Computing 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

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Introduction

At Kassia Academy, we recognise that technology plays an increasingly important role in modern society and that digital skills are essential for future education, employment, and everyday life. Our Computing curriculum is designed to provide learners with the knowledge, understanding, and practical skills required to become confident, responsible, and capable users of technology in a rapidly changing digital world.

The Computing curriculum at Kassia Academy is ambitious, inclusive, and carefully adapted to meet the needs of learners within an SEMH and alternative provision context. We recognise that many learners may have experienced disrupted education, gaps in learning, or limited access to technology. Through adaptive teaching, practical learning experiences, and personalised support, we aim to ensure that all learners can access and succeed within Computing regardless of their starting point.

Intent

The intent of this Computing Policy at Kassia Academy is to:

- Introduce the key aims, vision, and objectives of the Computing curriculum.
- Explain how the Computing curriculum is designed, sequenced, and delivered across Key Stages 3 and 4.
- Outline curriculum coverage and progression in computing knowledge, skills, and understanding.
- Explain the effective teaching and learning strategies used to support learners within an SEMH and alternative provision context.
- Ensure all learners have access to an ambitious, inclusive, and engaging Computing curriculum regardless of their starting point or prior experience.
- Develop learners' digital literacy, computational thinking, problem-solving, and technological understanding.
- Promote the safe, responsible, and effective use of technology within school and beyond.
- Support learners in developing the digital skills required for further education, employment, training, and everyday life.
- Provide opportunities for learners to understand how technology impacts modern society and future career pathways.
- Ensure progression through a carefully sequenced curriculum that builds upon prior knowledge and develops confidence, independence, and resilience.
- Support the development of wider transferable skills including communication, creativity, collaboration, critical thinking, and digital citizenship.
- Establish consistent approaches to assessment, monitoring, and quality assurance within Computing.
- Promote high expectations, inclusion, and adaptive teaching practices that enable all learners to achieve success and experience positive outcomes.

At Kassia Academy, Computing plays a vital role in preparing learners for life in an increasingly digital world. The curriculum is designed to equip learners with the knowledge, understanding, and practical skills needed to become confident, responsible, and capable users of technology whilst supporting progression into further education, employment, and modern life.

Implementation

At Kassia Academy, the Computing curriculum is implemented through a carefully sequenced programme of study that enables learners to develop knowledge, understanding, and practical digital skills over time. Teaching is designed to be engaging, accessible, and adaptive, ensuring that all learners, including those within an SEMH and alternative provision context, can access the curriculum successfully and make progress from their individual starting points.

At Key Stage 3, learners follow a broad and balanced Computing curriculum based on the Raspberry Pi Foundation framework. The curriculum is organised around key strands including:

- Computer Systems and Networks
- Programming and Computational Thinking
- Data and Information
- Digital Media
- Creating Media
- Online Safety and Digital Citizenship
- Physical Computing

Teaching follows the principles of **"unplug, unpack, and repack"**, allowing learners to first explore concepts away from technology, then develop understanding through explicit teaching and modelling, before applying their learning independently using digital tools and practical activities.

At Key Stage 4, learners access accredited pathways, including ICDL/ECDL qualifications where appropriate. These courses focus on developing practical ICT skills that support progression into further education, employment, apprenticeships, and everyday life. Learners develop competence in using industry-standard software, managing information, creating digital content, and understanding how technology is used within modern workplaces.

Adaptive teaching is central to implementation at Kassia Academy. Teachers use scaffolding, visual supports, modelling, chunked instructions, and flexible approaches to recording and assessment to ensure all learners can access learning successfully. Positive relationships, structured routines, and trauma-informed practice support learner engagement, confidence, and resilience.

Online safety is embedded throughout the curriculum and revisited regularly to ensure learners understand how to use technology safely, responsibly, and ethically. Learners are taught how to protect themselves online, evaluate digital information critically, and understand the wider impact of technology on society.

Kassia Computing Vision (WHY)

At Kassia Academy, we believe that Computing is an essential part of preparing learners for life in an increasingly digital and technology-driven world. Our vision is to provide an inclusive, ambitious, and engaging Computing curriculum that enables all learners, regardless of their starting point or prior experiences, to develop the knowledge, skills, and confidence needed to thrive in education, employment, and modern society.

Through Computing, we aim to build learners' digital literacy, computational thinking, problem-solving abilities, and ethical understanding of technology. We want learners to become confident and responsible users of digital technologies who can think critically, communicate effectively, and make informed decisions in a rapidly evolving technological landscape.

The Computing curriculum provides opportunities for learners to develop practical skills through programming, digital media, online safety, data handling, and the effective use of technology in real-world contexts. By linking learning to everyday life, future careers, and emerging technologies, we help learners understand the relevance and importance of Computing beyond the classroom.

National Curriculum and Big Ideas

At Kassia Academy, the Computing curriculum is designed to align with the National Curriculum and provide learners with the knowledge, understanding, and skills required to become confident, responsible, and capable users of technology. The curriculum ensures that all lessons, topics, and learning objectives meet national expectations whilst being carefully adapted to meet the needs of learners within an SEMH and alternative provision context.

Through a carefully sequenced programme of study, learners develop digital literacy, computational thinking, problem-solving skills, and an understanding of online safety. The curriculum prepares learners for life in an increasingly technology-driven world by providing opportunities to explore how technology is used within education, employment, and everyday life.

Our Computing curriculum is organised around a number of key "Big Ideas" or curriculum pillars that underpin learning across Key Stages 3 and 4. These pillars provide a coherent structure that enables learners to make connections between topics and develop a deeper understanding of Computing over time.

The key curriculum pillars are:

- Programming – Developing computational thinking, coding skills, algorithms, debugging, and problem-solving through a range of programming activities.
- Data and Information – Understanding how data is collected, stored, organised, analysed, and used to support decision making in the modern world.
- Creating Media – Developing creativity through the creation of digital content including images, audio, video, animation, and multimedia products.
- Computer Systems and Networks – Exploring how computers, hardware, software, networks, and the internet function and interact.
- Safety and Security – Understanding online safety, cyber security, digital citizenship, privacy, and responsible use of technology.

By organising learning through these key pillars, learners develop a secure understanding of the fundamental concepts of Computing whilst recognising how different areas of technology connect and influence the world around them. This approach helps learners understand the relevance of Computing within their daily lives, future education, and potential career pathways.

Programming

This pillar focuses on developing learners' computational thinking, problem-solving, and coding skills. Learners are taught how to design, write, test, and debug programs whilst exploring key programming concepts such as sequence, selection, iteration, variables, and subroutines. Learning progresses from visual and block-based programming to more advanced text-based programming languages, including Python, enabling learners to create increasingly sophisticated solutions to problems.

Data and Information

Learners develop an understanding of how data is represented, collected, stored, organised, and analysed within computing systems. Topics include data collection, databases, spreadsheets, binary representation, and the ways in which data is used to support decision-making in everyday life, business, and technology. Learners explore how data can be presented effectively through charts, graphs, and visualisations.

Creating Media

This pillar enables learners to develop creativity and digital content creation skills. Learner's design, create, edit, and evaluate a range of digital media products including graphics, animation, audio, video, websites, and multimedia presentations. Through these experiences, learners develop both technical skills and an understanding of design principles, audience, and purpose.

Computer Systems

Learners develop knowledge of how computer systems operate, including the interaction between hardware and software. They explore computer components, operating systems, storage devices, input and output devices, networks, and the internet. This pillar helps learners understand how technology functions and supports the digital services they use every day.

Safety and Security

This pillar ensures learners understand how to use technology safely, responsibly, and securely. Topics include online safety, cyber security, digital footprints, privacy, protecting personal information, cyber threats, and strategies for reducing online risks. Learners are encouraged to become responsible digital citizens who can navigate technology confidently and safely.

Impact of Technology

Learners explore the wider social, ethical, cultural, environmental, and economic impact of technology on individuals and society. They consider how digital innovations influence communication, employment, education, relationships, and the environment. This pillar promotes critical thinking and helps learners understand both the opportunities and challenges presented by technological advancement.

Curriculum Organisation at Key Stage 3

At Kassia Academy, the Key Stage 3 Computing curriculum is designed to be flexible, inclusive, and responsive to the needs of learners within an SEMH and alternative provision context. The curriculum structure ensures that all learners can access essential computing knowledge and skills whilst allowing appropriate opportunities for consolidation, intervention, challenge, and progression.

Year 9

Year 9 learners are taught as a discrete cohort and follow a bespoke Computing curriculum tailored to their individual needs, interests, and future pathways. This approach allows learners to explore computing concepts in greater depth whilst preparing them for Key Stage 4 qualifications, vocational pathways, and future education opportunities. Teaching focuses on developing digital literacy,

computational thinking, problem-solving, online safety, and practical computing skills that support progression into accredited courses and wider life skills.

Years 7 and 8

Due to the varying entry points, ages, and educational experiences of learners, Years 7 and 8 are taught through a mixed-age model. To ensure full curriculum coverage and progression, the Computing curriculum operates on a carefully planned two-year cycle.

This structure ensures that all learners receive access to the full breadth of the curriculum regardless of when they join Kassia Academy or their previous educational experiences.

Repeating Curriculum Model

Topics are revisited across the two-year cycle to ensure that learners have multiple opportunities to encounter, revisit, and secure key concepts. This approach supports knowledge retention, retrieval, and the development of long-term understanding.

Core and Extension Learning

Each topic contains:

- Core Learning – Essential knowledge, vocabulary, and skills for learners accessing the topic for the first time.
- Extension Learning – Additional challenge, application, and deeper exploration for learners revisiting the topic during their second cycle.

This enables staff to provide appropriate support and challenge whilst maintaining high expectations for all learners.

Benefits of the KS3 Curriculum Structure

Building Strong Foundations

All learners develop secure understanding of the fundamental concepts within Computing, including programming, data and information, creating media, computer systems, online safety, and the impact of technology.

Addressing Gaps in Learning

The flexible structure allows teachers to identify and address gaps in prior knowledge through adaptive teaching, retrieval practice, targeted intervention, and scaffolded support.

Supporting Knowledge Retention

Regular revisiting of key concepts strengthens long-term memory and helps learners retrieve, apply, and build upon prior learning with increasing confidence.

Providing Appropriate Challenge

Learners who demonstrate secure understanding are provided with extension activities and more complex applications of learning to deepen knowledge and promote mastery.

Inclusive and Adaptive Practice

The Key Stage 3 curriculum is designed to be accessible and engaging for all learners. Staff use adaptive teaching approaches including modelling, visual supports, chunked instruction, practical activities, retrieval practice, and scaffolded tasks to ensure learners can access learning successfully from their individual starting points.

Curriculum Organisation

At Kassia Academy, the Key Stage 4 Computing curriculum is designed to provide learners with the knowledge, skills, and confidence required to progress successfully into further education, training, employment, and adult life. The curriculum builds upon the foundations established at Key Stage 3 and aligns closely with the National Curriculum, whilst remaining flexible and responsive to the needs of learners within an SEMH and alternative provision context.

The curriculum focuses on three key areas of development:

Capability, Creativity and knowledge Development

Learners develop their understanding of computer science, digital media, information technology, and digital literacy through a range of practical and applied learning experiences. Opportunities are provided for learners to create, evaluate, and refine digital products whilst developing confidence in the use of technology for different purposes and audiences.

Analytical problem Solving

Computing lessons promote computational thinking, logical reasoning, and problem-solving. Learners are encouraged to analyse situations, develop solutions, evaluate outcomes, and apply technological skills to real-world challenges. Programming, data handling, and digital project work provide opportunities for learners to develop resilience, independence, and critical thinking.

Technology, Safety and Digital Citizenship

Learners develop an understanding of the changing nature of technology and its impact on society. Online safety, cyber security, digital footprints, privacy, identity protection, and responsible use of technology are embedded throughout the curriculum. Learners are taught how to identify risks, protect themselves online, and report concerns appropriately.

Curriculum Structure

Content Delivered Across Years 10 and 11

Curriculum content is carefully distributed across both years to support progression, retrieval, and long-term retention of knowledge. Key concepts are revisited and built upon over time, allowing learners to consolidate understanding and strengthen their ability to apply knowledge independently.

Flexibility for Learners joining Mid-Course

The curriculum has been designed to provide broad and balanced coverage throughout Key Stage 4, ensuring that learners who join Kassia Academy at different points during the academic year can access learning successfully and minimise gaps in knowledge. Adaptive teaching, targeted support, and retrieval activities are used to support transition and integration into the curriculum.

Core and Advanced learning Pathways

All learners access the core knowledge, skills, and understanding required within Computing. Where appropriate, learners are provided with additional challenge through more complex applications of computational thinking, digital creation, problem-solving, and independent project work. This ensures that all learners are appropriately supported whilst maintaining ambition and high expectations.

Benefits of the key stage 4 curriculum

Consolidation

Regular retrieval, revisiting of key concepts, and practical application opportunities strengthen learners' long-term retention and confidence in Computing.

Inclusivity

The curriculum structure ensures that all learners, regardless of prior attainment, educational background, or point of entry, can access a broad and ambitious Computing curriculum.

Progression

Learners develop the knowledge, skills, and digital competencies required for accredited qualifications, further education, apprenticeships, employment, and participation in an increasingly digital society.

Subject Specific Pedagogy

At Kassia Academy, Computing is taught through evidence-informed pedagogical approaches that support learners to develop secure knowledge, practical skills, computational thinking, and digital confidence. Teaching is carefully adapted to meet the needs of learners within an SEMH and alternative provision context, ensuring that concepts are accessible, engaging, and meaningful.

Model Everything

Teachers explicitly model new knowledge, skills, and processes before learners are expected to apply them independently. Demonstrations, worked examples, live coding, and think-aloud strategies are used regularly to make expert thinking visible and support learners in understanding both the process and the outcome. Modelling helps reduce cognitive overload and builds learner confidence when approaching new or challenging concepts.

Make Learning Concrete

Computing often involves abstract concepts which can be difficult for learners to visualise. Teachers therefore bring learning to life through practical, hands-on experiences, physical computing activities,

and real-world examples. Unplugged activities, storytelling, analogies, simulations, and links to everyday technology help learners understand complex concepts and make meaningful connections between computing and the world around them.

Physical computing and making activities provide valuable tactile and sensory learning experiences that support engagement and deepen understanding of computing concepts through practical application.

Structured Learning Frameworks

Lessons are carefully structured using research-informed approaches such as:

- PRIMM (Predict, Run, Investigate, Modify, Make)
- Use – Modify – Create (UMC)

These frameworks support learners in developing understanding gradually, moving from observation and exploration towards independent application and creativity. They also provide natural opportunities for differentiation, scaffolding, and challenge, ensuring that all learners can access learning successfully.

Read and Explore Code First

When teaching programming, learners are encouraged to read, trace, discuss, and explore existing code before writing their own. Research suggests that the ability to interpret, explain, and evaluate code strengthens learners' understanding of programming concepts and improves their ability to write effective code independently.

Assessment

Formative Assessment

At Kassia Academy, formative assessment is an integral part of the Computing curriculum and is used to monitor learner understanding, identify misconceptions, inform teaching, and support progress. Formative assessment opportunities are embedded within every lesson to ensure that teachers can respond effectively to learners' needs and adapt teaching appropriately.

These assessment opportunities enable teachers to identify gaps in knowledge, misunderstandings, and alternative conceptions before they become embedded. Assessment information is then used to provide additional support, challenge, or intervention where required.

At the beginning of every lesson, learners are introduced to the learning objective and success criteria so that they understand what they are expected to learn and how success will be measured. This helps learners focus on key knowledge and skills whilst supporting self-reflection and ownership of learning.

Summative Assessment

At Kassia Academy, summative assessment is used to evaluate learners' knowledge, understanding, and application of Computing concepts at key points throughout the curriculum. Summative

assessment provides teachers with information about learner attainment, progress over time, and readiness to move on to more complex content or accredited qualifications.

Summative assessments are carefully planned to assess both substantive knowledge and practical computing skills across the key curriculum pillars of Programming, Data and Information, Creating Media, Computer Systems, Safety and Security, and the Impact of Technology. Assessment tasks are designed to allow learners to demonstrate what they know, understand, and can do independently.

Assessment information is reviewed alongside ongoing formative assessment to provide a comprehensive picture of learner progress. Teachers use assessment data to identify gaps in learning, plan appropriate support, and ensure learners are progressing from their individual starting points.

Within Kassia Academy's SEMH and alternative provision context, summative assessment is delivered in a way that is accessible, supportive, and inclusive. Where appropriate, learners are provided with reasonable adjustments and alternative methods of demonstrating understanding whilst maintaining the integrity and ambition of the curriculum. Through effective summative assessment, Kassia Academy ensures that learners' achievements are recognised, progress is accurately measured, and future learning is planned effectively to support successful outcomes in Computing.

Summary of SEND Impact in Computing

At Kassia Academy, the Computing curriculum has a positive impact on learners with Special Educational Needs and Disabilities (SEND) by providing an inclusive, engaging, and highly adaptive learning environment that enables all learners to access ambitious curriculum content. Many learners within our SEMH and alternative provision setting arrive with gaps in prior learning, low confidence, difficulties with literacy, communication, concentration, or emotional regulation. Computing provides practical, hands-on opportunities that help overcome these barriers and support successful engagement in learning.

The curriculum is carefully adapted through scaffolded tasks, visual supports, modelling, structured learning frameworks, retrieval practice, and small-step instruction. Approaches such as physical computing, practical problem-solving, and the use of real-world contexts help make abstract computing concepts more accessible and meaningful for learners. Strategies including PRIMM (Predict, Run, Investigate, Modify, Make), Use–Modify–Create, code reading activities, and explicit vocabulary teaching support learners in developing understanding and confidence at an appropriate pace.

Computing also provides valuable opportunities for learners to develop wider skills beyond the subject itself, including communication, resilience, independence, teamwork, creativity, and problem solving. The practical and often technology-rich nature of the subject can increase learner motivation, engagement, and confidence, particularly for those who may have experienced challenges within more traditional academic subjects.