

# DEEP DIVE:

Curriculum area: Science



**Belle Vue  
School**



**Cornfields  
School**

*'Improving life chances'*





# 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: SCIENCE

## Intent

We want to ensure that every pupil gains a rich knowledge of the world – has experience to make sense of it – and builds the confidence to make judgements on what they see. Our sequenced curriculum enables pupils to gain the knowledge they need to discover, understand and begin to explain the world around them. It also ensures pupils learn about the scientific process through which science is achieved and applied.

Fundamentally, we believe that a high-quality science education provides the foundations for understanding the world. We aim for all our pupils to have the opportunity to learn through varied investigations, leading to them being equipped for life. So, as they progress, we assist them in developing greater independence in planning and carrying out fair and comparative tests in order to consider a range of scientific questions.

We believe that our pupils need to have a strong base knowledge on which to build and then springboard their own point of enquiry. We want our pupils to not merely be able to repeat facts or memorised knowledge – but use this knowledge to ask and begin to answer their own questions.

Therefore, we ensure that all pupils are exposed to high-quality teaching and learning experiences, which allow them to develop their scientific enquiry and investigative skills. They are immersed in scientific vocabulary, which aids pupils' knowledge and understanding not only of the topic they are studying, but of the world around them.

Our engaging units of work align to the national curriculum. The same curriculum has been developed to engage pupils in their learning with units such as protecting our environment and global challenges. We aim to show pupils the awe and wonder of science, inspire them to ask questions about the world and work to investigate these in order to provide them with the knowledge and skills necessary for the next phase of their education.

# Implementation

We implement a curriculum that is progressive and sequenced. Our teachers seek to create a positive environment for science learning within their classrooms and support the expectation that all pupils are capable of achieving high standards in science. We ensure that all pupils are provided with rich learning experiences that aim to:

- Prepare our pupils for life in an increasingly scientific and technological world.
- Help our pupils to acquire a growing understanding of the nature, processes and methods of scientific ideas.
- Develop and extend our pupils' scientific concept of the world.
- Build on our pupils' natural curiosity and their ability to develop a scientific approach to problems.
- Encourage open-mindedness, self-assessment, perseverance and develop the skills of investigation, including: observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Develop the use of scientific language, recording and techniques.
- Develop the use of computing in investigating, research and recording.

We believe that skills and knowledge are intrinsically linked in the science curriculum. Our pupils are involved in a wide range of activities that are practical, relevant, cooperative and satisfying in order to help their understanding of scientific concepts and processes. This includes asking questions, discussing, predicting and planning investigations, as well as methods of recording, interpreting and evaluating findings. We aim to link lessons to real life and in so doing we are fostering social awareness, responsibility, resilience and reflective thinking.

Pupils have the opportunity to learn through investigations and to answer specific questions about the world around them. Pupils complete investigations and hands-on activities through the 'practice action' programme. They also have the opportunity to achieve bronze Crest Awards.

We seek to create a positive attitude to science learning. As a result of knowing our pupils well, we are able to deliver a bespoke science curriculum that meets individual needs. Meaningful cross-curricular links are included between the subjects where they are beneficial to pupils learning. As the pupils' knowledge and understanding increases – and they become more proficient in using scientific equipment or collating and interpreting results – they become increasingly confident in their growing ability to come to conclusions based on real evidence.

# Impact

Pupils will be able to work collaboratively and practically to investigate and experiment. They will be able to question ideas and reflect and retain knowledge that is pertinent to science with a real-life context.

Pupils will be able to explain the process they have taken and be able to reason scientifically.

Progress will be continuously assessed to ensure that they are progressing and developing the skills needed for the next level of learning. All pupils are placed on appropriate pathways, so that they cover a variety of topics and develop skills to carry out scientific enquiry confidently. The sequenced topics will challenge pupils, but will also prepare them for achieving AQA Awards, Practical Action certificates and Crest Awards.

We aim for our pupils to engage in quality scientific investigations, promoting scientific enquiry skills that can be applied other aspects of learning, as well as preparing pupils for the world of work.

# 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.

