BBG Academy Curriculum 2025-2026 – Science

This document contains details of how the subject is sequenced over the years of delivery. Included are assessment points and the prior learning that will be included in these assessments. It also includes where topics are revisited to maximise student retrieval and retention. Along with curriculum content, opportunities to develop links with careers are also identified in order to bring the relevance of the curriculum into the wider life context.

Curriculum Intent Statement

The purpose of our Key Stage 3 scheme is to provide robust foundations to allow students to develop into analytical, methodical, and innately inquisitive scientists. Students are encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. The three disciplines are split into topics which are introduced in Year 7 and built upon in Year 8 and 9. Teaching is focused on the scientific method and students are given opportunities within lessons to build the necessary skills to suggest a hypothesis, collate valid data and make logical conclusions, using knowledge shared with them. Students are assessed on their mastery of knowledge and the application of this knowledge in both 'real world' and investigative science. Good habits are reinforced at every possible opportunity: scientific language is used, math's skills are modelled, recall of key knowledge is reinforced and students are given opportunities to both ask and answer questions using experimental approaches.

Teaching science in key stage 4 continues to build upon and deepen the knowledge, understanding and scientific skills developed in the earlier key stage. In Biology, the topics covered seek to understand living organisms and life. It considers the complex systems involving interactions between genes, the environment and random chance. Physics builds its explanations on measurable quantities that can be put into numerical relationships. Chemistry draws heavily on the use of models and modelling to explain the behaviour of matter and routinely involves the synthesis of the objects it studies. Pupils continue to work scientifically and think like a scientist through a broad, coherent and practical based curriculum that will challenge and inspire students.

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Year 7

Term	Content	Sequencing	Assessment	Careers links, Experiences & Future Subject Ambition
Autumn 1	**Topics: Lab Skills & Cells** Plant and Animal Cells Observing Cells Specialised Cells Cell Transport Unicellular Organisms	**Previous topics built on in this topic:** **Key Stage 2 Cells**	**Consolidation/ Summative assessment: Lab Skills** **WRR using a microscope & baseline assessment**	Forensic scientist | Explore Careers | National Careers Service
Autumn 2	**Topics: Particles & Forces** The Particle Model Changes of State Diffusion Gas Pressure Squashing & stretching Drag Forces & Friction Non-Contact Forces Balanced and Unbalanced Forces	**Previous topics built on in this topic:** **Key Stage 2 States of Matter** **Key Stage 2 Forces**	**Consolidation/ Summative assessment:** **Lab Skills, Cells and Particles Assessment** **WRR particles** **WRR stretching a spring**	Osteopath | Explore Careers | National Careers Service

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<table>
<tr>
<td>Spring 1</td>
<td>Topics: Body Systems & Atoms, Elements & Compounds

<table>
<tr><td>Levels of Organisation</td></tr>
<tr><td>Breathing & Gas Exchange</td></tr>
<tr><td>The Skeleton</td></tr>
<tr><td>Movement & Joints</td></tr>
</table>

<table>
<tr><td>Atoms</td></tr>
<tr><td>Elements</td></tr>
<tr><td>Compounds</td></tr>
<tr><td>Chemical Formulae</td></tr>
</table>
</td>
<td>Previous topics built on in this topic:

Key Stage 2 Animals, including humans</td>
<td>Consolidation/ Summative assessment:

Body Systems & Atoms, Elements & Compounds Assessment</td>
<td>Physiotherapist | Explore careers | National Careers Service</td>
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<tr>
<td>Spring 2</td>
<td>Topic: Sound

<table>
<tr><td>Waves</td></tr>
<tr><td>Sound & Energy Transfer</td></tr>
<tr><td>Loudness & Pitch</td></tr>
<tr><td>Detecting Sound</td></tr>
<tr><td>Echoes & Ultrasound</td></tr>
</table>
</td>
<td>Previous topics built on in this topic:
Key Stage 2 Light & Sound</td>
<td>Consolidation/Summative assessment:</td>
<td>TV or film sound technician | Explore Careers | National Careers Service</td>
</tr>
<tr>
<td>Summer 1</td>
<td>Topic: Reproduction & Reactions

<table>
<tr><td>Adolescence</td></tr>
<tr><td>Reproductive Systems</td></tr>
<tr><td>Fertilisation & Implantation</td></tr>
<tr><td>Development of the Foetus</td></tr>
<tr><td>Menstrual Cycle</td></tr>
<tr><td>Flowers & Pollination</td></tr>
</table>
</td>
<td>Previous topics built on in this topic:
Key Stage 2 Living things and their habitats & plants</td>
<td>Assessment week 2 – 28.04.2025

Consolidation/Summative assessment: End of Year Cumulative Assessment</td>
<td>Midwife | Explore Careers | National Careers Service</td>
</tr>
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	Fertilisation & Germination Seed Dispersal Chemical Reactions Word Equations Burning Fuels Decomposition Thermal Decomposition Conservation of Mass Exothermic & Endothermic Reactions			

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Year 8

Year 8 assessment dates

Assessment week 1 – 30.09.2024

Assessment week 2 – 03.03.2025

Term	Content	Sequencing	Assessment	Careers links & Experiences
Summer 2	**Topic: Human digestive system & Atoms elements and compounds** Structure of the digestive system Digestive enzymes Food tests Absorption of nutrients Atoms and elements Metallic elements	**Previous topics built on in this topic:** **Year 7 Particles** **Year 7 chemical reactions**	**Consolidation/ Summative assessment: Non scheduled this half term**	Nutritionist | Explore Careers | National Careers Service
Autumn 1	**Topic- Elements and compounds, Biodiversity and understanding chemical reactions.** Compounds	**Previous topics built on in this topic:**		Countryside ranger | Explore Careers | National Careers Service

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	Chemical formulae Naming compounds Interdependence Sampling techniques Chemical reactions- oxidation and conservation of mass Chemical reactions- combustion and decomposition Chemical reactions- precipitation	**Year 7 body systems** **Year 8 Digestion** **Year 7 chemical reactions** **Year 7 atoms, elements, compounds and chemical formulae**	**Consolidation/Summative assessment:** **Digestion and atoms assessment 15.09.25** WRR adaptations WRR chemical reactions	
Autumn 2	**Topic- Moving by force, classification and variation** Calculating speed Distance- time graphs Streamlining Comparing speeds Classification- Kingdom to species Classification using a key Classification in the field Classification at a cellular level Variation within a species Reproduction and variation Discontinuous variation Continuous variation	**Previous topics built on in this topic:** **Year 7 forces** **Year 7 specialised cells** **Year 7 reproduction in humans**	**Consolidation/Summative assessment:** **Assessment Biodiversity, Understanding chemical reactions and moving by force 17.11.25** **WRR distance time graph** **WRR Continuous and discontinuous variation**	Design and development engineer | Explore Careers | National Careers Service

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Spring 1	Earth's resources Types of rock Structure of the earth Inside rock Making series circuits Measuring current and voltage Fixing faulty circuits Static electricity	**Previous topics built on in this topic:** **KS2 Earth and rocks** **Legacy year 7 – Earth and the solar system**	**Consolidation/Summative assessment:** **Assessment: Classification, variation, Earth's resources, series circuits 09.02.26** WRR earth's resources WRR human reproduction	
Spring 2	Reproduction in humans (2026 only) Lifecycles and puberty Gametes and fertilisation Pregnancy and birth Heating and cooling Exo and endothermic reactions Comparing fuels Renewable fuels	**Previous topics built on in this topic:** **Year 7 chemical reactions** **Legacy Year 7- energy and temperature**	**Consolidation/Summative assessment:** **No scheduled assessment this half term**	Chemical engineering technician | Explore Careers | National Careers Service
Summer 1	**Topic: Making images and diet and health** Colour and the spectrum Reflecting images Refracting images	**Previous topics built on in this topic:** **Year 8 digestive system**	**Consolidation/Summative assessment:** **End of year assessment 25.05.26**	Photographer | Explore Careers | National Careers Service

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	A balanced diet Diet deficiencies Obesity and malnutrition The effects of exercise	**Year 7 waves and sound**		

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Year 9

Year 9 assessment dates

Assessment week 1 – 09.12.2024
Assessment week 2 – 31.03.2025

Term	Content	Sequencing	Assessment	Careers links & Experiences
Summer 2	**Topic: Breathing and respiration and acids and bases** Breathing and gas exchange- recap Aerobic respiration Anaerobic respiration in animals Anaerobic respiration in plants- fermentation PH scale and indicators recap Acids and metals Neutralisation Acids and metal carbonates	**Previous topics built on in this topic:** **Year 7 diffusion** **Year 7 breathing and gas exchange**	**Consolidation/Summative assessment:** **No planned assessment this half term**	
Autumn 1	**Topic: Magnets and electromagnets, Photosynthesis, hidden forces and materials** Magnets Magnetic fields Electromagnets Using Electromagnets	**Previous topics built on in this topic:** **Year 7 Forces** **Year 8 series circuits** **Year 7 plants cells**	**Consolidation/Summative assessment:** **Assessment- Breathing, respiration, magnets,**	Chemical plant process operator | Explore Careers | National Careers Service

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	<table><tr><td>Plants nutrition and photosynthesis</td></tr><tr><td>Adaptations for photosynthesis</td></tr><tr><td>Rate of photosynthesis</td></tr><tr><td>Osmosis in plants</td></tr></table> <table><tr><td>Composites</td></tr><tr><td>Polymers</td></tr><tr><td>Reactivity series and displacement</td></tr><tr><td>Catalysts</td></tr></table> <table><tr><td>Pressure</td></tr><tr><td>Stretching springs</td></tr><tr><td>Moments and levers</td></tr><tr><td>Floating- mass and shape</td></tr></table>		**photosynthesis and materials. 06.10.25** **WRR stomatal count** **WRR investigating springs**	
Autumn 2	**Topic: Adaptations and evolution, Carbon cycle and climate change, Waves** <table><tr><td>Adaptations</td></tr><tr><td>Variation</td></tr><tr><td>Competition</td></tr><tr><td>Natural selection</td></tr></table> <table><tr><td>Rock cycle</td></tr></table>	**Previous topics built on in this topic:** **Year 7 sound** **Year 8 Variation** **Year 8 calculating speed**	Assessment week 1 – **Consolidation/Summative assessment:** **Assessment- Hidden forces, adaptations, Carbon cycle and climate change 08.12.25** **WRR adaptations**	Quarry engineer | Explore Careers | National Careers Service

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	Weathering Atmosphere Carbon cycle Water waves Hearing sound Speed of sound Ultrasound	**Year 9- acids and carbonates**	**WRR The carbon cycle**	
Spring 1	**Topic: Drugs and disease, patterns in the periodic table, Parallel circuits** Infectious and non infectious diseases Gas exchange- recap Asthma smoking and vaping Stimulants and solvent abuse Elements of the periodic table- recap Group 1 and 2 metals Halogens Electrical resistance Making parallel circuits Measuring current and potential difference Mains electricity	**Previous topics built on in this topic:** **Year 9 breathing and gas exchange** **Year 8 series circuits**	**Consolidation/Summative assessment:** **Assessment- Waves, disease and drugs and patterns in the periodic table 02.02.26** WRR drug testing	Children's nurse | Explore Careers | National Careers Service

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<tr>
<td>Spring 2</td>
<td>Topic: Reproduction in plants, Climate change and biodiversity

<table>
<tr><td>Flower structure</td></tr>
<tr><td>Fertilisation and pollination</td></tr>
<tr><td>Seed dispersal</td></tr>
<tr><td>Germination</td></tr>
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<table>
<tr><td>Habitat loss</td></tr>
<tr><td>Deforestation</td></tr>
<tr><td>Climate change and biodiversity</td></tr>
<tr><td>Using plastics</td></tr>
</table>
</td>
<td>Previous topics built on in this topic:
Year 9 carbon cycle
Year 9 plant nutrition and photosynthesis
Year 7 Plant cells</td>
<td>Consolidation/Summative assessment: None planned this half term

WRR reproduction in plants

WRR Carbon Footprint</td>
<td>Florist | Explore Careers | National Careers Service</td>
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<tr>
<td>Summer 1</td>
<td>Topic: Energy transfers, work done and thermal energy, exo and endothermic reactions, DNA structure and maintaining biodiversity

<table>
<tr><td>Energy transfers and energy stores- recap</td></tr>
<tr><td>Specific heat capacity of water</td></tr>
<tr><td>Insulation</td></tr>
</table>
</td>
<td>Previous topics built on in this topic:
Year 7 chemical reactions
Year 8 combustion and decomposition</td>
<td>Consolidation/Summative assessment:
Assessment: Resistance and parallel, biodiversity, reproduction in plants 13.04.26</td>
<td>Geneticist | Explore Careers | National Careers Service</td>
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	Work done Exo and endothermic reaction recap Energy diagrams Decomposition as an endothermic reaction Neutralisation as an exothermic reaction Cells, nucleus and DNA recap DNA structure and the genome Selective breeding and genetic engineering Conservation and maintaining biodiversity	**Year 8 heating and cooling** **Year 7 cells** **Year 9 pH and indicators**	**Assessment- End of year test 25.05.26** WRR- exo and endothermic method writing	