

Maths Policy

Stanah Primary School



1 Intent

At Stanah Primary School we aim to inspire all children to reach their full academic potential. In Mathematics this means ensuring a curriculum that is fully inclusive of all children which:

- Develops children's knowledge and understanding of Mathematical concepts whilst enabling them to practice and hone skills and methods;
- Provides children with opportunities to apply learnt Mathematical skills in different reasoning contexts, within Mathematics lessons and across the curriculum.
- Enables children to think critically, and explain and justify their understanding;

2 Implementation

2.1 Progression of skills

Using a mastery approach underpinned by the Lancashire Mathematics KLIPS, each year group will work systematically through maths objectives. Previously taught skills will be rigorously consolidated throughout the year to ensure they are permanently retained and all lessons will be characterised by their rigorous and consistent focus on assessment for learning, active learning strategies, and challenge.

Each year group will systematically work through the following areas of the Mathematics curriculum, staying on topic until the majority of pupils have mastered objectives:

- Place Value
- Addition and Subtraction
- Multiplication and Division
- Fractions, Decimals, Percentages and Ratio
- Statistics
- Measure
- Geometry

This structure allows newly introduced topics to link to and consolidate previously taught objectives, where possible through the context of reasoning and problem solving.

2.2 Teaching and Learning

All Mathematics lessons at Stanah will be characterised by their strong focus on reasoning: the process of applying logical and critical thinking in order to work out the correct strategy to use to solve a problem. Within lessons, children will work with each other and the teacher to formulate a success criteria specific to the objectives of the lesson. This success criteria will then be tested to make sure it is robust and understood. All children will have their own sets of RAG cups (red, orange and green) which they will use to consistently communicate their level of understanding to the teacher:



Green cup – understands success criteria and can confidently teach objectives to peers

Amber cup – understands how to apply success criteria but cannot explain to their peers

Red cup – does not understand how to apply success criteria

Children presenting green cups will be asked to lead the learning in order to prove their understanding, whilst children presenting orange and red cups will receive immediate support via teacher intervention or peer rally coaching (children who are a green cup).

During periods of child led learning, all children will be active by:

- explaining their reasoning
- asking for clarity on what is being explained
- challenging answers and explanations
- elaborating on explanations given

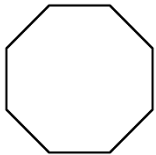
When children are confident with the success criteria for the lesson, they will then be given the opportunity of consolidating and challenging their understanding through single question 'chilli' reasoning challenges of increasing levels of difficulty: mild, medium and hot.

During chilli reasoning challenges, pupils will choose their own starting point and will get immediate feedback through live peer and teacher marking. Throughout these sessions, children will again use their RAG cups to communicate their understanding of each challenge, red cups receiving immediate teacher or peers support. Pupils will also be given regular opportunities in lessons to demonstrate a greater depth of understanding in relation to learning objectives by explaining, justify and proving how their answers to specific chilli challenges were derived.

2.2.1 Chilli Challenge example Y6 Perimeter

Mild

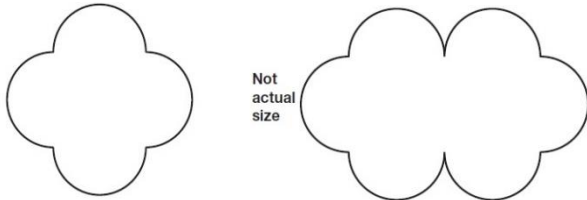
The perimeter of this regular octagon is 48cm.



What is the length of one side? _____cm

Medium

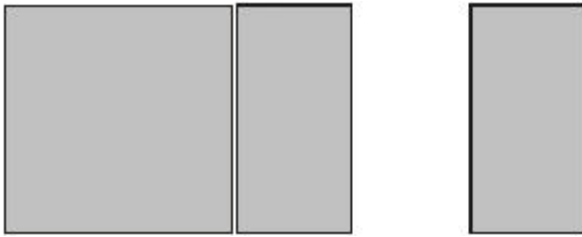
This shape is made out of **four** identical curves and has a perimeter of 28cm.



A new shape is made out of curves the same size. What is the perimeter of the new shape?

Hot

The perimeter of a square is 72 centimetres. The square is cut in half to make two identical rectangles.....



What is the perimeter of **one** rectangle? _____cm

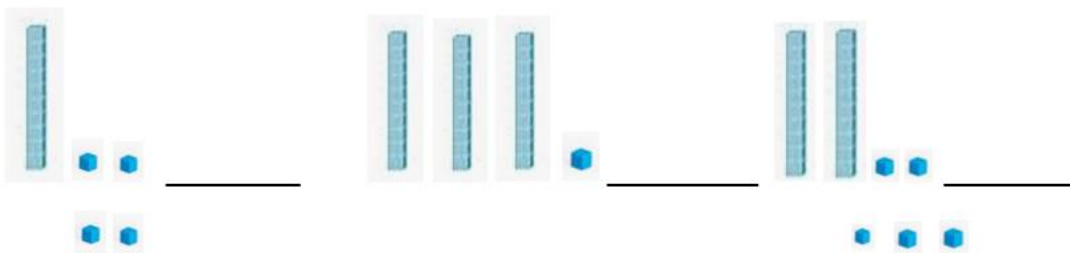
2.2.2 Chilli Challenge example Y3 Place Value

Mega Mild - Write the numbers shown by the base 10.



Mild

Write the numbers shown by the base 10.



Medium - What is the mistake?



Hot

I am thinking of a number.

The 100s digit is between 4 and 6.

The 10s digit is in the 3 times tables.

The 1s digit is an odd number.

What could my number be? _____

2.3 Consolidation

In addition to their daily Mathematics lesson, every pupil at Stanah will have exposure to a daily twenty-minute consolidation lesson whereby previous skills are practised to ensure that they are permanently retained and can be used to make strong links with future mathematics objectives.

2.4 Provision for 'More-Able Pupils'

At Stanah we recognise that there will be children in each National Curriculum subject who perform at level which is better than 'expected'. Academically, these children will achieve a higher level of attainment than their peers whilst those who are talented will display a particular aptitude for art, music, sport and performing arts.

For these children, we aim to provide quality learning opportunities which fit in with the sequence of teaching without accelerating to the next stage. They will be given further opportunities to apply their learning in a wider variety of contexts than expected.

We expect children at this level to be able to prove and clarify their knowledge and understanding with explanations and examples. The more-able children will offer other solutions and different strategies whilst making explicit links to prior learning. They will be able to make considered predictions and will confidently design and create examples of their own.

Throughout their time at Stanah, at every opportunity, pupils are provided with opportunities to develop their resilience and develop growth mindsets where they see failure as the first step to success.

2.5 Planning

• EYFS use the White Rose Maths document to plan their lessons from.

Planning begins from a thorough understanding of children's needs gleaned through effective and rigorous assessment and tracking, combined with high expectations and ambition for all children to achieve.

• Medium term plans for follow the Lancashire KLIPS and outline the areas of mathematics that will be taught during the term to ensure coverage of the National Curriculum.

• Within short term planning of each topic, clear learning objectives are created along with differentiated activities which demonstrate the progression needed to reach and exceed each objective. This enables class teachers to follow a clear and systematic teaching sequence, where input and activities are differentiated and cater for all children.

• Planning, where possible, provides opportunities to learn and consolidate mathematics skills, whilst also involving real life contexts for mathematics, where children are problem solving with a purpose in mind.

• Class teachers regularly plan for opportunities for children to apply their mathematics skills to different problems within Mathematics lessons and across the curriculum. This will also allow children to revisit, practice and consolidate different areas of mathematics and apply them within different contexts.

2.6 Marking and Assessment

- Assessment for learning will occur throughout all mathematics lessons, enabling teachers/teaching assistants to adapt their teaching/input to meet children's needs. This feedback will be incisive and regular.
 - On a daily basis child will self-assess and peer-assess against the learning objective and success criteria, giving them a sense of success and identifying areas for development.
 - Pupil's work should be teacher assessed at least once a week in line with the Marking Policy, giving children a chance to learn from their misconceptions or incorrect methods. Every teacher assessed piece of work should include a 'next steps' challenge or consolidation task.
 - Future lesson design will depend on class success evaluated through marking and observations made during the lesson.
 - Assessment of pupil work and progress is ongoing by the class teacher and informs future planning. Teachers regularly use O-Track online, which allows them to track and monitor children's progress in Mathematics, gathering evidence over the course of the year. Teachers use this information to inform planning for groups and individual pupils. During the course of the year, children will also be given end of topic summative tests.
- EYFS assess the children's learning through observations and these are uploaded to 2Build a profile. Staff meet regularly to discuss these observations and to plan next steps for the children to access in provision.
- Tracking is used in order that children who are not making good progress over time can be targeted for support in one form or another. What that support will be, and how intensive, depends upon the child's needs; it may be a simple strategy within whole class teaching that is needed, or may require further support outside daily lessons. Where further support is deemed necessary, children can access interventions, explained below.

2.7 Tracking and Intervention:

Through regular AFL, end of unit summative assessments and O' Track, both class teachers and senior leaders will regularly analyse data in order to identify pupils with low attainment, or pupils who are making below expected progress in Mathematics. Identified pupils will then be given intervention sessions in order to address gaps in learning in order to accelerate their progression and attainment in Mathematics.

Intervention provided to boost children's progression will follow a 'precision teaching' approach and will be tightly planned. Whilst some interventions may be carried out by Teaching Assistants, what is being taught and how it is delivered will always be the class teacher's responsibility. Therefore, teacher meetings with teaching assistants are planned as regularly as is possible.

Senior leaders will also examine the progress of different groups of pupils such as pupils with English as an additional language, pupils entitled to the Pupil Premium and pupils with Special Educational Needs. Where data indicates a whole school issue, it will form part the School Development Plan.

2.8 Parents and Homework

At Stanah, we recognise that parents make a significant difference to children's progress in Maths and encourage this partnership. The homework policy and individual class curriculum overviews outline how parents can support their children in mathematics. Throughout the year we also provide a variety of mathematics workshops in order to provide parents and carers with the skills and understanding to help their children reach their potential in this subject.

2.9 Displays and Resources

In the classrooms there will be, either on display or easily accessible to children, age appropriate resources, particularly concrete and pictorial apparatus to support children. All classrooms will have interactive working walls which will display essential knowledge for learning, relevant success criteria and annotated examples of children's work.

At Stanah, we have a wide variety of good quality equipment and resources, both tangible and ICT based, to support our teaching and learning of Mathematics. These resources are used by our teachers and children in a number of ways including:

- a) Demonstrating or modelling an idea, an operation or method of calculation, e.g.: a number line; place value cards; dienes; money or coins; measuring equipment for capacity, mass and length; bead strings; the interactive whiteboards and related software; 3D shapes and/or nets; Numicon and related resources and software; multilink cubes; clocks; protractors; calculators; dice; number and fractions' fans; individual whiteboards and pens; and 2D shapes and pattern blocks.
- b) Enabling children to use a calculation strategy or method that they couldn't do without help, by using any of the above or other resources as required.
- c) Providing a context for the application and practise of calculation strategies and number skills.

Standard resources, such as number lines, multi-link cubes, dienes, hundred squares, shapes, etc. are located within individual classrooms and are accessible to all pupils who are encouraged to be responsible for their use.

3 Impact

The impact of this policy and teaching of Mathematics at Stanah is assessed through a variety of channels.

3.1 Monitoring

The monitoring of teaching and learning in Mathematics at Stanah involves

- Lesson observations and learning walks
- Book scrutiny
- Pupil interviews
- Analysis of assessment results.
- Class progress meetings

Following monitoring activities, feedback is given to staff about how they can strengthen their practice and professional development opportunities are identified by phases leaders in order to improve teaching and learning where scope for improvement exists.

3.2 Attainment and End of Year Expectations

Attainment is tracked using Otrack. Teachers will assess specific objectives throughout the year depending on what has been taught. All pupils will also complete end of topic assessments at the end of each unit of work and at the end of each term, teachers will make judgements and provide each child with a year group level:

- Entering
- Developing
- Secure

A child working beyond their age group skills, is assessed to be working at Greater Depth. To assist these judgements, the Key Learning Indicators of Performance (KPI's) from the Lancashire KLIPs, are used alongside Otrack. Moderation is used across the school to assess individual pupils' ability in Mathematics and ensure consistency of levels given.

Review and Update

This policy is to be reviewed on a yearly basis by the subject leader.