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Beckfoot Upper Heaton Science Curriculum Intent

“Our aim is to empower students with the knowledge, skills, and personal qualities they need to be contributing global citizens, and future-ready young people. By offering students the opportunity to understand the world around them and the significant issues our planet is facing, we are empowering them to change their tomorrow with education today.”

Science Intent

At BUH, we want our students to be able to understand and critically analyse the world around them with a focus on protecting living and non-living resources and appreciating the value of major scientific breakthroughs in order to be able to articulate how they have contributed to the understanding of the world they live in, including and beyond their local context. We encourage students to foster their inquisitive nature to answer vital scientific questions throughout their time at the school, and beyond.

The Department for Education state that the curriculum should be ‘remembered and constantly built upon, not merely encountered and fleetingly experienced’. Therefore, we have sequenced 10 knowledge-rich big ideas across KS3, utilising working scientifically and analysis skills, supported by high-quality planning, teaching, and learning. This leads on to studying either triple or combined science at GCSE, providing a platform for students to continue to more advanced science-based studies, providing a gateway into a wide range of career opportunities. We aim to teach these concepts using models, analogies and practical experiences to allow students to demonstrate a deep, critically evaluated understanding. We also encourage the explicit teaching of tier 2/3 vocabulary to ensure students with low reading ages and SEND needs can access the broad and balanced curriculum, in line with the National Curriculum expectations.

Throughout the programmes of study, students will acquire the key knowledge identified within each strand of the National Curriculum, and ensure a systemic progression of key skills in accordance with the working scientifically expectations of the curriculum. We take into account prior knowledge and aim to address misconceptions during each unit of study. These are identified prior to the unit being taught and are re-evaluated after formative and summative assessments, which aim to increase retrieval over time. Cross curricular opportunities are also identified to ensure contextual relevance. Enrichment opportunities are also provided with visits to places of scientific interest, as well as extra-curricular clubs to allow students further opportunities to work scientifically, understand the scientific process and encourage students to ask questions beyond the scope of the National Curriculum. We aim to nurture a love of science through a varied science curriculum to allow students to become scientifically literate participants in society.

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Confident Communicators	Knowledgeable and Expert Learners
<p><i>To create confident communicators, the Science curriculum:</i></p> <ul style="list-style-type: none"> • Utilises a wealth of resources designed to encourage writing and debating scientific concepts. • Ensures students understand key scientific vocabulary. • Provides a safe space to express learners' own views. • Uses comprehension activities to allow students to read and demonstrate understanding. <p><i>The Science curriculum provides opportunities for all learners to:</i></p> <ul style="list-style-type: none"> • Participate in scientific debates on spiritual, moral, social and cultural issues. • Communicate their understanding of scientific concepts both verbally and written in lessons and assessments. • Articulate discoveries in science using the scientific process. 	<p><i>To create knowledgeable and expert learners, the Science curriculum:</i></p> <ul style="list-style-type: none"> • Is knowledge rich. • Is broad and balanced, with a greater breadth in KS3 and greater depth in KS4. • Teaches all three sciences, regardless of the teacher's specialism. <p><i>The Science curriculum provides opportunities for all learners to:</i></p> <ul style="list-style-type: none"> • Apply their knowledge to new and unfamiliar contexts. • Demonstrate their understanding using a range of question types in assessments. • Ask questions. • Study all aspects of science.
Committed Community Contributors	Future-Ready Young People
<p><i>To create committed community contributors, the Science curriculum:</i></p> <ul style="list-style-type: none"> • Encourages students to take a more conscientious attitude towards the world around them. • Teaches students about major scientific issues in the world, including but not limited to: global warming and climate change; biodiversity and genetic modification. <p><i>The Science curriculum provides opportunities for all learners to:</i></p> <ul style="list-style-type: none"> • Openly debate scientific issues facing humanity and the world we live in. • Make informed choices about their own and their families lifestyles. • Become scientifically literate members of society. 	<p><i>To create future-ready young people, the Science curriculum:</i></p> <ul style="list-style-type: none"> • Raises learners' cultural capital • Exposes learners to a wide range of issues affecting the world we live in. • Links scientific concepts to the real world using examples and analogies. • Provides a pathway for students to go on to advanced scientific study. <p><i>The Science curriculum provides opportunities for all learners to:</i></p> <ul style="list-style-type: none"> • Gain skills of retrieval, comprehension and analysis by utilising a wealth of resources. • Write structured responses in standard English, applicable in life outside of school. • Evaluate and make informed choices about their own and their families lifestyles to secure the Earth's resources for future generations.