



At Bamburgh School our vision is that pupils will develop the **independence** that they need to lead fulfilling lives by knowing and achieving more throughout their educational journey. This vision underpins the curriculum offer in every subject, and informs our over-arching curriculum intent: to empower pupils **to understand and interact positively** with the world around them. The four elements which constitute our school motto (**aspiration, commitment, good manners and enjoyment**) are regularly re-inforced by staff and well-understood by pupils - providing them with an easily accessible route map to success.

Science Curriculum Intent

At Bamburgh School, **we encourage our learners to be inquisitive** throughout their time at the school and beyond. The Science curriculum fosters a **healthy curiosity about the world in which we live and our universe**. **This promotes respect for the living and non-living**. We believe science encompasses the acquisition of knowledge, concepts, **skills** and **positive attitudes**. Throughout our programmes of study, our learners will acquire and develop the **key knowledge** that has been identified within each unit and across each year group, as well as the **application of scientific skills**.

We ensure that the 'Working Scientifically Skills' are developed throughout learners' time at the school, beginning in EYFS and continuing right through to KS4, so that pupils can apply their knowledge of Science when using equipment, conducting experiments, **building arguments** and **explaining concepts confidently**. This empowers pupils to continue to ask questions and be **curious about their surroundings**.

At Bamburgh School, our Science teaching and personalised curriculum offers opportunities for learners to:

- **Develop an enthusiasm and enjoyment of scientific learning and discovery**
- **Be RESPECTFUL & responsible citizens who make a positive contribution to society**
- **Understand how their personal actions impact on the environment, the world they live in and leave behind for future generations**
- **Be equipped with the scientific knowledge required to understand the uses and implications of Science, today and for the future**
- **Develop scientific knowledge and conceptual understanding through the 3 specific disciplines of Biology, Chemistry and Physics**

- Acquire understanding of the nature and processes in Science through varied types of enquiries that help to build on their scientific knowledge
- Be inquisitive about the world they live in: how and why things work
- Use cross curricular skills to develop a range of methods to communicate and present scientific information
- Develop a respect for the materials and equipment they handle with regard to their own, and other pupils ' safety.

Additional Science opportunities are provided within school and in alternative settings. These are to enrich and link our classroom based learning to real life. These will include an acknowledgement of national STEM-related seasonal events through theme days, Science fairs, and educational visits to Museums. Additional learning experiences will also allow learners to explore their outdoor environment and locality including our local beaches and our on-site Forest School.

At EYFS, and Key Stages 1 and 2

Pupils have weekly lessons in Science throughout Key Stage 1 and 2, using tailored and differentiated programmes of study.

In EYFS, much of the science is based on pupils exploring the world around them, finding out why things happen and how this affects their lives. This involves guiding pupils to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment. Our pupils will discover through playing and exploring. Pupils will investigate and experience things, and 'have a go'. Through active learning, pupils will be encouraged to concentrate and keep on trying if they encounter difficulties, enjoy their own achievements and practise creating and thinking critically. Pupils will have opportunities to develop their own ideas, make links between ideas, and develop strategies for doing things.

In Key Stages 1 and 2 the principal focus of science teaching is to enable pupils to broaden their scientific view of the world around them. Our curriculum allows this by providing pupils with the opportunities to explore, talk about, test and develop ideas about everyday events and the relationships between living things and familiar environments. We encourage them to develop their ideas about functions, relationships and interactions; to ask their own questions about what they observe and to make some decisions about which types of scientific enquiry are likely to be the best ways of answering these questions.

Lines of enquiry might include: observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. We highlight cross curricular links and practise oracy and mathematical skills to draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

We endeavour to ensure that the Science curriculum we have created will provide pupils with opportunities to build confidence and motivation to further develop their skills into the next stage of their education and life experiences.

At Key Stages 3 and 4

At Bamburgh School, the Secondary Science Curriculum is designed to foster a curiosity about the world around us, enabling citizens of the future to understand and together explore the world effectively. We facilitate this using scientific principles to both answer and ask questions about the universe and everything in it.

As students journey through their secondary years in Bamburgh School they will build upon the key knowledge and practical skills gained during Key Stages 1 and 2. They will cover the national curriculum ensuring all pupils have a firm grasp of the key concepts they will encounter in everyday life.

They begin by investigating the cornerstones of scientific understanding across all three disciplines such as the Structure of the Atom, Cells, and Forces. Our curriculum also builds hands-on practical skills by providing opportunities to conduct experiments in the lab. Pupils will gain knowledge of the key workings of the human body, so that educated opinions and decisions can be made about health, products and stories in the media.

Through the safe use of scientific equipment, the students will explore and practise investigative skills and accurately test ideas in a wide range of activities, thereby developing the students' logical thinking and problem solving skills.

Students will learn to apply their Maths and English skills to develop their Scientific knowledge, by evaluating data presented in a variety of formats, and forming conclusions. We aim to inspire our future generation to take care of themselves and their planet, by being self sufficient, responsible and productive members of society.

We instil in all students a sense of independence so that they have the transferable skills to become lifelong learners and maximise their employability, for example: organisation, time keeping and teamwork. Our over-arching intent is that our students leave Bamburgh School as confident young people who are able to live SAFE, healthy and fulfilling lives.