

Science at Beit Shvidler

What am I going to learn?

In Science lessons, you will learn about many aspects of the natural world, our bodies, animals, weather, plants, forces, materials and space. Science is the study of how things work, how they develop and grow, and how they are interconnected.

What knowledge and skills will I develop and learn when I study Science?

In Science, you will learn to understand the principles and concepts of **Biology**, **Chemistry**, **Physics**, **Sustainability** and **Engineering**. Working scientifically is a key part of the Science curriculum, and you will learn many skills that will help not just in Science, but in many other subjects. You will learn to think like a scientist. You will develop skills such as developing and asking questions and setting up studies to try to find answers. To complete experiments, you will predict the results you expect and find appropriate ways to record what you find out. You will draw conclusions from the evidence that you find. You will observe and measure, enquire and test. You will learn to gather and classify information, identify and compare. Communication through speaking, listening and writing is vital to the study of Science. Through reporting and presenting your findings, you will evaluate evidence and learn to make a real contribution to the world of Science.

What knowledge and skills will science give me when I leave Beit Shvidler?

Our Scientists will leave Beit Shvidler with an understanding of how the world works through the lens of Science. You will have an appreciation, respect and awe for the natural world which will enable you to become a responsible and active citizen. Through the approach of working scientifically, you will be confident to hypothesise, test and evaluate your predictions. You will start to

examine how information is constructed and how testing can be fair. Through science, Beit Shvidler children will also develop the skills of observation that will allow them to ask questions, think deeply and understand how building a basis of scientific evidence will help them to reach rational conclusions. Engineering is introduced through whole school projects such as 'If you were an engineer.' The pupils discuss the engineer's role and think of their own problems to solve.

Inclusion in Science

At Beit Shvidler, inclusion in Science means that all pupils can access, participate in and think scientifically about the world around them. We maintain high expectations for every learner, ensuring all children engage with the same ambitious, knowledge-rich and enquiry-led curriculum.

Science learning is designed so that all pupils can develop both substantive knowledge and 'working scientifically' skills over time.

Learning is supported through:

- Carefully structured enquiry questions and investigations
- Use of practical, hands-on experiences and visual models
- Explicit teaching of scientific vocabulary and concepts

We use adaptive teaching to remove barriers to learning, including scaffolding, pre-teaching and guided investigation, so that all pupils can observe, question, predict and draw conclusions.

Classrooms are inclusive environments where all pupils are encouraged to ask questions and explore ideas. The Scientific language is explicitly taught and practised and pupils develop confidence to explain their thinking and findings. In our school, curiosity, discussion and different viewpoints are valued and respected.

What does a Science lesson look like?

Each lesson has a progression, with a central flow that draws the main learning into focus. There are different elements, informed by research into best practice in maths teaching, that bring the lessons to life:

- **Retrieval** – each lesson begins with retrieval practice. This improves memory retention and learning outcomes. This may involve filling in the KWL grid or 2 or 3 questions relating to previous learning. Occasionally, short quizzes may be used relating to the previous topic.
- **Famous Scientist** – if it is the beginning of the topic introduce your famous scientist and begin filling in your KWL.
- **Introduction** – Introduce the main concept of the lesson and enquiry question with hands-on resources and/or models, images and drawings or other visual stimulus to make the ideas clear.
- **Independent work**– now children work individually or in small groups, where possible hands on learning using investigation will take place. Learning takes place in small steps built with time for reflection.
- **Live Marking** – children mark small steps (using a green pen in line with the school's marking policy) this allows errors and misconceptions are identified immediately.
- **Reflect** – finally, children are prompted to reflect on and record their learning from each session and show how they have grasped the concept explored in the lesson. An assessment for learning activity will take place where appropriate.