HORBURY PRIMARY ACADEMY

Computing

Curriculum Overview

Place Partnership

A MULTI-ACADEMY TRUST

Our Vision

At Horbury Primary Academy, we recognise that technology is at the heart of modern life and that digital skills are essential for success in an increasingly connected world. Through our vision of **Strong Roots, Growing Minds**, we aim to equip pupils with the knowledge, skills and confidence to become creative, responsible and reflective users of technology.

We believe that computing is far more than learning how to use devices. It develops logical thinking, resilience, collaboration and problem-solving skills that can be applied across the curriculum and in everyday life. Through a carefully sequenced curriculum, pupils develop their understanding of **Computer Science, Information Technology and Digital Literacy**, enabling them to become active participants in an ever-evolving digital society.

A key feature of the **Horbury Way** is ensuring that technology is used with purpose and understanding. Our Computing curriculum is delivered through the **Purple Mash scheme of learning**, which provides a progressive and carefully sequenced approach to developing knowledge and skills across the three strands of the National Curriculum. Through engaging and purposeful learning experiences, pupils are encouraged to think computationally, solve problems, create digital content and communicate effectively, whilst developing a strong awareness of how to navigate the online world safely and responsibly.

Online safety is a fundamental aspect of our Computing curriculum. Alongside Purple Mash computing units, pupils participate in a weekly 15-minute discussion focused on staying safe in a connected world through the use of **2BeSafe** resources. These regular discussions enable pupils to explore current online issues, develop digital citizenship skills and build the confidence to make safe, responsible and respectful choices when using technology.

Computing has strong links to mathematics, science, design and technology and many other curriculum areas. Through meaningful and engaging learning experiences, we inspire curiosity about technology and prepare pupils for the opportunities and challenges of the future.

When children leave Horbury Primary Academy, we aspire for them to have developed:

- A passion for technology and innovation.
- Strong computational thinking and problem-solving skills.
- Confidence when using digital technologies for a range of purposes.
- The ability to create, evaluate and communicate using technology effectively.
- An understanding of how technology shapes the world around them.

- The knowledge and skills required to be safe, responsible and respectful digital citizens.
- An appreciation of the opportunities and responsibilities that come with living in a digital world.

Implementation

Computing is taught through carefully planned and progressively sequenced units that build knowledge, skills and understanding over time. Our curriculum ensures that pupils develop secure foundations in **Computer Science, Information Technology and Digital Literacy**, allowing them to become confident and capable users of technology.

Our Computing curriculum is delivered through the **Purple Mash scheme of learning**, which provides a progressive and coherent sequence of lessons from EYFS to Year 6. Purple Mash supports the teaching of the three National Curriculum strands of Computer Science, Information Technology and Digital Literacy, ensuring that knowledge and skills are carefully built upon year on year. Through coding, digital creativity, data handling, problem-solving and online safety units, pupils develop the confidence and competence to use technology effectively, creatively and responsibly.

Every lesson follows the Horbury curriculum approach:

- Prior learning is revisited through retrieval activities, strengthening long-term memory and supporting connections between new and existing knowledge.
- Key computing vocabulary is explicitly taught and revisited through Knowledge Mats to support understanding, retention and application.
- Teachers model new concepts and skills through clear instruction before pupils apply their learning independently.
- Learning concludes with an enquiry question, enabling pupils to demonstrate understanding, reflect upon their learning and articulate their thinking.

Pupils are encouraged to think like computer scientists by investigating problems, developing logical solutions, creating digital content and evaluating outcomes.
Online safety is woven throughout the curriculum and forms an integral part of all computing learning. In addition to the online safety objectives taught through Purple Mash computing units, pupils participate in a **weekly 15-minute discussion focused on staying safe in a connected world**. These regular sessions utilise Purple Mash's **2BeSafe** resources and provide opportunities for pupils to explore current online issues, discuss real-life scenarios, develop digital citizenship skills and reflect on how to stay safe, responsible and respectful when using technology.

To ensure high-quality computing provision, teachers:

- Have a secure understanding of the key assessment criteria and sticky knowledge within each unit.
- Plan progressive learning experiences that build upon prior knowledge and skills.
- Use Purple Mash resources, assessment materials and progression documents to ensure learning is sequential and ambitious.
- Explicitly teach and revisit ambitious technical vocabulary.
- Provide opportunities for programming, digital creativity and problem-solving.
- Facilitate weekly online safety discussions using the Purple Mash **2BeSafe** resources.
- Promote responsible, safe and respectful online behaviours.
- Encourage collaboration, independence and resilience.
- Support pupils in applying computing skills across the wider curriculum.
- Raise aspirations by exposing pupils to careers within technology and digital industries.
- Celebrate innovation, creativity and achievement within computing.

Impact

Through our Computing curriculum, pupils develop the knowledge, skills and understanding needed to participate confidently and safely in an increasingly digital world.

By the time they leave Horbury Primary Academy, pupils will:

- Demonstrate enthusiasm and confidence when using technology.
- Apply computational thinking and problem-solving skills independently.
- Create, evaluate and communicate using a range of digital technologies.
- Understand how technology can be used purposefully across different contexts.
- Make informed choices online and demonstrate safe, responsible and respectful behaviours, applying strategies discussed through both computing lessons and weekly 2BeSafe sessions.
- Critically evaluate digital information and understand the importance of digital citizenship.
- Meet or exceed age-related expectations across the three computing strands of **Computer Science, Information Technology and Digital Literacy**.

- Be equipped with transferable skills that support future learning and future employment opportunities.

Through our commitment to **Strong Roots, Growing Minds**, pupils leave Horbury Primary Academy as confident digital citizens who can use technology creatively, responsibly and safely. They understand not only how technology works, but how it can be used to innovate, communicate, solve problems and positively influence the world around them.

Assessment for Learning

Assessment for Learning is embedded throughout the curriculum and used to ensure pupils know more, remember more and understand more. Teachers assess pupils' understanding through retrieval activities, purposeful questioning, discussion, observation and the review of pupils' work. This enables misconceptions to be identified quickly and informs future teaching.

At Horbury Primary Academy, each unit culminates in an end-of-unit enquiry question that pupils work towards answering throughout their learning journey. These carefully planned questions provide pupils with the opportunity to demonstrate their knowledge, understanding, vocabulary and disciplinary skills, whilst making meaningful connections to previous learning. Responses may take a range of forms appropriate to the subject and learning objectives.

Assessment information is used to evaluate pupil progress, identify gaps in learning and ensure that all pupils develop a secure understanding of the taught curriculum. Through regular opportunities to retrieve, apply and communicate their learning, pupils strengthen retention and develop increasingly sophisticated subject knowledge over time.

Adaptive Teaching

At Horbury Primary Academy, we are committed to delivering an ambitious curriculum for all pupils. Adaptive teaching ensures that every child can access, engage with and succeed within the same high-quality curriculum whilst maintaining high expectations for all learners.

Adaptive teaching is informed by ongoing assessment and may include:

- Retrieval activities to strengthen prior learning and support retention.
- Explicit teaching and pre-teaching of subject-specific vocabulary.

- Visual supports, modelling and worked examples.
- Carefully planned scaffolds to support understanding and independent application.
- Adapted questioning to provide support, challenge and deepen thinking.
- Flexible grouping and targeted adult support where appropriate.
- Opportunities to revisit key concepts and address misconceptions.
- Alternative methods of recording where necessary to remove barriers to learning.

These adaptations support pupils to develop secure knowledge, build confidence and successfully answer the end-of-unit enquiry question. By responding to individual needs whilst maintaining curriculum ambition, all pupils are supported to flourish academically and personally in line with our vision of **Strong Roots, Growing Minds**.

National Curriculum expectations
Through the teaching of art and design, pupils will: • Produce creative work, exploring ideas and recording experiences. • Become proficient in drawing, painting, sculpture and other art, craft and design techniques. • Evaluate and analyse creative works using the language of art, craft and design. • Know about great artists, craft makers and designers and understand the historical and cultural development of their art forms.

Computer Science

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Knowledge	Understand that technology follows instructions. *(Mini Mash, Technology Around Us)*	Know that algorithms are a set of instructions. *(Creating & Following Instructions, Coding)*	Know that algorithms can be programmed and debugged. *(Coding, Route Explorers)*	Understand that programs use sequence and repetition. *(Coding, Route Planners)*	Understand that programs can use selection and variables. *(Coding, Logo, Micro:bit)*	Understand abstraction, decomposition and simulation. *(Coding, Micro:bit, External Devices)*	Understand how complex programs are designed, tested and improved. *(Coding, Python)*
Skills	Follow and give simple instructions.	Create and follow simple algorithms.	Create and debug simple programs.	Design, create and debug programs using sequence and repetition.	Use sequence, selection and variables within programs.	Design and refine increasingly complex programs.	Design, create, debug, evaluate and improve sophisticated programs.

Information Technology

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Knowledge	Know technology can be used to create and store information. *(Mini Mash)*	Know digital content can be created, saved and retrieved. *(Introduction to Purple Mash, Grouping & Sorting, Pictograms)*	Know different software can be used for different purposes. *(Questioning, Spreadsheets, Creating Pictures)*	Know information can be organised and presented digitally. *(Branching Databases, Presentations, Animation)*	Know digital tools can be used to collect, search and present information. *(Spreadsheets, Writing for Different Audiences, Effective Searching)*	Know databases and spreadsheets can organise and analyse information. *(Databases, Game Creator, Spreadsheets)*	Know technology can be used to model, analyse and present complex information. *(Spreadsheets, Blogging, 3D Modelling, Quizzing)*
Skills	Use simple technology independently.	Create, save and retrieve digital work.	Create and edit digital content.	Choose suitable software for a given task.	Combine information from different digital sources.	Collect, analyse and present data effectively.	Independently select and use appropriate digital tools for different purposes.

Digital Literacy

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Knowledge	Know technology should be used safely. *(Mini Mash Safety Activities)*	Know personal information should be kept private. *(Online Safety)*	Know the internet can be used for communication and information. *(Online Safety, Effective Searching)*	Know how to search safely and behave responsibly online. *(Online Safety, Email)*	Understand privacy, digital identity and reliability online. *(Online Safety, Collaborative Learning)*	Understand online reputation, credibility and digital footprints. *(Online Safety)*	Understand misinformation, online safety, privacy and responsible digital citizenship. *(Online Safety)*
Skills	Use technology safely with support.	Follow simple online safety rules.	Search safely and keep personal information secure.	Evaluate information and communicate responsibly online.	Apply strategies for privacy and respectful communication.	Make informed choices about online content and behaviour.	Critically evaluate online information and manage digital identity responsibly.

Long term plan for Computing

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Marvellous Me! Amazing me!	Lets Sparkle Once Upon a Time!	If you go down in the woods today… Help! I need somebody	That's not my pet! Down on the Farm	A Bugs Life All Aboard	Commotion in the Ocean The World In Your Lunchbox
Y1	Logging on	Online Safety	Lego Builders	Maze Explorers	Animated Story	Coding
Y2	Route explorers	Coding	Effective internet searching	Questioning and investigations	Spreadsheets	Creating pictures
Y3	Email Branching databases	Coding	Spreadsheets	Route Planners	Touch Typing	Presentations

Y4	Animation	Unpacking hardware and software	Sound Stories	Logo	Effective searching Introduction to AI	Coding
Y5	Quizzing	Spreadsheets	Databases	Game Creating	Coding	Word Processing Concept Maps
Y6	Networks Graphing	Blogging	Spreadsheets	Data Detectives	Coding	