enable children to understand and appreciate relationships and patterns in both number and space in their everyday lives.
- To develop a range of Mathematical vocabulary.

Teaching and Learning Style

At West Rise School, we endeavour to teach children exactly where they are and so, in Key Stage One, we choose to split into ability groups. However, as there are so many different components to mathematics these groups are fluid and the children often move between groups as we recognise that their ability may vary according to each area taught.

We also pride ourselves on being reflective practitioners and are willing to alter our practice to meet the needs of the children.

We teach maths lessons daily, which always involve the children undergoing mental maths, teaching new skills or responding to feedback. The ongoing sessions throughout the week give them a chance to practice and apply a new skill. During these lessons we generate the *Steps to Success* with the children so that they have a clear structure in which to tackle their work and fulfil the learning intention. We also encourage children to ask, as well as to answer Mathematical questions.

Children have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. Numicon and Multibase are an integral apparatus for teaching number and is used throughout our school from Nursery through to Year Two. We also have the Numicon software to support our teaching. This is used throughout school both for children to explore and as an interactive teaching tool.

'Numicon is a multi-sensory maths teaching programme using Numicon maths shapes in a series of practical teaching activities. The Maths Shapes give learners insight into number values and relationships in a way not provided by written numerals. Learners develop their own mental imagery as they combine and compare the shapes to do arithmetic in a series of practical activities'. Numicon website

Children and teachers use ICT in Mathematics lessons to enhance learning, and to assist with modelling ideas and methods. Wherever possible, we encourage the children to use and apply their learning in everyday situations such as problem solving and role play. We want children to recognise that Maths is everywhere and that their Mathematical learning and understanding can be applied to a variety of learning contexts. We encourage teachers to give the children a chance to experience Maths activities in our Morning Works and Learning Journey afternoons either to consolidate a concept or for those that may need extra support time to revisit a concept. Also, it is an expectation that opportunities to practise maths skills are given daily. This includes mental maths sessions during fruit & drink times.

We believe strongly that Maths should be an active and meaningful experience for the children and therefore we sing lots of number songs and rhymes and wherever possible we try to invent new songs to teach new concepts (e.g. The number Bonds to Ten song). We also have a variety of puppets in use around the school for example Sir Learn-a-Lot, Blazer the Dragon, Winston Wolf, Chomp the number monster and Dalian the Alien. These characters often are not sure how to solve maths problems and need help from the children.

Maths Display

Every class in EYFS and Key Stage One has a maths display board and a maths table/area which is referred to as a teaching tool. This has relevant mathematical vocabulary displayed alongside a 100 square, as well as the current *steps to success* to the current learning. It is also linked to the current topic for everyday relevance and fun where possible!

Mathematics curriculum planning

Mathematics is a core subject in the National Curriculum and at present we use the new National Curriculum and the West Rise Learning Tree Curriculum Assessment document as the basis for implementing the statutory requirements of the programme of study for Mathematics. We carry out the curriculum planning in Mathematics in three phases (long-term, medium-term and short-term). Our West Rise Guide to maths gives an outline of what we need to teach in the long term, that is, over a year across each year group. Our medium-term Mathematics plans are adopted from this and give details of the main teaching objectives for each term. This is then broken up into weekly planning sessions for our short term planning. This planning is recorded on a weekly planning sheet. These weekly plans list the specific learning intentions for each lesson and give details of how the lessons are to be taught, including provision for SEND, EAL learners and an extension for the more able. This way we aim to ensure an appropriate balance and distribution of work across each term.

Every week we display our planning focus for parents to see and offer suggestions as to how they might support children at home.

Assessment and recording

There are structured assessment and recording procedures in place.

In Key Stage One and EYFS we assess and record children's skills and understanding in a number of ways:

- During the whole class session with the TA using the *carpet observation sheets* to record comments and achievement.
- Teacher noted observations throughout the lesson, including a mid-lesson plenary and the use of the West Rise marking

policy which reflects both effort and understanding (this can be used to inform the planning for the next maths session also).

- Children's self evaluation which they indicate by placing their work in the appropriate self-evaluation trays; *understood; not sure; need more practice, didn't understand and needs more support.*
- Termly assessments which are recorded on the West Rise Summative assessment tracker.
- Pupil Progress tracking grids for each child each term in each year group.
- Standardised Assessment Tasks at the end of Key Stage One
- In the Early Years Foundation Stage Mathematical learning is assessed through ongoing observation and through focussed assessment activities at the end of each term. When/if children meet the EYFS goals they are then taught/assessed against the National Curriculum targets.

Target Setting

In September Key Stage One children arrive in their new classes with a Maths target and this is used as a basis to begin teaching and revised as necessary once Term 1 assessments are made. After these assessments a new target will be set. Targets are discussed with children and each child knows their target. Targets are formally revised at the end of each term and a new target set.

Inclusion

At West Rise School we aim to identify and support all children following the guidance laid out in the East Sussex Dyslexia Policy (See Principles, Section 2, Roles and Responsibilities Section 3). We have a specialist teacher and a team of Individual needs TAs to work with children in need of extra support. Equally, we recognise that some children are particularly Gifted and Talented in Mathematics and we ensure that these children are appropriately challenged too. It may be appropriate to give these children targeted time with an appropriate adult to stretch and challenge them.

There are only a small percentage of children with English as an Additional Language (EAL) at West Rise Infants, but every effort is made to ensure they have the maximum opportunity to access Mathematics. Our EAL provision from the LA varies as to the needs of the school, but at present, an EAL teacher is available and can work with us as appropriate, liaising closely with staff and families to ensure the effectiveness of provision. According to the needs of the child, s/he will provide in class support or withdrawal for more intensive work such as mathematical vocabulary reinforcement.

In whole class teaching sessions, EAL learners are supported by an adult and/or a more able “buddy” and if possible are briefed beforehand as to the topic and vocabulary to be covered in that session.

All staff at West Rise Infants aim to teach inclusively, so the use of props, Role Play, Visual Aids and the practice of pairing EAL children with very able English speakers across the curriculum is embedded in our whole class teaching.

Resources

Each Class should have a set of the following core resources which will be kept in trays clearly labelled for easy access.

- A Numicon set
- Multibase (KS1)
- Multilink
- A set of 2d shapes
- A set of 3d shapes
- Money
- Number lines
- Rulers
- Number fans/ Number’s up cards

Each class will have a number line for teaching and a hundred square this may be a digital number line or hundred square.

Number games and additional resources such as scales and weights and metre sticks/wheels, clocks, problem solving cards are stored in the Maths resource area in each year group.

We aim to make use of our outside environment as much as possible in order to make Maths practical, relevant to everyday life and fun.

By the time children leave our school the minimum we aim to ensure is that they have developed a positive can do attitude towards maths!