Westbury ACADEMY

Science Long Term Plan

Independence & Preparation for Adulthood

Intent:

At Westbury Academy, our science curriculum is designed to prepare **Pupils for Adulthood** by developing the knowledge, skills, and attitudes they need to understand and engage with the world around them. Through a broad, balanced, and engaging curriculum, we aim to equip all pupils with the scientific literacy and practical experience necessary for everyday life, further education, and the world of work. Our curriculum builds secure scientific and mathematical knowledge to support everyday decision-making and provides hands-on practical experiences that develop technical skills and foster curiosity, resilience, and confidence. Pupils are encouraged to become **Independent** learners and problem-solvers, capable of thinking critically and applying their understanding to real-life situations. Communication is a key focus, with pupils learning to use scientific vocabulary and express their ideas clearly, skills that support success both in science and beyond. Due to the curriculum being tailored for the specific needs of pupils across the whole school, the way that science is delivered differs. In nurture and Years 3 and 4, pupils access science lessons through Cornerstones Curriculum Maestro topics. In Years 5 and 6, science is delivered primarily through White Rose schemes of learning. From Year 7 upwards, pupils prepare for their qualifications through the science team; Years 7 to 9 work towards either Entry Level Certificates or the AQA Synergy qualification, while Years 10 and 11 continue to study GCSE Science.

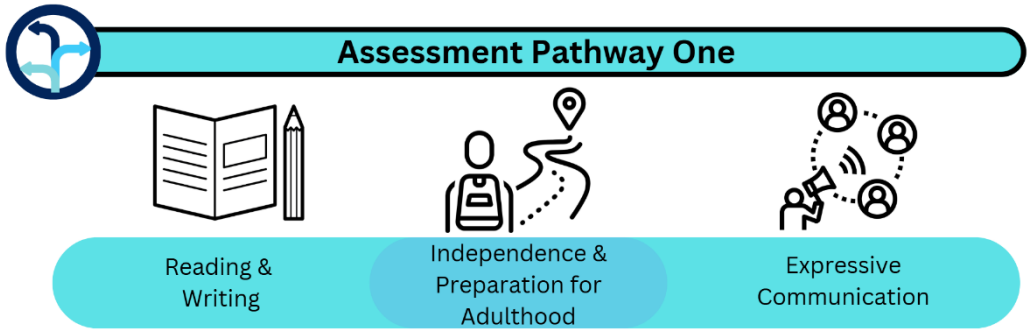
Science at Westbury also supports the development of responsibility and teamwork by encouraging pupils to work independently and collaboratively. Investigative and research skills are embedded throughout, allowing pupils to take ownership of their learning and deepen their understanding of how science connects to their lives and future aspirations. By applying their knowledge in meaningful and practical contexts, pupils grow in competence and are better prepared for the challenges of adult life. Our curriculum is regularly reviewed to ensure it meets the highest quality standards and aligns with national expectations.

Our intent is not only to inspire curiosity but to build character, confidence, and a clear sense of purpose, empowering every pupil to succeed in science and thrive in the wider world.

Westbury ACADEMY

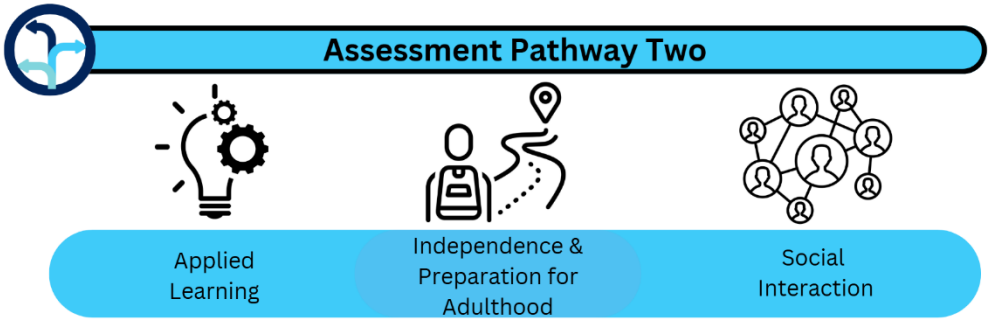
Science: Westbury's Assessment Pathways

The science curriculum at Westbury is designed and assessed through Westbury's Assessment Pathways. Each pathway ensures pupils access science at a level suited to their individual needs and development.



Pupils begin to engage with science through hands-on, practical experiences that build their confidence, develop their ability to communicate using simple scientific vocabulary, and accessible way.

- To develop scientific vocabulary and expressive communication through practical, discussion-led learning.
- To build curiosity, confidence, and independence through hands-on, real-life science experiences.
- To embed core reading and writing skills through functional, accessible scientific tasks.



Pupils build confidence in using scientific language, apply key literacy skills in meaningful context, and begin to work more independently through practical, real-life science experiences that encourage curiosity and problem-solving.

- To strengthen scientific language and expressive communication through structured talk and writing.
- To reinforce reading and writing skills through meaningful, literacy-rich science tasks.
- To promote independence and problem-solving through accessible scientific enquiry and real-life application.

Pupils develop the confidence to articulate their ideas clearly, think creatively to solve real-world problems, and apply scientific understanding and language with increasing independence in preparation for adulthood.

- To develop purposeful scientific dialogue through collaborative discussion, debate and peer critique.
- To foster independence and creative thinking through open-ended enquiry and problem-solving.
- To embed functional scientific literacy and communication in preparation for adulthood.

Westbury ACADEMY

Personal Development and Careers Links

The science curriculum at Westbury Academy plays a key role in supporting pupils' Personal Development. Through carefully planned learning experiences, pupils build essential knowledge of health, wellbeing, and the environment, develop critical thinking and communication skills, and explore real-world science careers that support their future pathways.

Personal Development Links

- Health and wellbeing: Through study of human biology, diet, exercise, drug awareness, puberty, and mental health, pupils develop the knowledge and understanding needed to make informed, healthy life choices. These topics also foster a sense of self-awareness and personal responsibility.
- Critical thinking and problem-solving: by engaging in enquiry-based learning, scientific investigations and the evaluation of evidence, pupils enhance their ability to think critically and solve problems. Open-ended questioning and reflection are embedded to support the development of reasoning, informed decision-making and independent thought.
- Teamwork and communication: Collaborative tasks and group investigations within science lessons promote effective teamwork and the ability to communicate ideas clearly. Pupils are encouraged to listen actively, provide and receive constructive feedback, and develop leadership and interpersonal skills.
- Environmental responsibility and sustainability: Through topics such as climate change, ecosystems, and pollution, pupils explore the impact of human activity on the environment. This supports the development of global citizenship, encouraging pupils to take responsibility for their actions and to care for the world around them.

Careers Links

- Exposure to scientific roles across sectors, including through lessons and phase assemblies (e.g. forensic scientist, zoologist, veterinarian, nurse, lab technician, engineer, robotics).
- Use of real-life scientific scenarios and vocational science tasks (e.g. data analysis, testing materials, environmental monitoring) to develop employability skills such as critical thinking, problem-solving, and attention to detail.
- Experiencing different careers within science through external visits (e.g. national science week activities, engineering college visits).
- Signposting science-linked pathways in post-16 education, including apprenticeships and vocational routes.
- Cross-curricular links with subjects such as computing, art, and design & technology to help pupils understand how science is applied in creative, technical, and real-world contexts.

Westbury ACADEMY

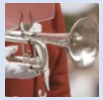
Sequence of Learning

Nurture Programme of study 2025/2026 – Curriculum Maestro

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Autumn Term	Me and My Community Geography  - Health & wellbeing - Seasonal Changes - Natural Environment							Long Ago History  - Seasonal changes & weather awareness - Materials and Properties						
Spring Term	Once Upon a Time Creative  - Materials & Properties - Natural World - Observations about the environment.							Bright Lights, Big City Geography  - Everyday materials - Properties - Seasonal and weather changes - Light & Electricity						
Summer Term	Dangerous Dinosaurs History  - Identifying animals - Habitat & evolution - Fossils and Palaeontology - Food Chains and Animal Diets							Rio de Vida Creative  - Habitats - Materials & Sustainability - Climate & Climate Change - Scientific Skills						

Westbury ACADEMY

Year 3/4 Programme of study 2025/2026 – Curriculum Maestro

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Autumn Term	Street Detectives Geography  - Living things & local environments - Materials & their uses - Working scientifically skills							Towers, Tunnels and Turrets History  - Shape, structure & Forces						
Spring Term	Beat, Band, Boogie Creative  - Sound & Vibrations - Properties - Solids, Liquids & Gasses							Tremors Geography  - Rocks, Fossils & Soils - Natural Disasters & Earth Science						
Summer Term	Tribal Tales History  - Light - Natural and man made							Scrumdiddlyumptious! Creative  - Nutrition - Plants - Materials						

Year 5/6 Programme of study 2025-2026 – White Rose Science

Winter		Spring		Summer	
1	2	1	2	1	2
Life cycles	Space	Reproduction A	Reproduction B	Light	Circulatory system/transition projects

Year 5/6 Programme of study 2026-2027 – White Rose Science

Winter		Spring		Summer	
1	2	1	2	1	2
Animals including Humans	Forces	Reversible and irreversible reactions	Properties of materials	Electricity	transition projects

Year 7 Programme of study 2025-2026

Group	Winter term		Spring term	Summer term	Extra topic
Group 1	Safety in the lab	Cells	Simple chemical reactions	Electricity and magnetism	Acids and alkalis
Group 2	Safety in the lab	The particle model	Forces and speed	Solutions	Light and sound

Year 8 Programme of study 2025-2026

Group	Winter term	Spring term	Summer term	Extra topic
Group 1	Food and digestion	Reproduction	The solar system	Variation and classification
Group 2	Energy resources	Light and sound	Microbes and disease	The rock cycle

Year 9 Programme of study

GCSE Combined science synergy – AQA Synergy

Year	Group	Winter term	Spring term	Summer term
2025/26	Group 1	4.1 Building blocks	4.2 Transport over large distances	4.3 Interactions with the environment
2026/27		4.4 Explaining change	Revision/exam practice	Revision/exam practice
2025/26	Group 2	4.5 Building blocks for understanding	4.6 Interactions over small and large distances	4.7 Movement and interactions
2026/27		4.8 Guiding spaceship earth towards a sustainable future	Revision/exam practice	Revision/exam practice

Entry Level Certificate

Double award (over 2 years)

Year	Group	Winter term	Spring term	Summer term
2025/26	Group 1	Energy forces and the structure of matter	Chemistry in our world	
2026/27		Environment, evolution and inheritance	STEM Projects	
2025/25	Group 2	The Human body	Electricity magnetism and waves	
2026/26		Elements, mixture and compounds	STEM projects	

Entry Level Certificate

Single award (over 3 years)

Year	Group	Winter term	Spring term	Summer term
2025/26	Group 3	The Human body	Electricity, magnetism and waves	
2026/27	Group 3	Elements, mixtures and compounds	Environment, evolution and inheritance	
2027/28	Group 3	Energy forces and the structure of matter	Chemistry in our world	

Year 10 Programme of study

Chemistry GCSE

Group	Winter	Spring	Summer
Group 1	Chemical changes and electrolysis	Organic reactions and polymers	Revision/exam practice
Group 2	Rates and equilibrium	Crude oil and fuels	Energy changes

Entry Level Certificate

Year	Group	Winter term	Spring term	Summer term
2025/26	Group 1	Energy forces and the structure of matter	Chemistry in our world	
2025/25	Group 2	The Human body	Electricity magnetism and waves	

Year 11

Physics GCSE

Autumn		Spring		Summer	
1	2	1	2	1	2
Energy and energy resources	Particles at work	Forces in action		Waves electromagnetism and space	Revision/exam practice

Entry Level Certificate – Science

Autumn	Spring	Summer
Energy forces and the structure of matter	Environment evolution and inheritance	