



Oasis Academy Hobmoor Maths Policy

Our Vision

Through a positive caring environment, we provide the opportunity for every child to reach their full potential and ensure we provide the cultural capital to nurture mathematicians of the future.

Rationale

Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways.

Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind, we endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them beyond Oasis Hobmoor

The National Curriculum order for mathematics describes in detail what pupils must learn in each year group. Combined with the Calculation Policy and progression maps of White Rose Maths, this ensures continuity and progression and high expectations for attainment for all pupils in mathematics.

It is vital that a sense of resilience, perseverance and a positive attitude towards mathematics is encouraged amongst all of our pupils in order to foster confidence and achievement in a skill that is essential in our society. At Oasis Hobmoor, we use the National Curriculum for Mathematics (2014) as the basis of our mathematics programme which is supported and implemented through the White Rose Maths programme as well as being supplemented by BrightPi, Real World Maths and Maths No Problem. We are committed to ensuring that all pupils achieve mastery in the key concepts of mathematics, appropriate to their age group, in order that they make genuine progress and avoid gaps in their understanding that provide barriers to learning as they move through education. Assessment for Learning, fluency, varied fluency, number sense, an emphasis on investigation, reasoning, problem solving and the development of mathematical thinking and a rigorous approach to the development of teacher subject knowledge are therefore essential components of the Oasis Hobmoor's approach to this subject.

Aims

We aim to provide the pupils with a mathematics curriculum and high quality teaching to produce individuals who are numerate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical skills to the full.

Our pupils should:

- Have a well-developed sense of the size of a number and where it fits into the number system in Autumn term
- Know by heart number facts such as number bonds, multiplication tables, doubles and halves (especially by Year 4)
- Know by heart to figure out numbers mentally and through jottings
- Use the mantra- Use what they know to solve what they don't know
- Calculate accurately and efficiently, both mentally and in writing on paper

- Develop effective and efficient strategies in arithmetic
- Drawing on and having a bank of calculation strategies
- Recognise when it is appropriate to use a calculator and be able to do so effectively
- Make sense of number problems, including non-routine/'real' problems and identify the operations needed to solve them
- Explain their methods and reasoning, using correct mathematical terminology
- Judge whether their answers are reasonable and have strategies for checking them where necessary
- Suggest suitable units for measuring and make sensible estimates of measurements
- Explain and make predictions from the numbers in graphs, diagrams, charts and tables
- Develop spatial awareness and an understanding of the properties of 2d and 3d shapes
- Use concrete resources to embed mathematical concepts into their long term memory
- Use Spaced Repetitive learning strategies to transfer knowledge from working memory to long term

Provision

Pupils are provided with a variety of opportunities to develop and extend their Mathematical skills, including:

- Group work
- Paired work
- Whole class teaching
- Individual work including 1:1 tuition

Pupils engage in:

- the development of mathematical strategies
- written methods
- practical work
- investigational work
- problem solving and reasoning
- mathematical discussion and language using SOLO Taxonomy
- consolidation of basic skills and related number facts to build number sense
- maths meetings/ do now activities/ true or false statements
- TTRockstars

We recognise the importance of establishing a secure foundation in mental and written calculation and recall of number facts before formal methods are introduced. We use accurate mathematical vocabulary in our teaching and children are expected to use it in their verbal and written explanations.

Mathematics contributes to many subjects and it is important the children are given opportunities to apply and use Mathematics in real life contexts. It is important that these skills are transferable to other subjects for pupils to embed their learning e.g. there should be regular, carefully planned opportunities for measuring in science and technology, for the consideration of properties of shape and geometric patterns in technology and art, and for the collection and presentation of data in history and geography as well as science.

We endeavour at all times to set work that is challenging, motivating and encourages the pupils to think about how they learn and to talk about what they have been learning. Additional enrichment opportunities are provided for pupils to further develop mathematical thinking e.g. through cooking, music, and maths investigations and games.

Teachers plan problem solving and investigational activities every week to ensure that pupils develop the skills of mathematical thinking and enquiry and a sequence of fluency, varied fluency and reasoning within the lesson.

To provide adequate time for developing mathematics, maths is taught daily and discretely. Maths lessons may vary in length but will usually last for about 1 hour and 20 minutes in Key Stage 1 and in Key Stage 2 with additional time for 10-15mins of maths meetings for at least 3 times a week which cover topics not taught in the week. KS1 use both Maths Mastery in congruence with White Rose Maths for their Maths lessons whereas KS2 use the White Rose Maths programme.

At Oasis Hobmoor, we believe that if firm foundations are established in key mathematical concepts in the Autumn term then children are able to develop a deeper and more cohesive understanding of complex mathematics throughout the year. For this reason, we have a whole school approach of teaching number topics withing the autumn term.

Throughout EYFS, concepts are covered through discussion, language development and GLD targets in Mathematics, Communication and Language and Understanding the World through Maths Mastery and White Rose Maths.

Furthermore, in order to further promote investigation in maths and skills linked to problem solving, logic and reasoning the school utilises NACE, Number Talk, Real World Maths, Bright Pi, NCETM, NRich and Testbase.

Teaching Approaches

Teachers use a range of teaching strategies to engage the children in maths and ensure progress is made by all children within a class; no set formula is used and each lesson follows a sequence that is progressive. A typical lesson would include:

- Both teaching input and pupil activities, do now tasks and talk tasks
- A balance between whole class, guided grouped and independent work, (groups, pairs and individual work)
- Targeted differentiated activities/objectives and appropriate challenge.
- Progressions through fluency, varied fluency, problem solving and reasoning within the lesson

Sometimes the focus for the session is new learning, at other times pupils may be practising, to master the application of a concept they have learned earlier. The focus of the session may vary for different children depending on their learning needs.

At times, there may be opportunities to develop skills and understanding of mathematics through additional activities, some of which may take in school as instant and immediate intervention or take place at home as home learning. The school has invested in the 'TTRockstars' and White Rose Maths websites which are accessible learning platforms that can be used to set differentiated homework for pupils at home.

Teachers plan learning that is differentiated to meet the needs of all pupils, whether they have a specific learning difficulty in maths or whether they are particularly able.

Teachers endeavour to differentiate learning appropriately for high attaining, middle attaining and low attaining pupils – possibly with individual work for an SEN pupil at one end of the achievement spectrum, to individual work for a gifted pupil at the other.

More Able

At Oasis Hobmoor, our aim is to enhance the experience of more able/gifted and talented children in Mathematics allowing them to delve deeper into concepts especially through investigations,

discussions, reasoning and problem solving. This is further enriched through competitions at King Edwards Grammar schools and projects such as the Brilliant Club which is a mini-degree experience.

Target Setting

Teachers have regular discussions in pupil progress meetings every half term or term, for each child which allows the teachers to analyse in depth the progress that children are making and identify the needs who require more support. Targets are also set to track children who are greater depth. In EYFS these targets are presented as individual targets for each child.

Assessment

Formative Assessment

Teachers integrate the use of formative assessment strategies such as effective questioning, clear learning objectives, the use of word banks, do now tasks and effective feedback and response (verbal or written) in their teaching.

Summative Assessment

Using half termly tests, pupils are assessed against NC levels every half term. The school's progress tracking system is updated termly.

National Curriculum tests are used at the end of KS1 and 2; teachers use past and sample papers to inform their assessments as they prepare pupils for these assessments. All other year groups use Headstart papers termly to assess children's progress along with teacher assessment to give an informed outcome.

All assessments and teaching informs teachers understanding of a child's ability in maths and this is recorded through curriculum skills that can be found in the front of each child's book. These are updated every half term with a date of achievement .

The school's Assessment and Marking Policies inform high quality feedback and pupils' response to it in Mathematics especially through RPQ and RPQ+ feedback.

Early Years Foundation Stage (EYFS)

We follow EYFS curriculum guidance for Mathematics. However, we are committed to ensuring the confident development of number sense and put emphasis on mastery of key early concepts. Pupils initially explore numbers to 20 and the development of models and images for numbers as a solid foundation for further progress. This is also emphasised through the development of mathematical language and reinforced on a daily basis.

Resources

A bank of essential mathematics resources including Numicon and Cuisenaire rods is kept as well as a box of manipulatives for each phase. Further resources relating to key whole school topics for example 'shape' are kept in a centralised cupboard in KS2.

Role of the Subject Leader

- Ensures teachers understand the requirements of the National Curriculum and helps them to plan lessons.
- Leads by example by setting high standards in their own teaching.
- Prepares, organises and leads CPD and joint professional development.
- Works with the SENDCO and Pastoral Team
- Observes colleagues from time to time with a view to identifying the support they need.

- Keeps parents and staff informed about Mathematics issues
- Discusses regularly with the Headteacher any issues and updates as well as new theories to implement to enhance children's experience and up-skill staff
- Monitors and evaluates mathematics provision in the school by conducting regular work scrutiny, learning walks and assessment data analysis.

Maths Policy for reviewed in Nov 2020 by A. Asghar (Mathematics Lead)