

MATHEMATICS POLICY

"Pure mathematics is, in its way, the poetry of logical ideas" - Albert Einstein

Aims

- To raise standards in mathematics using the 2014 National Curriculum programme of Study for Mathematics.
- To meet the 3 aims of the 2014 National Curriculum – fluency, reasoning and problem solving through deep conceptual and procedural understanding.
- To develop skills which enable children to solve problems using number and place value, fractions, the four operations, measures, shape and space and data handling with competence and confidence in a range of contexts.
- To develop children's skills in mental calculation by ensuring they have a repertoire of known facts and strategies to draw upon.
- To cater for the individual child's needs and to ensure that every child achieves his or her potential.
- Be prepared for applying their skills effectively in everyday life situations, in their future learning and in the work place.
- Have the building blocks in place and to provide a solid foundation to lead onto secondary, further and higher education.
- To create an ethos where we believe every child can achieve in maths.

In order to achieve these aims children are entitled to a daily mathematics lesson in which teachers will:

- Share clear learning objectives (WALT) with children and success criteria (WILF) where appropriate
- Use a 5 part lesson structure with same day intervention (where appropriate) and deeper learning tasks for quicker graspers.
- Use a range of teaching styles to incorporate
 - Direct teaching
 - Whole class oral/mental sessions
 - Group/paired work
 - Individual work
- Use accurate mathematical vocabulary and demonstrate good subject knowledge
- Deploy additional adults effectively
- Follow the school's progression in calculations policy
- Ensure problem solving skills are taught at least once a week following the progression in problem solving policy.

- Use a Concrete (using manipulatives) Pictorial (visual images) Abstract (numbers and symbols) (CPA) approach to develop deep conceptual understanding.
- Use the 5 big ideas (mastery) to plan effective lessons
- Use a mastery approach in lessons where differentiation is by way of depth of learning.
- Teachers will use effective questioning to ensure that lessons have a strong focus on why not just how.
- Support and challenge with given through Focused Intervention and Deeper Learning challenges.
- Use Same Day Intervention to address misconceptions and prevent gaps in learning.

Mental Maths

- Regular practice of mental skills through songs and games.
- Plus, two longer, discrete mental maths sessions per week including counting, rapid recall, newly learned facts and calculation strategies.
- Follow the North Yorkshire SMIRF scheme.

A problem solving approach

“Anyone who has never made a mistake has never tried anything new.”

Albert Einstein

Through teaching with a problem solving approach:

- children will learn to understand, distil and clarify information;
- consider what they know that will help them to solve problems, realizing what they need to know next;
- create systems and strategies, organizing information in a way that helps find patterns and ultimately solutions
- communicate and present their findings effectively.

Resources

- Use a range of concrete resources (Numicon, Dienes, place value counters, Cuisenaire rods, cubes, counters)
- Use ICT – laptops, iPads, Beebots
- Teachers are responsible for maintaining classroom resources and requesting new from the subject leader when required.

Homework

- Send out weekly maths challenges to be completed at home
- Give homework activities in line with the school policy

Assessment

- Use the Framework of objectives and the STAT Sheffield grids to aid planning and assessment
- Complete relevant assessments and input half termly data.
- Use assessment for learning strategies (see assessment policy)]
- Use White Rose arithmetic and reasoning papers, Twinkl assessment and Rising Star arithmetic tests to aid teacher's assessment of children.

The subject leader will

- Offer support to teachers in planning, teaching and assessment
- Identify INSET needs and plan and deliver INSET
- Lead by example showing a thorough understanding of the subject
- Work alongside the Headteacher to monitor and evaluate teaching and progress.

The Headteacher will

- Set high expectations and monitor teaching and progress
- Encourage a whole school approach, keeping parents, governors and all support staff well informed.

Parents will

- Be encouraged to develop positive attitudes to mathematics and actively support their children when homework is given
- Be well informed of their children's progress through annual reports and parents' evenings.

Children will be encouraged to

- Enjoy mathematics and see its relevance in real life
- Understand what is expected of them on a day-to-day basis
- Develop mental calculation strategies
- Use mathematical vocabulary with confidence
- Give oral explanations of their methods
- Use their knowledge to solve problems, see patterns, make predictions, present information clearly and interpret data.

Date for next review

April 2018 (Annually)

<u>Policy Adopted by Subject Coordinator</u> Name: Mrs S White	<u>SIGNATURE</u>	<u>DATE</u>
<u>Policy Adopted by Headteacher</u> Name: Mrs J Elcock	<u>SIGNATURE</u>	<u>DATE</u>