Computing Policy

Empowering digital creators of tomorrow

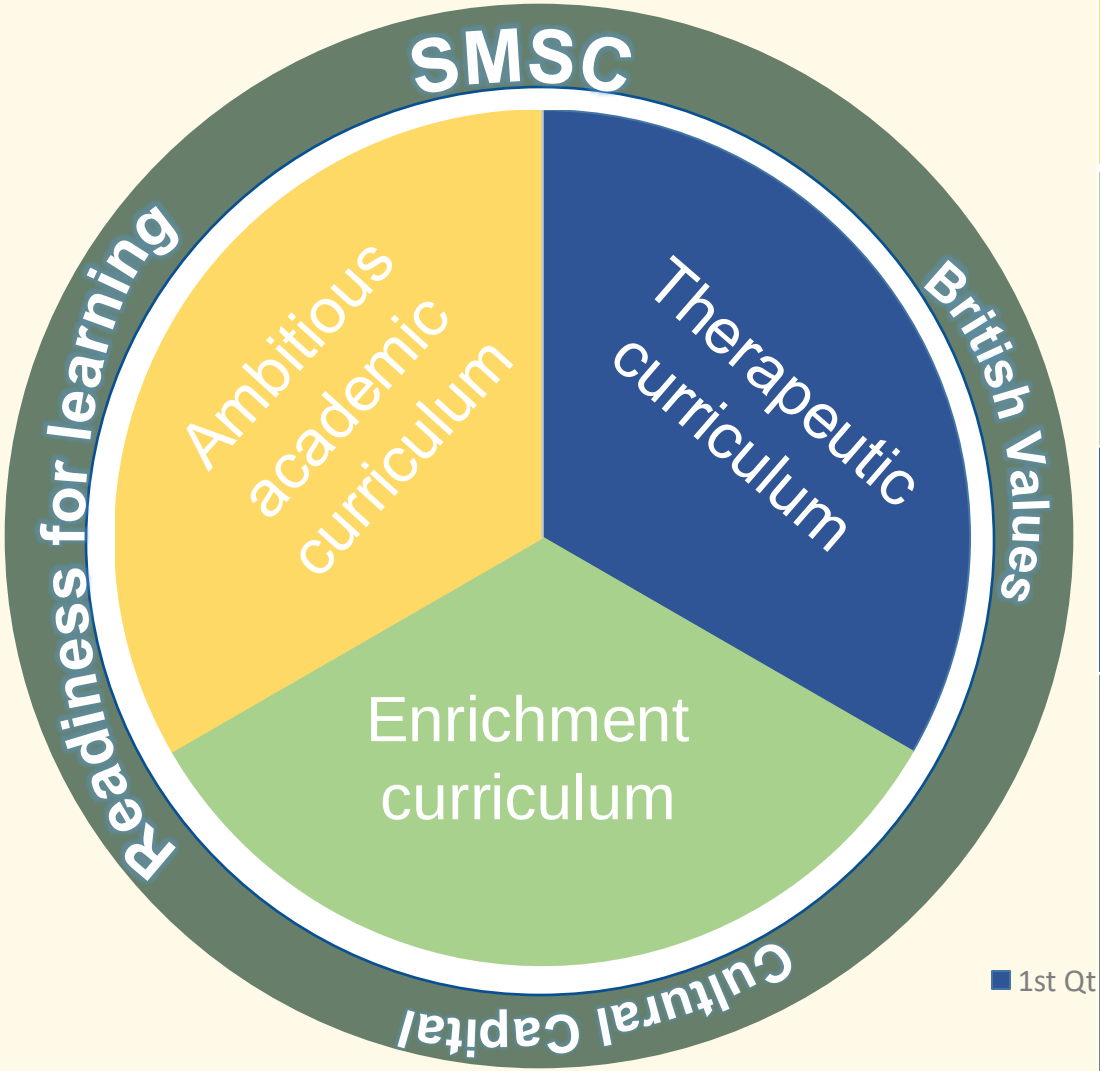
Belonging – Engaging – Compassion – Learning

ARBOUR ACADEMY MISSION STATEMENT

"Caring for young people and their families, providing them with opportunities to learn and flourish.".

Policy developed by:	A Ellis
Policy to be reviewed:	September 2025
Summary of changes	· New policy

Main aims of the Arbour curriculum



Provide an **ambitious academic curriculum** so that students can access a wide range of qualifications and vocational options that can support and impact on their further education and their employability.

To provide wide-ranging out of school opportunities to offer the our students the best understanding of how to be successful in 21st Century Britain. At Arbour Academy we explore and develop all opportunities that allow pupils to experience activities beyond the classroom in line with their more socially advantaged peers

We offer a therapeutic curriculum to support our students' holistic development, fostering emotional well-being alongside academic progress. By integrating therapeutic approaches into our curriculum, we create a nurturing environment where students can thrive socially, emotionally, and academically.

To ensure that our students are in the best position to be ready to access and participate in their acadmic lessons. To develop our students **cultural capital**, for us this is providing students with the opportunities to experience people, places and things that contribute towards the essential knowledge that pupils need in order to be educated citizens. To promote pupils physical health and personal development which includes the spiritual, moral, cultural, mental development of pupils at the school in order to prepare our students for the opportunities, responsibilities and experiences of later life

Science Policy – Rationale

- The rationale of this Computing policy is to:
  - introduce the key aims and objectives of the Computing department.
  - to explain the curriculum design and coverage.
  - to explain the effective Teaching and Learning strategies involved in Computing

Arbour’s Science Policy Vision (Why)

- Provide an inclusive and ambitious computing curriculum.
- Build digital literacy, problem-solving, and ethical awareness.
- Equip students with practical skills and confidence to use technology effectively in a rapidly changing world.
- Inspire curiosity and creativity through real-world applications.

Curriculum intent

- The intent for the Computng curriculum is laid out in the National Curriculum in the Computing programme of study for key stage 3 and 4 . These are the things that we intend our students will study over their time at the Arbour Academy. The starting points for our students is varied even within classes. As such we cannot easily define the educational outcomes of all our students by cohort. This has to be very individualised based on their starting points.

Curriculum Organization

National Curriculum

Our computing curriculum is designed to align with national standards, ensuring all lessons and objectives meet the prescribed guidelines. This adherence guarantees that our students receive a high-quality education in digital skills, computational thinking, and online safety, preparing them for an increasingly technology-driven world.

Big Ideas

In computing, our curriculum is centered around foundational pillars, which represent the key aspects of computing education. These include **Programming**, **Data and Information**, **Creating Media**, **Computer Systems**, and **Safety and Security**. By organizing learning into these pillars, students can see how each lesson connects to a broader context, aiding their understanding of how computing impacts their daily lives and future careers.

The ‘Big Ideas’ identified in Computing

Programming

This pillar focuses on teaching students to write, debug, and understand code. Students explore key programming concepts such as sequence, selection, iteration, and subroutines, progressing from block-based coding to text-based languages like Python.

Data and Information

Students learn how data is represented, stored, and manipulated in computing systems. This includes exploring binary systems, databases, and real-world applications of data, such as visualizations and decision-making tools.

Creating Media

This pillar empowers students to design and develop digital content, including animations, graphics, video, and sound. It emphasizes creativity while teaching essential skills in digital editing and multimedia production.

The ‘Big Ideas’ identified in Computing

Computer Systems	Students gain an understanding of how hardware and software work together to process information. This includes learning about the components of a computer, networks, and the role of operating systems.
Safety and Security	This pillar ensures students are equipped to use technology responsibly and safely. Topics include online safety, protecting personal information, understanding cyber threats, and learning strategies to minimize risks.
Impact of Technology	Students explore the societal and ethical implications of technology. They learn how digital innovations influence individuals, communities, and the environment, fostering critical thinking and responsible digital citizenship.

Curriculum Organisation KS3

Curriculum Organization for KS3

In KS3, the computing curriculum is designed to ensure flexibility, inclusivity, and progression:

•**Year 9**: Students are taught separately and follow a bespoke computing cycle tailored to their specific needs. This approach allows for in-depth exploration of advanced topics and preparation for future academic pathways.

•**Years 7 and 8**: Teaching is mixed to accommodate different entry points and ages. To support this, the curriculum is organized in a two-year cycle:

- **Repeating Topics**: Topics are structured to repeat across Years 7 and 8, ensuring that all students cover the complete curriculum regardless of when they join or their prior experience.
- **Core and Extension Planning**: Each topic includes core content for first-time learners and extension activities for students revisiting the topic in their second year. This ensures appropriate challenge and progression.

Key Benefits of the KS3 Structure

1.Foundations: Every student builds a solid understanding of essential computing concepts, ensuring a strong base for future learning.

2.Gap Filling: Targeted instruction helps address gaps in knowledge, supporting new learners or those who require additional help.

3.Consolidation: Revisiting topics fosters long-term retention, enabling students to retrieve and apply knowledge effectively.

4.Extension: High-achieving students are challenged with advanced content, encouraging deeper understanding and mastery.

This scaffolded and differentiated curriculum ensures that computing is accessible, engaging, and aspirational for all students, allowing them to progress at a pace suited to their individual needs.

Curriculum Organisation KS3

Each big idea topic contains four smaller topics that build in complexity. For example ‘Waves’, topics are ordered from simpler, more concrete topics to more abstract ones.

Big Idea	Increasing Complexity →		
Spreadsheets	**Basic Formatting and Data Input** Learn how to input data into cells. Apply basic formatting (e.g., bold, alignment, number formats).	**Simple Calculations and Formulas** Use basic formulas like SUM, AVERAGE, and COUNT. Implement autofill for repetitive tasks	**Data Validation and Conditional Formatting** Apply data validation to reduce errors. Use conditional formatting to highlight key information.

Curriculum Organisation KS4

Curriculum Organization for KS4

At KS4, our computing curriculum ensures comprehensive coverage and progression by aligning with the key strands of the National Curriculum:

1.Capability, Creativity, and Knowledge Development: Students enhance their understanding of computer science, digital media, and information technology through hands-on, creative tasks that build knowledge and practical skills.

2.Analytic and Problem-Solving Skills: We focus on developing students' computational thinking, problem-solving abilities, and design skills to tackle real-world challenges.

3.Technological Changes and Safety Awareness: Lessons address the evolving nature of technology, with an emphasis on online privacy, identity protection, and recognizing and reporting safety concerns.

Structure

•**Content Split Across Both Years**: Curriculum topics are distributed evenly over Years 10 and 11 to facilitate long-term memory retention and concept consolidation.

•**Flexibility for Late Arrivals**: The curriculum structure ensures broad coverage, enabling students who join mid-cycle to catch up effectively without significant gaps in knowledge.

•**Core and Advanced Pathways**: Topics are scaffolded with foundational content for all learners and advanced challenges for those ready to deepen their understanding.

Key Benefits

Consolidation: Repeated engagement with core concepts reinforces knowledge and aids retention.

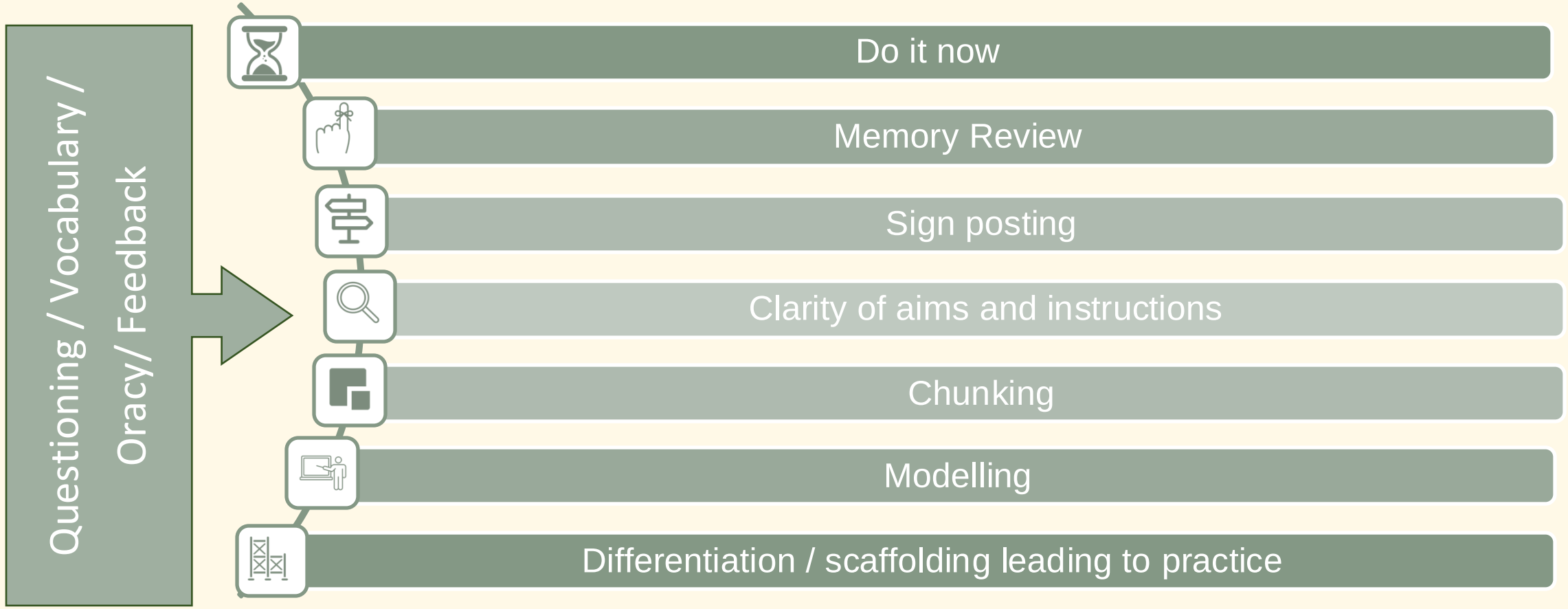
Inclusivity: The design ensures every student has access to the full breadth of computing, regardless of their entry point.

Progression: High-performing students are stretched with challenging applications of computational thinking and design.

Timetable Allocation

Year Group	Lessons per week
Year 7	1
Year 8	1
Year 9	1
Year 10	1 + option
Year 11	1 + option

Lesson structure



Subject Specific Pedagogy

Model Everything!	Use physical computing and making activities that offer tactile and sensory experiences to enhance learning. This provides an engaging context to explore and apply computing concepts.
Make Concrete	Bring abstract concepts to life with real-world, contextual examples, and a focus on interdependencies with other curriculum subjects. This can be achieved through the use of unplugged activities, proposing analogies, storytelling around concepts, and finding examples of the concepts in learners' lives.
Structure	Use supportive frameworks when planning lessons, such as PRIMM (Predict, Run, Investigate, Modify, Make) and UMC (Use-Modify-Create). These frameworks are based on research and ensure that differentiation can be built in at various stages of the lesson.

Subject Specific Pedagogy

Read and explore code first

When teaching programming, focus first on code ‘reading’ activities, before code writing. With both block-based and text-based programming, encourage learners to review and interpret blocks of code. Research has shown that being able to read, trace, and explain code augments learners’ ability to write code.

Assessment

Formative assessment

Every lesson includes formative assessment opportunities for you to use, and they are listed in the lesson plan. The formative assessments may be, for example, observations, questioning, or marked activities. We include these in every lesson to ensure that you can recognise and address learners' alternate conceptions if they occur. You can use the assessments to decide whether and how to adapt your teaching to suit the needs of the learners you are working with. At the beginning of every lesson, the learning objective and success criteria are introduced in the slides.Every lesson has a starter activity and a plenary that can be used as an opportunity for formative assessment.

Assessment

Summative assessment

Every unit includes an optional summative assessment framework in the form of either a multiple choice quiz (MCQ) or a rubric. The summative assessment materials can inform your judgement around what a learner has understood in each computing unit, and could feed into your school's assessment process, to align with its approach to assessment in other foundation subjects.

All units in The Computing Curriculum are designed to cover both skills and concepts from across England's computing national curriculum. Units that focus more on conceptual development include MCQs as the optional summative assessment framework. Units that focus more on skills development end with a project and include a rubric. Within the 'Programming' units, we have selected the assessment framework (MCQs or rubric) on a best-fit basis.

The summative assessments are meant to give you insight into your learners' understanding of computing concepts and skills, as opposed to their reading and writing skills. To this end, we have created the MCQs and rubrics with great care. For the MCQs this involved, for example, carefully choosing the wording and cultural references. For the rubrics it involved making them focused on the purpose of application instead of the specific lesson context.

Assessment Type	Details	Frequency
End of unit tests and tasks	Tests / tasks based specifically on the work covered during a topic. These are not always completed at the immediate finish of the topic so that we can test that long-term remembering has been achieved.	Ongoing
Pupil assessment	Self- assessment sheets for pupils to assess their progress against unit objectives	Ongoing
Teacher assessment	Teachers to assess pupils progress against the intended outcomes for a unit.	Ongoing
Low Stake assessments	Ongoing teacher assessment used to direct planning on the outcomes of low stakes testing.	Ongoing
Data capture	Formal data captured across all strands of the curriculum using formative and summative methods.	Once per term baselining new students