

DEEP DIVE:

Curriculum area: Maths



Belle Vue
School



Cornfields
School

'Improving life chances'

$$y + 7 = 3x$$

$$2x + 3 + 7 = 3x$$

$$2x + 10 = 3x$$

M A T H S

INTRODUCTION

In September 2019, Ofsted introduced changes to the inspection framework. They continued to report on all aspects of a school, as set out in section five of the Education Act 2005, but changed the judgement headings and introduced a 'quality of education' judgement.

The revised inspection methodology, which supports the education inspection framework, has combined aspects of the previous key judgements of 'teaching, learning and assessment' and 'outcomes' to provide a more holistic view of standards, particularly focusing on the curriculum.

The new methodology also saw the introductions of 'deep dives', which involves gathering evidence on the curriculum intent, implementation and impact. The Ofsted deep dive is one of the key elements of the new Ofsted inspection framework's curriculum focus.

In any school, the primary focus must be the education pupils are receiving day to day in the classroom. In order to establish if what pupils are receiving in the class is a quality education, we must be clear on the purpose of what we are delivering.

We have therefore utilised the Ofsted 'deep dive' framework as a system to ensure we are focussed on the quality of education and are able to accurately direct resources to achieve an outstanding curriculum. Our staff have looked at the subjects we offer and our cohort of pupils. Our staff have reflected and asked the questions.

1. What is the intention of this programme of study? (Intent)
Only when we can answer this question do we move on to the next question.
2. How should we best deliver this programme of study? (Implementation)
Only when we can answer this question do we move on to the next question.
3. How will we know we have been successful? (Impact)

At the core of our deep-dive approach is to consider and evaluate how education flows from intention to implementation to impact within our school. Without doing this, it would be impossible to form a valid judgement on the quality of the education we provide. Moreover, in completing the deep dives, we are able to ask ourselves pertinent questions and are able to accurately identify areas for improvement, from which we are able to quickly respond to provide necessary improvements in the quality of the education we deliver.

In summary, the deep-dive approach adopted by Ofsted has been developed to allow for accurate assessments of the quality of education to be made. It has been seen that this assessment process is a highly effective tool and we have embraced this tool as a regular feature of our self-assessment process in considering the quality of education we offer.

CURRICULUM AREA: MATHS

Intent

At Cornfields and Belle Vue, we empower pupils with a 'can-do' attitude, embracing our school value of resilience. We make lessons practical and aim for all pupils to enjoy and achieve in mathematics in order to become confident mathematicians. Consistency is key and all teachers build on pupils' understanding of mathematics through a process of enquiry, reasoning and problem solving, therefore inspiring their creativity. We also make use of a range of learning strategies and encourage independence alongside paired work and teamwork. Number sense is vital and this is nurtured from the very beginning to ensure that all pupils can fly high in their learning.

The maths curriculum is planned in a way that develops knowledge and understanding of number and geometry, with topics such as algebra and statistics introduced later. The curriculum reflects some of the key personal goals we want our pupils to succeed in; to enquire, to develop their resilience, communication, cooperation and adaptability. Pupils learn to perform a range of skills including addition tasks, counting numbers and multiplication. Pupils are supported in their numeracy work with differing scaffolding including calculators, number squares, multiplication squares, cubes, etc. There are different expected outcomes for pupils depending on the level that they are working at.

Our curriculum has been created with the needs of our pupils in mind but still mirrors that of the National Curriculum, thus providing our pupils with skills and experiences that are beneficial across other areas of their studies. Pupils have the opportunity to move to more complex areas of mathematics, including the basics of algebra, for example.

We have developed an ambitious curriculum that acknowledges the fear of failure some of our pupils endure, along with severe gaps in their learning. As our primary goal is for every pupil to make progress, we have tailored our maths curriculum to reach individual pupils and enable each one to develop at their own pace. We intend to give our pupils the mathematical thinking and practical skills they will need in their future lives. Our intention is to create a curriculum that can be accessed by everybody and provides opportunities for pupils to identify with real-world relevance. We have developed an innovative maths curriculum that ensures maximum engagement and enjoyment for the pupils, that allows all to access education in this area – and allows for accreditations and positive exam outcomes.

Implementation

We follow a sequence of work that is reviewed regularly to take account of pupils' prior learning. There is a focus on being secure and mastering the basics, for example, mastery of the times tables is taught across all Key Stages, where pupils have the cognitive ability to understand this concept.

We engage younger pupils with the practical aspects of maths by introducing Maths Through Practical Application (MAPA) lessons. In MAPA, they can perform basic mathematical operations such as measuring, weighing, collecting data, and calculating real-life situations. Our maths curriculum progresses from KS1 to KS5 Maths, the last being a step-up to higher levels. Pupils can proceed to either Functional Skills (L1, L2) or GCSE (Foundation and Higher) Maths. Alternatively, we offer an Entry Level Certificate (L1-L3).

With small class sizes, our school has the opportunity to do what many mainstream schools cannot; customise and differentiate the delivery of each lesson, including one-to-one tuition. This allows targeted learning and enhances the adaptability of the tasks. We apply an 'over teaching' approach, so that knowledge becomes embedded.

The topics are differentiated according to individual pupils' levels by providing appropriately designated lessons. Such study leads to the completion of relevant AQA Awards, where possible.

Many of our pupils have a fear of failure and such failures are quickly visible when engaging in maths. Many of our pupils have desisted from engaging in maths prior to attending our school and therefore have significant gaps in basic knowledge.

As a result, we undertake the following:

- At the start of each new topic, key vocabulary is introduced and revisited regularly to develop language acquisition, embedding as the topic progresses.
- Pupils are taught through clear modelling and have the opportunity to develop their knowledge and understanding of mathematical concepts. The mastery approach uses objects, pictures, words and numbers to help pupils explore and demonstrate mathematical ideas, enrich their learning experience and deepen understanding at all levels.
- Pupils work on the objective at whatever entrance stage they are assessed as being at.
- Pupils can ACQUIRE the skill, APPLY the skill or DEEPEN the skill within the lesson.
- Pupils move through the different stages of their learning at their own pace.
- Pupils, who have shown their understanding at a deep level within the unit, will have opportunities to apply these skills in a GREATER DEPTH activity. This should be challenging and ensure that pupils are using more than just one skill to be able to answer the mathematical problems.
- Reasoning and problem solving are integral to the activities pupils are given to develop their mathematical thinking.
- Resources are readily available to assist with the demonstration of securing a conceptual understanding of the different skills. These are appropriate for each year group.
- Pupils with additional needs are included in whole-class lessons and teachers provide scaffolding and relevant support as necessary.

Impact

As many AQA Awards are completed in the class, pupils will be able to experience immediate success and their self confidence will grow. For many of them, maths should no longer be a source of anxiety, which it has often been in the past. In every lesson, step by step, they will realise that each problem has a solution and that they have the ability and necessary skills to work it out independently.

Additionally each pupil will:

- Show confidence and believe that they will achieve.
- Achieve objectives (expected standard) for their year group.
- Have the flexibility and fluidity to move between different contexts and representations of maths.
- Show a high level of pride in the presentation and understanding of the work.

We aim to inspire pupils and develop enjoyment. We hope to develop pupils understanding of mathematics and to deepen pupils understanding, application and knowledge.

Our pupils achieve a range of qualifications including AQA Unit Awards, Entry Level 1, Functional Skills and GCSEs. We have no 'glass ceilings' and many of our pupils have achieved high GCSE grades in maths.

Mathematical concepts or skills are mastered when a pupil can use mathematical language to explain their ideas or when they have the ability to independently apply the concept to new problems in unfamiliar situations.

IN SUMMARY

The core purpose of our schools is to 'improve the life chances of children'. In short - we aim to reverse and eradicate the known correlation between poor outcomes in life - and factors that have made pupils vulnerable to underachievement at school. We achieve this by going above and beyond, setting high expectations and improving outcomes by working together with others.

We have a clear and compelling vision about the knowledge and skills that pupils need in order to take advantage of opportunities, responsibilities and experiences of later life. Our school ethos and curriculum are firmly embedded with a belief that we can powerfully address social disadvantage.

We are clear about the end points the curriculum is building towards - and what pupils need to know and be able to do to reach those end points. Our school curriculum is planned and sequenced so that new knowledge and skills build on what has been taught previously.

Ofsted has outlined that schools who take a radical approach to the curriculum - with effective sequencing, structure and implementation - will be assessed favourably. We welcome this autonomy and believe that the curriculum needs to be radically reviewed, as doing more of the same will result in the status quo of underperformance of disadvantaged groups being the norm.

A well-constructed, well-taught curriculum will lead to pupils learning more and - and therefore achieving positive results. We aim to ensure that all of our pupils acquire the knowledge and cultural capital they need to succeed in life.