Science Policy 26/27

The school is committed to reviewing this policy regularly to ensure it remains compliant with current legislation, statutory guidance, and best practice.

School Name: The Kassia Academy Fallowfield Grove, Longbarn, Warrington, WA2 0QQ.

Address: Fallowfield Grove, Longbarn, Warrington, WA2 0QQ

Telephone: 01925 452010

This document is classified as a controlled document. Printed copies may not be the most up-to-date version. The latest version is available from the school.

Intent

At Kassia Academy, we believe that science is an essential part of the curriculum which enables learners to develop curiosity, understanding, and respect for the world around them. Our science curriculum is designed to provide all learners with a broad, balanced, ambitious, and accessible education that develops scientific knowledge, conceptual understanding, practical investigation skills, and the confidence to apply science within everyday life.

We recognise that many learners join Kassia Academy with disrupted educational experiences, gaps in prior knowledge, low confidence, and, in some cases, negative experiences of education. As an SEMH and alternative provision setting, our approach to science teaching is carefully adapted to meet learners' individual needs through nurturing relationships, adaptive teaching, small-step learning, and practical engagement.

Our curriculum aims to:

- Develop learners' understanding of key scientific concepts across Biology, Chemistry, and Physics
- Encourage curiosity, questioning, investigation, and critical thinking
- Build confidence and resilience through practical and engaging learning experiences
- Support learners in applying scientific knowledge to real-life contexts and wider society
- Develop literacy, numeracy, communication, and problem-solving skills within science
- Prepare learners for future education, employment, apprenticeships, and adult life
- Provide appropriate accreditation pathways, including GCSE Combined Science and Entry Level Science qualifications

The science curriculum is carefully sequenced to build progressively upon prior knowledge from Key Stage 2 and Key Stage 3 National Curriculum expectations. Learner's revisit and consolidate key concepts over time to strengthen long-term memory and support deeper understanding.

Implementation

Science lessons at Kassia Academy are planned to be engaging, structured, practical, and accessible for all learners regardless of their starting points. Staff use adaptive teaching strategies, scaffolding, modelling, questioning, and retrieval practice to support learners in securing scientific knowledge and developing confidence.

Teachers provide:

- Clear lesson routines and consistent expectations
- Small-step instruction to reduce cognitive overload
- Practical investigations and hands-on learning opportunities
- Visual aids, demonstrations, and modelling
- Opportunities for guided and independent practice
- Retrieval activities to strengthen long-term memory
- Differentiated and scaffolded tasks to support varying learner needs
- Positive reinforcement and relationship-based approaches to re-engage learners with learning

The curriculum is delivered through a combination of theoretical and practical learning experiences across Biology, Chemistry, and Physics. Where appropriate, links are made to everyday life, careers, health, the environment, and wider curriculum areas to help learners understand the relevance and application of science in the modern world.

At Key Stage 3, learners follow a broad and balanced science curriculum which introduces and develops core scientific knowledge, investigative skills, and practical understanding. The curriculum supports progression towards Key Stage 4 pathways.

At Key Stage 4, learners follow appropriate qualification pathways based on their needs, prior attainment, curriculum access, and future aspirations. Learners may study:

- AQA Synergy Combined Science GCSE
- Entry Level Science qualifications
- Bespoke and personalised pathways where appropriate

The AQA Synergy Combined Science qualification has been selected as it offers an accessible and supportive structure for learners within an SEMH and alternative provision context, whilst maintaining academic ambition and progression opportunities.

Practical work forms an important part of the curriculum. Learners are taught how to work safely, responsibly, and collaboratively within practical activities. Scientific enquiry skills, including planning investigations, making observations, recording data, evaluating evidence, and drawing conclusions, are developed progressively throughout the curriculum.

Assessment

Assessment within science is used to monitor progress, identify gaps in knowledge, inform planning, and support learners in making progress from their individual starting points.

Assessment strategies include:

- Retrieval practice and low-stakes quizzes
- Questioning and verbal feedback
- Practical observations
- Teacher assessment
- End of topic assessments
- Mock examinations at Key Stage 4
- Comparative assessment using the Kings Level Assessment framework at Key Stage 3

At Key Stage 3, learners are assessed using the Kings Level framework, where levels broadly align to Year 1–9 expectations and are broken down into Emerging, Developing, and Securing stages. This allows staff to monitor progress over time and identify learners who are below, on, or above target.

At Key Stage 4, progress is monitored through teacher assessment, coursework where appropriate, mock examination performance, and qualification-based assessment criteria. Assessment information is used to inform interventions, curriculum adaptations, and personalised support strategies.

Inclusion and Adaptive Practices

At Kassia Academy, we are committed to ensuring that all learners can access and succeed within science regardless of their educational background, SEMH needs, SEND needs, attendance history, or prior attainment.

Teaching approaches include:

- Adaptive teaching and personalised support
- Flexible pacing and curriculum delivery
- Scaffolded learning activities
- High levels of adult support where appropriate
- Practical and experiential learning opportunities
- Use of visual supports and structured routines
- Positive behaviour management and trauma-informed approaches

Relationships are central to successful learning at Kassia Academy. Staff work to build trust, confidence, and learner engagement, helping pupils to reconnect positively with science and education.

Literacy, Numeracy and Communication

Science contributes significantly to the development of literacy, numeracy, and communication skills across the curriculum.

Learners are supported to:

- Develop scientific vocabulary
- Read and interpret scientific texts and information
- Communicate ideas verbally and in writing
- Interpret graphs, tables, and data
- Apply mathematical skills within scientific contexts
- Develop reasoning and analytical thinking skills

Oracy opportunities are embedded throughout lessons through questioning, discussion, explanation, and collaborative learning activities.

Careers and Progression

The science curriculum supports learners in understanding the wide range of careers and opportunities available through science-related pathways. Careers links and real-world applications are embedded throughout the curriculum to raise aspirations and support future planning.

Progression opportunities may include:

- GCSE Combined Science qualifications
- Entry Level Science qualifications
- Further Education courses
- Apprenticeships

- Vocational training
- Employment pathways

Science also supports progression into a range of sectors including healthcare, engineering, construction, environmental science, technology, sports science, and animal care.

Monitoring and Quality Assurance

Science teaching and learning is monitored through:

- Lesson observations and learning walks
- Book looks and work scrutiny
- Curriculum reviews and departmental health checks
- Assessment analysis and progress tracking
- Pupil voice and learner engagement discussions
- Staff coaching and CPD opportunities

Monitoring activities are aligned with the Kings Academy Trust monitoring calendar and are used to support continual curriculum improvement and high-quality teaching and learning.

Outcomes

Through the science curriculum at Kassia Academy, learners will:

- Develop secure scientific knowledge and understanding
- Build confidence and resilience within learning
- Improve their ability to think critically and solve problems
- Develop practical investigation skills
- Gain appropriate qualifications and accreditation
- Be prepared for the next stage of education, training, employment, and adult life
- Re-engage positively with learning and experience success within science

Our aim is that all learners leave Kassia Academy with the scientific knowledge, confidence, and transferable skills needed to progress successfully into their future pathways and participate.

Progression and Enrichment

Historically government white papers highlight the importance of enrichment opportunities beyond the formal taught curriculum. Although enrichment is not exclusively STEM-focused, the proposed core entitlement includes opportunities linked to arts and culture, nature and the outdoors, sport, and wider life skills. At Kassia we believe participation in extracurricular activities can positively influence engagement, attendance, aspiration, personal development, and academic attainment with learners who have become disengaged with education.

At Kassia Academy, enrichment opportunities are recognised as an important aspect of the wider science curriculum and learner development. Activities such as, practical investigations, educational visits, outdoor learning, to apply scientific knowledge within meaningful real-world contexts. At Kassia Academy, careful curriculum sequencing and transition support are viewed as essential in helping learners re-engage positively with education. Many pupils arrive with disrupted educational experiences and gaps in prior learning; therefore, staff place significant emphasis on identifying prior

knowledge, addressing misconceptions, and supporting learners to rebuild confidence through structured, small-step teaching approaches and practical learning opportunities.

Summary of SEND Impact

Kassia Academy preserves the core status of science, strengthens inclusive access, supports workforce expansion and encourages coherent progression between key stages. We have developed a curriculum for ambitious science ensuring broader engagement across the curriculum. At Kassia Academy we embrace the challenge and opportunity in translating inclusive practice into classroom practice that maintains standards, supports all learners and prepares students for the next stage of their scientific journey.