

## Subject on a page: Science

At Ibstone CE Primary School, we believe in developing the teaching of Science to give opportunities for pupils to question and investigate the world around them. Our Science curriculum helps to shape the future through fun and engaging lessons.



### Intent - We aim to...

Enable pupils to be confident, courageous and resilient scientists

Deliver an investigative based curriculum where pupils are encouraged to ask questions and search for answers.

Develop an enquiry based approach to science lessons.

Support all pupils in accessing high-quality science teaching.

Foster a love of learning where pupils develop their passion for science.



### Implementation — How we achieve this...

Our Science curriculum develops a growing understanding of sense of self for each pupil. Every topic includes a strong focus on the skills of scientific enquiry through an investigative and exploratory approach that makes learning memorable. Pupils will take away a deep understanding of both science content and scientific method. We follow the Developing Experts scheme, which has a very practical approach.

#### Curriculum Design

Developing Experts sequences and maps against the National Curriculum with a focus on prior learning. It focuses on working scientifically, building skills through investigations and practical activities. The activities encourage higher order thinking and link scientific concepts to the real world. Through interactive lessons, pupils are encouraged to investigate problems, learn how science works and discover why science matters in the world. Our curriculum runs on a 2 year rolling programme.

#### Enquiry Based Learning

Enquiry based learning is the driver of every topic based on a scientific strand. Lessons adopt an investigative approach to teaching and learning where pupils are provided with opportunities to investigate a problem, search for possible solutions, make observations, ask questions, test out ideas, and think creatively and use their intuition.

#### Knowledge Rich

Science is taught with knowledge at its core. Through careful plans, units build upon each other. Science knowledge is important for pupils to enable them to explain what they have learnt from scientific process. This process includes questioning, experimenting, collecting data, looking for patterns in results and drawing conclusions.

#### Vocabulary

In order to explain a science investigation or describe observations, pupils need to have a bank of scientific words. Previously learnt vocabulary, based on the topic taught, will be revisited alongside introducing and embedding new vocabulary. Pupils will know the meanings and pronunciation of words and use them in their writing as well as verbal explanations. Key vocabulary for the topic will be displayed in the classroom.

### Enrichment

Pupils are able to take part in online live lessons, enabling them to see science beyond the classroom. Visits to Science Oxford Centre enable pupils to apply their learning to real life contexts and have opportunities to work alongside scientists.

### Practical Approach

Practical work is a vital element of our school's science as hands-on learning experiences are key to the development of skills and the tying together of practical and theory. Good quality practical work engages pupils with the process of scientific enquiry and also communicates the awe and wonder of the subject. A wide range of resources are available to enrich practical activities.

### Assessment and Retrieval Practice

Staff continually assess pupils throughout each lesson and will support / scaffold where needed. Teachers assess understanding of key concepts and investigation techniques used through weekly questions. Summative assessments take place at the end of each unit. Quizzes are used to assess understanding for effective retrieval practice.

### Cross curricular

Our science curriculum is planned to support and enhance our wider curriculum where possible however, these links are not forced.

Weekly Forest School sessions for all year groups enhance the science curriculum as pupils have first-hand experience of science through nature and outdoor learning environment e.g. planting and growing, seasonal changes, forces, insects, habitats, etc.

### High Quality CPD

Staff have open access to high quality CPD through Developing Experts online training and the National College training site.

### Inclusivity

The content of our curriculum is not reduced for pupils with SEND. We ensure that it is amended to suit their needs. Adaptations concentrate on how content is taught rather than changing the content. High expectations exist for all pupils at their own level of understanding.

## Impact

Pupils feel they are scientists. They are engaged in their learning and share a passion for science

Pupils are confident in the use of key vocabulary in a range of contexts

Pupils know more and remember more demonstrating good progress from their starting points

Pupils have the ability to explain their own scientific thinking and understand that science is constantly developing and improving

Pupils can recognise and appreciate the diversity of scientists in Britain and around the world

Pupils are confident in conducting scientific experiments and talking about their learning