







Computing

Subject Lead	Miss C. Arrowsmith

Subject Overview



At Littleton Green, our computing curriculum enables pupils to become confident, creative and safe users of technology. Through progressive learning, children develop coding, problem-solving and digital literacy skills while gaining an understanding of how computers work. Through online safety, exciting technologies and cross-curricular opportunities, pupils demonstrate our school values and become empowered, reflective learners who use technology to explore, create and make a positive difference.

Computing Curriculum Aims

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, **algorithms** and data representation
- can analyse problems in computational terms, and have repeated practical experience of **writing computer programs** in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, **analytically to solve problems**
- **are responsible, competent, confident and creative users of information and communication technology.**

EYFS and Computing

We understand how important it is that children develop their technology skills and will continue to use a range of technology to support and enhance learning in other areas of the curriculum. For example, the children will continue to use the Bee-Bots when learning about direction and will use iPads to listen to and watch animated stories, watch videos linked to our topics and play games to develop phonic and number skills.

In foundation stage, the children:

- Have daily access to a range of technology resources such as torches with switches, remote controlled cars, beebots, talking tins, voice-recording toys, as well as class ipads and interactive whiteboards.
- Use a range of technology resources to support learning in other areas of the curriculum.
- Are taught how to use the resources for different purposes eg ipads to watch videos, play games, take photographs and listen to stories.

The early learning goals that are mainly linked to computing (EYFS technology) have been removed from the Early Years Foundation Stage Framework 2020. As we follow the Birth to 5 Matters framework, we still cover the technology requirement as we believe children should be fluent in computer literacy and all-important e-safety when living in a technological world.

We Are PURPLE!

Curriculum Intent

Our Computing Curriculum is designed to...



enable ALL pupils to become confident, capable and responsible digital learners. Computing is both a discrete subject and a powerful tool for learning across the wider curriculum. Pupils are taught the knowledge needed to understand how technology works, alongside the practical skills needed to use it effectively and creatively.
We use the Purple Mash Computing Scheme of Work as the principal framework for curriculum delivery. The refreshed Purple Mash scheme is aligned to the National Curriculum and provides progressive learning across Computer Science, Information Technology and Digital Literacy, while also incorporating current areas such as artificial intelligence, physical computing and industry-standard software.



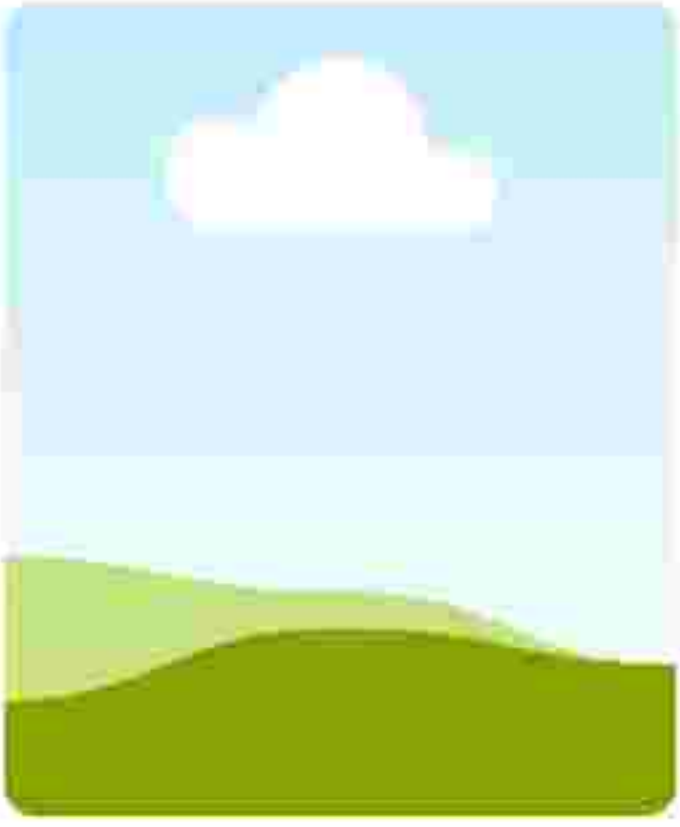
We aim for pupils to...

develop the knowledge and independence to move beyond simply operating software. Pupils should understand why digital systems behave as they do, make deliberate choices about which tools to use and apply their knowledge to unfamiliar tasks.
They learn to create programs and digital content, work with data, communicate and collaborate, understand systems and networks and make safe, informed decisions in digital environments.
Pupils also develop resilience and problem-solving. They learn that errors are a normal part of computing and that testing, debugging, refining and evaluating are essential processes.



Learning is sequenced so that...

knowledge and skills are revisited and deepened over time. Purple Mash follows a spiral approach in which pupils encounter important ideas repeatedly in increasingly sophisticated contexts. Prior and future learning links, knowledge and skills recap questions and self-review opportunities help pupils connect new learning to what they already know.
Progression moves from early digital fluency and simple algorithms towards increasingly complex coding, data handling, digital creation, networks, artificial intelligence, physical computing and text-based programming.



We Are PURPLE!

Curriculum Implementation

We use Purple Mash to support the planning, teaching, practice and assessment of Computing. The scheme provides lesson plans, interactive slideshows, pupil tools, knowledge organisers, learning mats, teacher guidance, assessment statements and progression resources. Pupils use secure individual logins so that work can be set through 2Dos, saved to individual work areas, reviewed by teachers and used as evidence of progression. Purple Mash tools are selected because they allow pupils to focus on the underlying computing concept while progressively developing transferable digital skills.

Computing Learning Journey

UNIT INTRODUCTION

Each unit begins by identifying the key computing concept, prior knowledge, essential vocabulary, tools and intended outcome. Knowledge organisers and learning mats support pupils in understanding important terms and processes.

Individual Lesson Sequence

E - safety practice	Retrieval Practice	Core Learning	Reflection
Pupils revisit an online safety theme to reinforce safe and responsible use of technology.	Revisit prior knowledge, activate long-term memory and make links with current learning.	• Explicit teaching of new computing knowledge, with processes modelled through demonstrations, worked examples and accurate technical vocabulary. • Structured practice where questioning and live modelling address misconceptions in algorithms, coding constructs, data, systems and online behaviour. • Application of learning using Purple Mash or industry-standard tools to create purposeful outcomes requiring decision-making, problem-solving and combining prior skills. • Testing, debugging and refining programs or digital products, treating debugging as a normal and valuable part of the computing process.	Pupils review what they have learned against the lesson success criteria and explain the knowledge or process they used. Purple Mash self-review questions support reflection and help teachers identify next steps.

A piece (or series) that primarily demonstrates what pupils can explain, create, and do.

Lessons are adapted so all pupils, including those with SEND, EAL and disadvantaged backgrounds, can access and succeed.

Please see our page on Adaptive teaching for further information.

We Are PURPLE!

Curriculum Impact

We know our Computing curriculum is successful when pupils can remember and apply computing knowledge independently and confidently across different contexts.
Pupils should increasingly be able to:

- explain computing concepts using accurate vocabulary;
- design algorithms and translate them into working programs;
- use logical reasoning to predict, test and debug behaviour;
- select appropriate digital tools rather than relying on a single familiar application;
- create high-quality digital content for a clear purpose and audience;
- collect, organise and analyse data and interpret what it shows;
- explain basic computer systems and how networks enable communication;
- use search and online information critically;
- use technology safely, respectfully and responsibly;
- apply skills learned in Computing to other curriculum areas and unfamiliar situations.

By the end of Year 6, pupils should be well prepared for Key Stage 3 Computing and have the confidence to use new digital tools, solve problems and participate safely and responsibly in a digital society.

Assessment Technique	What this means
 Formative Assessment	Ongoing assessment throughout lessons. This includes opportunities such as: questioning, retrieval practice, and interactive activities. Teachers observe and assess in real-time and adapt accordingly.
 Summative Assessment	End of unit quiz to assess pupils knowledge and understanding. This helps teachers understand knowledge and skills over time.
 Written Outcomes	Learning is shown in different ways, including creative tasks, labelled drawings and, when needed, short pieces of written work.
 Pupil Voice	Our learning sequence encourages children to talk, reflect and explain their thinking. Teachers use these moments to check understanding through questioning, discussion and simple recorded responses.

We Are PURPLE!

Inclusion and Adaptation

At Littleton Green, we want every child to feel included and inspired in Computing. Our curriculum helps pupils see themselves as digital creators and problem-solvers while introducing them to the diverse ways technology is used across different cultures, communities and industries. This broad exposure helps children challenge stereotypes, appreciate different perspectives and understand computing as a subject that shapes the modern world.

Through a range of activities including coding, digital media, data handling and computer systems, pupils develop both technical knowledge and creativity. They are encouraged to think critically, collaborate effectively and apply their learning to real-world contexts.

How We Adapt Computing for All Learners

Our Computing lessons are structured so that every child can participate, succeed and make progress. Learning is broken down into clear, manageable steps, with tasks adapted to meet a range of needs and abilities.

To support pupils with SEND, EAL and those requiring additional support, teachers use:

- Scaffolded tasks and flexible outcomes
- Visual prompts, demonstrations and worked examples
- Clear, structured instructions and modelling
- Adapted technology, resources or software where appropriate
- Additional practice opportunities and adjusted pacing
- Targeted feedback and opportunities to revisit key concepts and skills
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These approaches help pupils develop confidence, independence and resilience when using technology.

By building knowledge and skills progressively and avoiding unnecessary barriers to learning, we ensure that every child can enjoy Computing and experience success.

Our aim is simple: every pupil feels included, every pupil makes progress, and every pupil develops the knowledge, skills and confidence to thrive in a digital world.

Pupil Voice



Madelene - Year 3

"I loved the VR, we got to see things that we have never seen before."

Rueban - Year 4

"One of my favourite things is when Mr Davies asks a question on the computer, and we type back."

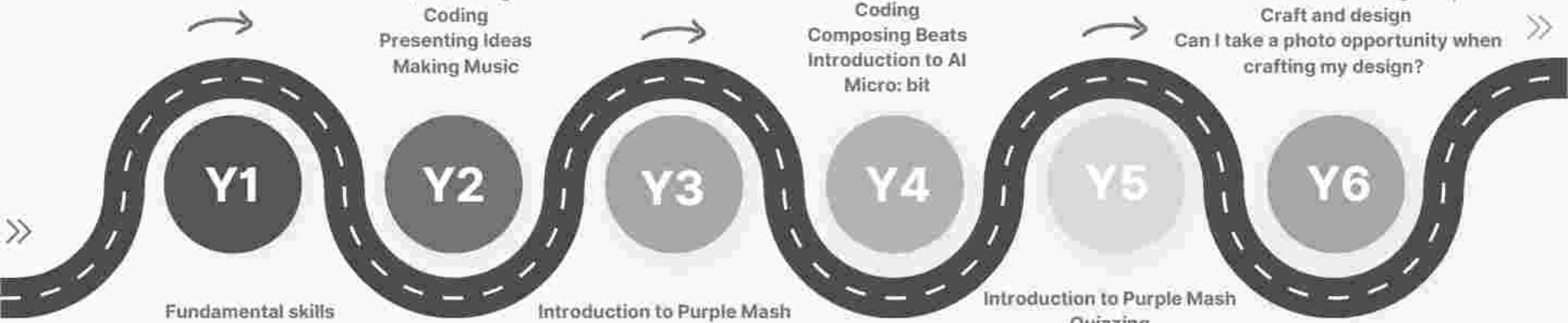
Alfie - Year 1

"I enjoyed touch typing."

Rose - Year 3

"I liked using the iPads for Wayground."

Computing Unit Overview



Y1

Fundamental skills
Introduction to Purple Mash
Creative Computing
Data Explorers
Creating & Following Instructions
Animated Stories
Coding
Technology Around Us
Making Beats

Y2

Introduction to Purple Mash
Route Explorers
The Internet
Creating Pictures
Spreadsheets
Questioning
Coding
Presenting Ideas
Making Music

Y3

Introduction to Purple Mash
Email
Route Planners
Branching Databases
Spreadsheets
Coding
Presentations
Touch Typing
Micro: bit

Y4

Introduction to Purple Mash
Unpacking Hardware and Software
Animation
Logo
Sound Stories
Effective Searching
Coding
Composing Beats
Introduction to AI
Micro: bit

Y5

Introduction to Purple Mash
Quizzing
Databases
Game Creator
Spreadsheets
Coding
Word Processing
Concept Maps
Coding External Devices
Micro: bit

Y6

Drawing
Can I express my ideas through drawing?
Painting and mixed-media
Can I create an artist's study?
Sculpture and 3D
Can I make memories using sculpture?
Craft and design
Can I take a photo opportunity when crafting my design?

Curriculum Design

Computer Science, Information Technology and Digital Literacy

These three strands provide the overarching structure for progression. Most Purple Mash units combine more than one strand, helping pupils understand that real computing tasks often require programming knowledge, digital tool use and responsible decision-making together.



Computer Science - Pupils learn how computers and computational systems work. They develop knowledge of algorithms, programming and logical reasoning and progressively create and debug programs. They explore concepts including sequence, selection, repetition, variables, functions, inputs, outputs, decomposition and abstraction.

Information Technology - Pupils learn to use digital systems and software purposefully. They create and edit digital content, work with text, images, sound and animation, analyse and present data, use spreadsheets and databases and select appropriate digital tools for a task.

Digital Literacy - Pupils learn to use technology effectively, critically and safely. They develop understanding of computer systems, networks, the internet, searching, communication, online behaviour, privacy, security and the wider impact of digital technology.

Declarative and Procedural Knowledge

Declarative knowledge – knowing that

Pupils learn facts, concepts and vocabulary such as what an algorithm is, what a variable does, how data is structured, what a network is, why passwords matter and how artificial intelligence can be used.



Procedural knowledge – knowing how

Pupils learn how to carry out computing processes, such as creating and debugging a program, formatting a document, using a spreadsheet formula, querying a database, creating a graph, searching effectively or publishing safely online.

Purple Mash provides declarative and procedural knowledge documents for units so teachers can identify both the knowledge pupils need to remember and the processes they need to perform fluently.

Curriculum Design

Computational Thinking

Computational thinking is developed progressively through practical problems. Pupils learn to: decompose problems into manageable parts; identify patterns; abstract the important information; design algorithms; use logical reasoning; predict outcomes; test and debug solutions; evaluate and improve efficiency.

Spiral Curriculum and Retrieval

The Purple Mash scheme deliberately revisits concepts and skills. Coding, data, digital creation, searching and online safety recur in increasingly complex forms. Knowledge and Skills recap questions and links to prior and future learning help teachers make these connections explicit.

Oracy in Computing

Computing provides purposeful opportunities for pupils to explain processes, verbalise algorithms, justify choices, collaborate on problem-solving and evaluate digital products. Pupils should increasingly use technical vocabulary accurately when explaining how and why a digital solution works.

Cultural Capital and Future Readiness

Computing helps pupils understand the technologies that shape modern life and broadens their awareness of future study and careers. Pupils encounter programming, digital creativity, data science, computer systems, physical computing, artificial intelligence, networks and industry-standard productivity tools. This supports pupils to see digital technology as something they can understand, shape and create rather than simply consume.

Online Safety

Online safety is a continuous entitlement and is not restricted to a single Computing unit. We use Purple Mash 2BeSafe – Being Safe in a Digital World to provide progressive, age-appropriate online safety learning from Reception to Year 6. Online safety teaching develops pupils' understanding of areas including:

self-image and identity;
online relationships;
online reputation;
online bullying;
managing online information;
health, wellbeing and lifestyle;
privacy and security;
copyright and ownership.

Pupils learn to recognise risk, make safe choices, protect personal information, behave respectfully and know where and how to seek help. Online safety is reinforced whenever pupils search, communicate, collaborate, publish or share digitally.

Curriculum Design





PURPLE Values

Our Computing curriculum reflects our PURPLE values by encouraging pupils to be:

- **Proud** – creating high-quality digital outcomes and recognising their progress.
- **Unique** – using technology creatively and developing original solutions.
- **Reflective** – testing, debugging, evaluating and improving digital work.
- **Positive** – persevering when programs fail or technology does not behave as expected.
- **Loving** – communicating respectfully and using technology in ways that protect and support others.
- **Empowered** – using digital knowledge confidently, independently and safely to solve problems and participate in the modern world.

British Values

Computing supports British Values through:

- **Democracy** – collaborating, contributing responsibly to shared digital spaces and understanding how technology can support participation and communication;
- **Individual Liberty** – making informed choices online, creating original digital content and understanding rights relating to privacy and expression;
- **Rule of Law** – understanding acceptable use, copyright, ownership, privacy, security and the laws and rules that protect people online;
- **Mutual Respect** – communicating appropriately, valuing others' digital work and recognising the impact of online behaviour;
- **Tolerance and Respect** – encountering diverse perspectives online and learning to challenge harmful, misleading or discriminatory digital content responsibly.

We Are PURPLE!

Progression of Knowledge and skills

YEAR 1		Information Technology	Computer Science	Digital Literacy
Unit 1 Introduction to Purple Mash **Why is it important to keep our information safe when we use the internet?**	Skill	• Access Purple Mash from home and school. • Log out of Purple Mash. • Give reasons why it is important to keep a password safe and not share it with other people. • Open 2Dos. • Save 2Dos. • Hand in 2Dos and communicate with their teacher via the 2Do. • Access the Purple Mash homepage when on the site. • Access alerts within Purple Mash. Close activities in Purple Mash. • Access their work area. Save work in their work area. • Locate and open work they have done previously in their work folder. • Open a specified tool. • Scroll up and down and from side to side where applicable. • Type upper and lower-case letters and spaces using the device available.		
	Knowledge	• It is important to log in to a site, the importance of keeping passwords safe and the need to log out at the end of a session. • The 2Do system allows teachers to assign tasks to children within Purple Mash. • Online sites have a main page called the homepage. • Online sites often use an alert system to communicate with the user. • To move to a different activity in Purple Mash, you must first close the current activity. • Many online sites, including Purple Mash, have an area for an individual's work that is accessible only to the individual (and in Purple Mash to their teacher as well). • To access Purple Mash programs, you use the Tools area. • You can access non-visible parts of a screen using scrolling. • You can use a physical or on-screen keyboard to type upper and lower-case letters and spaces.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Democracy – Children make choices about how they complete tasks and use digital tools responsibly. Rule of Law – Understanding online rules, including logging in correctly, keeping passwords safe and logging out securely.	Empowered	Tim Berners-Lee	Login – entering a username and password to access an account. Password – a secret code used to keep accounts safe. Homepage – the main page of a website or platform. 2Do – a task set by a teacher in Purple Mash. Save – storing work so it can be opened again later.	"Tech Detectives" School Digital Trail Pupils explore technology around school (office systems, interactive boards, registers, library scanning, kitchen ordering systems) to understand how digital tools help communities work.

Oracy Opportunities	Partner Talk – "Safe or Unsafe?" Decide if a behaviour is safe or unsafe (e.g. sharing passwords, logging out)

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I think... because... • I agree with... because... • I disagree with... because...	• They are the same because... • They are different because... • They/we both have...	• I know... because... • It is... and... • First..., then..., finally...	• I think it will... • This will... because... • I predict...

End product	"Purple Mash Digital Expert Showcase"

Progression of Knowledge and skills

YEAR 1		Information Technology	Computer Science	Digital Literacy
Unit 2 Creative Computing **How can we use digital tools to create and share our ideas?**	Skill	• Select colours and painting effects in 2Paint. • Control a computer mouse. • Use a mouse or finger (device dependent) to perform tasks. • Use drag and drop methods to complete games, including 2DIY jigsaws and placing activities. • Use the image gallery to create jigsaw images. • Use hotspots in 2DIY placing games. • Share work to a Purple Mash Display Board. • Access shared work on a Purple Mash Display Board.		
	Knowledge	• Art can be created using digital tools. • Digital tools can be used to play and make simple games. • Purple Mash allows a user to share work for others to use on digital display boards.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make creative choices using colours, painting tools and digital games. Mutual Respect – Respecting and celebrating the work shared by others on Purple Mash Display Boards.	Proud	Steve Jobs	Paint Tool – a digital tool used to create pictures. Drag and Drop – clicking or touching and moving an item to another place. Hotspot – an area that makes something happen when clicked or touched. Display Board – a shared online space where work can be viewed. Digital Art – artwork created using technology.	Create a Collaborative Class Display Board

Oracy Opportunities	Small Group Discussion – "Which tools are best?" Children discuss which tools (paint, colours, drag and drop) are most useful and why.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I think... because... • I agree with... because... • I disagree with... because...	• They are the same because... • They are different because... • They/we both have...	• I know... because... • It is... and... • First..., then... finally...	• I think it will... • This will... because... • I predict...

End product:	Create a class digital gallery or interactive display board

Progression of Knowledge and skills

YEAR 1		Information Technology	Computer Science	Digital Literacy
Unit 3 Data Explorers **How can we use data to help us answer questions and make decisions?**	Skill	• Identify criteria that can be used to sort items into groups. • Sort items using criteria. • Logically sort items into groups. • Complete grouping questions in 2Quiz using given criteria. • Complete sequencing questions in 2Quiz using given sorting criteria. • Decide whether it is better to sort or group items to organise them. • Identify items to be grouped or sorted as examples of data that can be organised. • Use data grouping and sorting to answer questions. • Create a pictogram using data from the class in 2Count. • Answer questions about the class using a pictogram. • Collect and record data. • Input the data into the 2Count tool. • Make a pictogram using 2Count. • Answer questions using the pictogram.		
	Knowledge	• Items can be grouped using a range of criteria, and a logical process should be used when doing so. • Digital tools can be used to group images of items. • Sorting is a way to organise items. • Sorting and grouping have different meanings. • Data is information that can be collected and used. • Data can be represented digitally using pictures. • Before collecting data, you must think about how it can be used and what information to collect.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Democracy – Children collect class opinions and preferences to create pictograms, recognising that everyone's voice contributes to class data. Individual Liberty – Children make decisions about how to sort and group information using different criteria. Mutual Respect – Valuing everyone's responses when collecting class data and understanding that all contributions matter.	Reflective	Florence Nightingale	Data – information collected to help answer questions. Sort – putting items in order using rules or criteria. Group – putting similar items together. Criteria – rules used to sort or group items. Pictogram – a chart that uses pictures to show information.	Nature Sorting Challenge

Oracy Opportunities	Presentational Talk – "Data Expert" Children explain their pictogram: What data did you collect? What does it show? Speaking clearly and confidently Using appropriate vocabulary

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I think... because... • I agree with... because... • I disagree with... because...	• They are the same because... • They are different because... • They/we both have...	• I know... because... • It is... and... • First..., then..., finally...	• I think it will... • This will... because... • I predict...

End product	**Our Class Data Museum**

Progression of Knowledge and skills

YEAR 1		Information Technology	Computer Science	Digital Literacy
Unit 1.4 Creating & Following Instructions **Why do instructions need to be clear and in the right order?**	Skill		• Think carefully about how to word oral instructions to achieve a desired outcome. • Give clear, precise, and concise instructions for someone to follow. • Test whether instructions have been followed by comparing the outcome to the instructions. • Examine instructions to see where confusion might have arisen. • Use a computing device to follow simple instructions in a painting project. • Examine the outcomes of following instructions to check for differences in interpretation. • Decide whether any differences were due to the clarity of the instructions or the end user. • Identify when a sequence of instructions is incorrect and why. • Explore the possible outcomes of following incorrectly sequenced instructions. • Find errors in a simple algorithm. • Correct an algorithm sequence by reordering it. • Recognise when an algorithm has been debugged. • Apply learning about debugging an algorithm to other incorrectly sequenced instructions, such as baking cakes.	
	Knowledge		• To achieve a specific effect when building something, accurate instructions must be followed. • Computer programs need precise instructions to follow, and these are called algorithms. • If instructions are vague, outcomes will vary for a given task. • The order of instructions for a task affects the results. • Correcting errors in an algorithm or program is called debugging.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make decisions about how to create and improve instructions to achieve a goal. Mutual Respect – Listening carefully to others' instructions and working collaboratively to improve outcomes.	Positive	Ada Lovelace	Algorithm – a set of instructions to complete a task. Instruction – information telling someone or something what to do. Sequence – the correct order of instructions. Debugging – finding and fixing mistakes in instructions or programs. Precise – clear and exact.	Real-life Baking or Sandwich Making Challenge

Oracy Opportunities	Small Group Discussion – "Spot the mistake" Structure: Groups of 3–4 with roles: Builder – improves the instructions Challenger – identifies errors Children analyse incorrect or mixed-up instructions (algorithms) and fix them.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I think... because... • I agree with... because... • I disagree with... because...	• They are the same because... • They are different because... • They/we both have...	• I know... because... • It is... and... • First... then..., finally...	• I think it will... • This will... because... • I predict...

End product	**Algorithm Experts Showcase**

Progression of Knowledge and skills

YEAR 1		Information Technology	Computer Science	Digital Literacy
Unit 5 Animated Stories **How can we use digital tools to bring our stories to life?**	Skill	• Identify differences and similarities between traditional books and digital books. • Use the painting tools within 2Create a Story. • Use picture editing tools such as 'undo' and the 'eraser' to improve created images. • Apply animation effects to images in 2Create a Story. • Create a Story. • Choose effects that make characters appear to interact. • Copy and paste in 2Create a Story. • Organise and copy pages in a digital book. • Record sound for 2Create a Story pages. • Insert sound effects and music into a 2Create a Story book. • Add backgrounds to 2Create a Story pages. • Change the font and size of typed text.		
	Knowledge	• There are differences between traditional books and digital books. • Images can be created within digital book software. • Digital books can have animations. • Copying and pasting is a term used in computing when things are copied from one place to another. • Audio such as sound effects, voice recordings and music can be included within digital books. • Backgrounds are static images in contrast to the animated foreground. • The style of digital text is called the font. This can be changed after typing the text.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make creative decisions about characters, sounds, fonts, backgrounds and story ideas. Mutual Respect – Valuing and celebrating the different stories and ideas created by others.	Unique	Beatrix Potter	Animation – movement added to pictures to make them come alive. Font – the style of writing used in digital text. Background – the part of an image behind the main picture or characters. Audio – sounds, music or voice recordings added to a project. Copy and Paste – moving or duplicating something from one place to another.	Explore Storytelling From Around the World

Oracy Opportunities	Presentational Talk – "Digital Story Premiere" Children present their story and explain choices (animation, sound, layout) and describe what happens in their story.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I think... because... • I agree with... because... • I disagree with... because...	• They are the same because... • They are different because... • They/we both have...	• I know... because... • It is... and... • First..., then..., finally...	• I think it will... • This will... because... • I predict...

End product	Digital Story Premiere

Progression of Knowledge and skills

YEAR 1		Information Technology	Computer Science	Digital literacy
Unit 6 **Coding** **How can we create, test and debug code to make objects perform different actions?**	Skill		• Create instructions in the form of simple algorithms with attention to the order and the level of detail. • Interpret what a piece of code means. • Recognise object code blocks in 2Code are light blue. • Recognise action code blocks in 2Code are dark blue. • Recognise event code blocks in 2Code are green. • Recognise output code blocks in 2Code are purple. • Switch to code view. • Use code blocks dragged into the coding area to create commands. • Understand how code blocks fit together to create a command. • Make a simple command in 2Code by using an object and action together. • Execute the code to see the effect by clicking Run. • Use the 'When Clicked' event code block. • Position a command inside a 'When Clicked' event code block. • Give an object an action that occurs when it is clicked. • Test 'When Clicked' events. • Begin to use logical reasoning to find where bugs in the code are. • Fix bugs in code. • Test whether bugs have been fixed.	
	Knowledge		• Computer programs work by following instructions called algorithms. These are written as computer code that the computer can interpret. • In 2Code, code is created using coloured code blocks. • Code view is the place in 2Code where you see and use the blocks of code. • Each single instruction such as 'Object Right' is called a command. • To make an algorithm happen, you must execute, or run, the code. • An event is something that makes a block of code run in response to an action such as a user pressing a key or clicking a screen. • Debugging is the name for fixing code that isn't working how it was designed to work.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make choices about how to code actions and solve problems creatively. Rule of Law – Understanding that code follows rules and instructions in a specific order for programs to work correctly.	Empowered	Grace Hopper	Code – instructions written for a computer to follow. Algorithm – a sequence of instructions to complete a task. Command – a single instruction in a computer program. Event – an action that makes code happen (e.g., clicking an object). Debugging – finding and fixing mistakes in code.	Coding and Robotics Day

Oracy Opportunities	Young Coders Showcase: Pupils present their program: What it does, How it works, What they found

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I think ... because... • I agree with ... because... • I disagree with ... because...	• They are the same because... • They are different because... • They/we both like...	• I know ... because... • It is ... and... • First ..., then ..., finally...	• I think it will... • This will ... because... • I predict...

End product	Young Coders Showcase

Progression of Knowledge and skills

YEAR 1		Information Technology	Computer Science	Digital Literacy
Unit 1 **Technology Around Us** **How does technology help us in our everyday lives, and how can we use it safely?**	Skill	• Recognise examples of technology. • Describe the purpose of common types of technology. • Identify technology within school, at home and in the wider world. • Explain how this technology is helpful. • Give examples of digital technology and contrast this with non-digital technology. • Name examples of technology hardware including peripheral devices. • Use devices safely • Point out and explain risks in situations involving technology		
	Knowledge	• Technology is something that uses scientific knowledge to solve problems or invent useful tools. • Technology is used within many environments. • Not all technology is digital technology, digital technology is a subset used for sharing information. • The word hardware is used to describe the physical parts of a digital technology device. • It is important to use technology safely and that there are some risks associated with the use of technology.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow clear rules when using technology safely and responsibly in different environments. Individual Liberty – Pupils make independent choices when identifying, using and evaluating different types of technology.	Empowered	Tim Berners-Lee	Technology – Tools that solve problems. Hardware – Physical parts of a device. Digital – Technology using computers. Device – Equipment used for a task. Risk – A possible danger.	Technology Hunt Walk

Oracy Opportunities	Technology Hunt Walk (Cultural Capital Link) Pupils go on a technology hunt around school (or images of home/wider world). They identify examples of technology and discuss: What it is, What it is used for, Whether it is digital or non-digital.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I think... because... • I agree with... because... • I disagree with... because...	• They are the same because... • They are different because... • They/we both have...	• I know... because... • It is... and... • First..., then..., finally...	• I think it will... • This will... because... • I predict...

End product	**To recognise, describe and compare different types of technology and explain how they are used safely in everyday life.**

Progression of Knowledge and skills

YEAR 1		Information Technology	Computer Science	Digital Literacy
Unit 8 Making Beats **How can we use digital tools to create, change and improve our own music?**	Skill	• Identify differences and similarities between music played using instruments and digitally composed music. • Compose a melody using 2Explore. • Select sounds from the available libraries. • Compose a beat using 2Beat. • Use digital music tools to change the tempo, volume, looping and length of music compositions. • Use 2Beat to compose an interaction of different instrument sounds. • Select the best music tool for their compositions.		
	Knowledge	• There are differences between music played using musical instruments and digitally created music. • Digital tools such as 2Explore and 2Beat can be used to compose music. • Digital music tools can be used to change aspects of the composition. • Digital music tools can be used to create the sound of multiple instruments at once. • Different digital tools are better for different purposes.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make creative choices when selecting sounds, instruments and styles of music. Mutual Respect – Listening to and appreciating the compositions created by others.	Proud	Beethoven	Compose – to create music. Tempo – the speed of a piece of music. Volume – how loud or quiet the music is. Loop – repeating a section of music. Melody – a sequence of musical notes that sounds like a tune.	Live Music Experience

Oracy Opportunities:	Build a Beat Together In pairs, pupils create a shared beat. Take turns suggesting ideas and building on each other's work.

Sentence Stems			
Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I think... because... • I agree with... because... • I disagree with... because...	• They are the same because... • They are different because... • They/we both have...	• I know... because... • It is... and... • First... then... finally...	• I think it will... • This will... because... • I predict...

End product:	Produce and perform a class digital concert

Progression of Knowledge and skills

Year 2		Information Technology	Computer Science	Digital Literacy
Unit 1 Introduction to Purple Mash **How can we use Purple Mash safely and confidently to complete, save and find our work?**	Skill	• Access Purple Mash from home and school. • Log out of Purple Mash. • Give reasons why it is important to keep a password safe and not share it with other people. • Make and edit their own avatar. • Open 2Dos. • Save 2Dos. • Hand in 2Dos and communicate with their teacher via the 2Do. • Access the Purple Mash homepage when on the site. • Access alerts within Purple Mash. • Close activities in Purple Mash. • Access their work area. • Save work in their work area. • Locate and open work they have done previously in their work folder. • Open a specified tool. • Scroll up and down and from side to side where applicable. • Type upper and lower-case letters and spaces using the device provided.		
	Knowledge	• It is important to log in to a site, the importance of keeping passwords safe and the need to log out at the end of a session. • An avatar is a virtual representation of a person suitable for use online. • The 2Do system is used to set work for children within Purple Mash. • Online sites have a main page called the homepage. • Online sites often use an alert system to communicate with the user. • To move to a different activity in Purple Mash, you must first close the current one. • Many online sites, including Purple Mash, have an area for an individual's work that is accessible only to the individual (and in Purple Mash to their teacher as well). • To access Purple Mash programs, you use the Tools area. • You can access non-visible parts of a screen using scrolling. • You can use a physical or on-screen keyboard to type upper- and lower-case letters and spaces.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Mutual Respect – Communicating appropriately with teachers and respecting shared digital spaces. Individual Liberty – Making choices about avatars and personal digital identity in a safe way.	Loving	Tim Berners-Lee	Password – a secret code used to keep accounts safe. Avatar – a digital character that represents a person online. Homepage – the main page of a website or online platform. 2Do – a task set by the teacher on Purple Mash. Alert – a message or notification shown within a website.	Create a safe avatar

Oracy Opportunities	Question Twists and Show-and-Tell – In pairs, pupils ask questions to find out more about safe and independent use of Purple Mash, then build on or challenge a partner's idea. They invite their partner to add a final point before giving a short, prepared explanation to the group.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I believe... • In my opinion... • However... / Also...	• They are similar because... • They are different because... • They are both alike because they are both...	• I... because... • Before I... • After I...	• I think... will happen because... • I predict... • I know that...

End product	Purple Mash Digital Citizen Portfolio

Progression of Knowledge and skills

Y2 Unit 2		Information Technology	Computer Science	Digital Literacy
Unit 2 Route Explorers **How can we create, test and debug algorithms to guide a turtle to its destination?**	Skill		• Input commands in 2Go. • Input purposeful commands in 2Go to move the turtle in a specific direction towards a goal. • Use techniques such as finger movements to plan a route. • Input several commands into a sequential algorithm layout and run this code to move the turtle along a programmed route. • Reset the turtle to the starting position to re-run the code. • Plan the route by writing the algorithm first and then inputting the commands. • Make logical attempts to debug code for routes. • Reset, debug and re-run the code to test routes.	
	Knowledge		• The combination of a direction and a distance is known as a command in 2Go. • Commands can be input into 2Go to control the movement of a screen turtle in four directions. • Planning a route is important in order to input the correct commands. • Routes can be programmed to perform more than one command in a sequence. • A list of instructions for a route is the algorithm. • Errors (bugs) occur because commands may have been input incorrectly. • Fixing the errors is called debugging.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Following precise instructions and understanding that commands must be in the correct order for rules (algorithms) to work. Individual Liberty – Children choose and plan their own routes and problem-solving strategies.	Positive	Alan Turing	Command – an instruction telling the turtle what to do. Algorithm – a sequence of instructions to complete a task or route. Route – the path the turtle follows. Debugging – finding and fixing mistakes in code. Reset – starting again from the beginning position.	Treasure Hunt with Debugging Routes

Oracy Opportunities	Question Tennis and Show-and-Tell – in pairs, pupils ask questions to find out more about route planning, commands and debugging, then build on or challenge a partner's idea. They invite their partner to add a final point before giving a short, prepared explanation to the group.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I believe... • In my opinion... • However.... / Also...	• They are similar because... • They are different because... • They are both alike because they are both...	• ... because... • Before I... • After I...	• I think... will happen because... • I predict... • I know that...

End product	Route Masters Challenge

Progression of Knowledge and skills

YEAR 2		Information Technology	Computer Science	Digital Literacy
Unit 3 The Internet **How does the internet help us find, explore and share information online?**	Skill	• Explain the difference between the internet and the World Wide Web, recognising that they describe different things. • Explain that Wi-Fi describes a wireless internet connection. • Recognise a web browser. • Find information on a school's website by viewing different webpages. • Decide whether a device is a smart device. • Give examples of smart devices. • Navigate to the Purple Mash homepage and to a school's website homepage. • Use a link on a webpage of a school's website. • Use keywords to search for information using a search engine.		
	Knowledge	• The Internet is a global network of connected computers around the world. • An internet connection allows people to communicate with others over the internet and this is commonly known as being online. • An internet connection can be made using wires or wirelessly. • A browser is used to access websites and webpages of the World Wide Web. • The World Wide Web refers to the documents and pages someone sees when using a browser. • Smart devices are those that can connect to the internet or have more functions than a basic device. • The 'front page' of a website is known as the home page. • Webpages have links that, when clicked, display other webpages. • Websites can be found using a browser that contains a search engine.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Mutual Respect – Understanding that people use the internet to communicate and share information respectfully across the world. Rule of Law – Following safe rules for using the internet, search engines and websites responsibly.	Loving	Tim Berners-Lee	Internet – a global network of connected computers. World Wide Web (WWW) – the pages and websites accessed through the internet. Browser – a program used to access websites. Homepage – the main page of a website. Smart device – a device that can connect to the internet and perform advanced functions.	School Website Scavenger Hunt

Oracy Opportunities	Question Tennis and Show-and-Tell – in pairs, pupils ask questions to find out more about how the internet, World Wide Web and browsers work, then build on or challenge a partner's idea. They invite their partner to add a final point before giving a short, prepared explanation to the group.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I believe... • In my opinion... • However..., / Also...	• They are similar because... • They are different because... • They are both alike because they are both...	• I... because... • Before I... • After I...	• I think... will happen because... • I predict... • I know that...

End product:	Create a "How the Internet Works" guide for new pupils.

Progression of Knowledge and skills

YEAR 2		Information Technology	Computer Science	Digital Literacy
Unit 4 Creating Pictures **How can we use digital painting tools and effects to create different styles of artwork?**	Skill	• Explore the range of painting effects in 2Paint. • Observe how the painting effects give different results. • Produce digital images in traditional art styles using digital painting effects. • Use the brush tool slider to change the size of brush strokes to achieve the desired effects. • Use the dilute tool to manipulate the intensity of any selected colour. • Make use of outline features—such as selecting, resizing, and editing outlines—to enhance their digital art.		
	Knowledge	• Digital art tools usually have a choice of painting effects. • Painting effects can be combined to help a user make pictures of varying styles. • The size of an onscreen painting tool brush stroke can be manipulated. • Intensity of colours can be manipulated digitally. • Outline features in a digital art program can help a user compose an image.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make creative choices about style, colour, tools and effects in their artwork. Mutual Respect – Appreciating and discussing the different artistic choices made by others.	Unique	Vincent van Gogh	Effect – a change applied to make something look different. Brush tool – a digital tool used to paint or draw. Intensity – how strong or light a colour appears. Outline – the edge or border of a shape or image. Digital art – artwork created using technology.	Outdoor Sketching Experience

Oracy Opportunities	Question Tennis and Show-and-Tell – in pairs, pupils ask questions to find out more about digital art tools, effects and design choices, then build on or challenge a partner's idea. They invite their partner to add a final point before giving a short, prepared explanation to the group.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I believe... • In my opinion... • However,... / Also...	• They are similar because... • They are different because... • They are both alike because they are both...	• I... because... • Before I... • After I...	• I think... will happen because... • I predict... • I know that...

End product	**Create a class virtual art exhibition**

Progression of Knowledge and skills

YEAR 2		Information Technology	Computer Science	Digital Literacy
Unit 5 Spreadsheets **How can we use spreadsheets to organise, calculate and present information clearly?**	Skill	• Identify a cell by its name. • Enter data into a cell and move between cells with ease. • Explain the difference between a row and a column. • Resize rows and columns to make data clearer. • Use formatting tools such as colour, wrap text, and alignment to improve clarity and organisation of data. • Check and improve their spreadsheet to ensure it is neat, accurate, and easy to understand. • Insert images and assign numerical values to them. • Apply calculation tools (add, subtract, multiply, divide) to carry out operations in a spreadsheet. • Use the 'Is Equal to' tool to check whether a calculation is correct. • Use the 'Quiz' tool to create an interactive calculation. • Use the 'Count' tool to find how many of an item appear in the spreadsheet. • Create block diagrams in 2Calculate to present data visually.		
	Knowledge	• A spreadsheet is a program that organises data in rows and columns. • 2Calculate is a type of spreadsheet program. • Each box in a spreadsheet is called a cell, and every cell has a unique name. • Rows run horizontally, and columns run vertically. • Formatting tools can be used to change the way data looks (e.g., size, colour, wrap text). • It is important to consider the layout of a spreadsheet to improve clarity. • Images and numbers can be used in spreadsheets, and values can be assigned to images. • Spreadsheets can use mathematical operations to carry out calculations automatically. • Spreadsheets contain various tools that can be used for different reasons. • The 'Is Equal to' tool can check if a calculation is correct. • The 'Quiz' tool can be used to create interactive questions inside a spreadsheet. • The 'Count' tool can show how many of an item appear in a spreadsheet. • Block diagrams are a way of presenting data visually. • Two sets of data are needed to create a block diagram (one for the category, one for the amount).		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Following logical rules and processes when using formulas and calculations in spreadsheets. Individual Liberty – Making choices about how to present and organise data effectively.	Empowered!	Charles Babbage	Cell – a single box in a spreadsheet. Row – a horizontal line of cells. Column – a vertical line of cells. Formula – a calculation used in a spreadsheet. Format – changing the appearance of data to make it clearer.	School Data Investigation Project.

Oracy Opportunities	Question Tennis and Show-and-Tell – in pairs, pupils ask questions to find out more about spreadsheet organisation, formulas and data interpretation, then build on or challenge a partner's idea. They invite their partner to add a final point before giving a short, prepared explanation to the group.

Sentence Stems			
Argument / opinion	**Comparing / contrasting**	**Explanation / description**	**Prediction**
• I believe... • In my opinion... • However,... / Also...	• They are similar because... • They are different because... • They are both alike because they are both...	• I... because... • Before I... • After I...	• I think... will happen because... • I predict... • I know that...

End product:	Data Dashboard Designers

We Are PURPLE!

Progression of Knowledge and skills

YEAR 2		Information Technology	Computer Science	Digital Literacy
Unit 6 Questioning **How can we collect, organise and present data to help us answer questions?**	Skill	• Collect simple data by asking questions and recording answers. • Use tally charts to organise collected data. • Create pictograms and bar charts using 2Count to represent information. • Form clear Yes/No questions to help identify or sort objects. • Follow a branching database to find an answer. • Use 2Question to navigate and explore branching databases.		
	Knowledge	• Data is information that can be collected, recorded, and presented in different ways. • A tally chart is a method of counting and recording data. • Pictograms and bar charts are ways of presenting data visually. • Closed questions can limit responses, while open questions allow more detailed answers. • Yes/No questions can be used to help sort and classify information. • A branching database uses Yes/No questions to organise and identify information.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Democracy – Collecting and representing class opinions through surveys and data collection. Individual Liberty – Choosing and forming their own questions to gather data.	Reflective	John Venn	Data – information collected to answer questions. Tally chart – a way of counting and recording information using marks. Pictogram – a chart that uses pictures to show data. Branching database – a system that uses Yes/No questions to sort information. Question – something asked to find out information.	Nature Classification Walk

Oracy Opportunities	Question Tennis and Show-and-Tell – in pairs, pupils ask questions to find out more about how questions and data can be used to classify and find information, then build on or challenge a partner's idea. They invite their partner to add a final point before giving a short, prepared explanation to the group.

Sentence Stems			
Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I believe... • In my opinion... • However,... / Also...	• They are similar because... • They are different because... • They are both alike because they are both...	• ... because... • Before I... • After I...	• I think... will happen because... • I predict... • I know that...

End product	Junior Data Scientists Showcase

Progression of Knowledge and skills

YEAR 2		Information Technology	Computer Science	Digital Literacy
Unit 7 Coding **How can we use events, timers and debugging to create a program that works as intended?**	Skill		• Follow a written algorithm. • Identify required events, objects and actions from a program algorithm. • Identify the collision detection block within the event category blocks. • Use a collision detection block in a program. • Assign two objects within the collision detection command. • Assign an event for when the two objects collide. • Run code and see the sequential effect that occurs. • Identify the timer command within the timer category blocks. • Use the timer command and set a specific number of seconds. • Nest actions within the timer command to delay their running. • Use a variety of object types. • Identify attributes which appear under some objects and not in others (e.g., a turtle type and a character type). • Alter attributes of an object, such as the image and scale within Design View. • Recognise the event command blocks — When Key Event, When Swiped Event, When Clicked Event and Collision Detection. • Use a variety of event blocks in different circumstances. • Use specific event commands for specific objects, such as a click event for a button object. • Use logical reasoning to identify the source of bugs and attempt to fix them. • Test and debug code in a systematic way.	
	Knowledge		• In computing, a set of instructions is known as an algorithm. Steps in an algorithm must be followed to achieve the intended outcome. • The collision detection event is a way to cause an action when two objects collide with each other. • Programs follow a sequence of instructions (commands) in order. • Timer commands can be used to make parts of the program run after a set time. • Different object types in 2Code have different attributes that can be changed. • Event commands in 2Code are used to create blocks of code that run when an event happens. There are different event command blocks in 2Code. • Debugging is the process of testing that a program works as intended, looking for any bugs and fixing the problems found.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Understanding that programs must follow precise rules and sequences to function correctly. Individual Liberty – Designing their own interactive programs using different events and objects.	Empowered	Alan Turing	Algorithm – a set of instructions followed in order. Event – something that triggers an action in a program. Collision Detection – when two objects in a program touch and trigger an action. Timer – a tool that delays actions for a set amount of time. Debugging – finding and fixing errors in a program.	Debugging Escape Room Challenge

Oracy Opportunities	Question Tennis and Show-and-Tell – in pairs, pupils ask questions to find out more about algorithm design, coding, testing and debugging, then build on or challenge a partner's idea. They invite their partner to add a final point before giving a short, prepared explanation to the group.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I believe... • In my opinion... • However,... / Also...	• They are similar because... • They are different because... • They are both alike because they are both...	• I... because... • Before I... • After I...	• I think... will happen because... • I predict... • I know that...

End product	Create a playable mini-game in 2Code

We Are PURPLE!

Progression of Knowledge and skills

YEAR 2		Information Technology	Computer Science	Digital Literacy
Unit 8 Presenting Ideas **How can I organise and present my ideas clearly?**	**Skill**	Use a concept mapping tool (2Connect) to organise ideas. Add information to a concept map. Group and link ideas logically. Present information clearly to an audience. Explain thinking using a concept map.		
	Knowledge	A concept map is a diagram used to organise ideas and information. Information can be added using text boxes and connectors. Ideas can be organised into groups to make them easier to understand. Links show relationships between ideas. Concept maps help people communicate information clearly. Digital tools can be used to create, edit and improve concept maps.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Democracy - Sharing and discussing ideas with others. Mutual Respect - Listening carefully to the ideas of classmates. Individual Liberty - Expressing personal thoughts and opinions creatively.	Empowered	Tony Buzan	Concept map – a diagram that helps us organise ideas and show how they are linked together. Connecting Line – a line that joins ideas together to show how they are connected. Group – a set of things that belong together because they are similar. Layer – a level of ideas in a concept map. Node – a box or bubble that holds one idea.	Become a 'Digital Idea Designer' by creating colourful concept maps.

Oracy Opportunities	Question Tennis and Show-and-Tell – In pairs, pupils ask questions to find out more about effective ways to present digital ideas to an audience, then build on or challenge a partner's idea. They invite their partner to add a final point before giving a short, prepared explanation to the group.

Sentence Stems			
Argument / opinion	**Comparing / contrasting**	**Explanation / description**	**Prediction**
• I believe... • In my opinion... • However... / Also...	• They are similar because... • They are different because... • They are both alike because they are both...	• I... because... • Before I... • After I...	• I think... will happen because... • I predict... • I know that...

End product	Create and present a digital concept map in 2Connect

Progression of Knowledge and skills

YEAR 2		Information Technology	Computer Science	Digital Literacy
Unit 9 Making Music **How can we use digital tools to combine, change and create sounds to make our own music?**	Skill	• Identify if sounds are made by real instruments or made by a computer. • Identify the sound of different instruments, whether live or digitally made. • Open Zhequence. • Listen to a premade composition by pressing the play button. • Observe what happens on the screen when composition is playing, including the placement of sounds. • Explore the sounds and instruments category. • Drag sounds into the playable area. • Play and experiment with the organisation of sounds on each track. • Compare the sounds of different notes. • Recognise that some notes sound the same. • Recognise that some notes sound better together than others. • Locate the beats per minute slider. • Observe that the slider changes the slider's position. • Listen to play audio to how changing the location of the slider affects the composition. • Locate the different rows of music. • Locate the volume sliders at the end of each row of music (tracks). • Adjust (move) the individual rows of music (tracks). • Play the tune and note the effect of adjusting the volume of individual tracks. • Experiment with the looping feature and identify how this affects a tune. • Manipulate a piece of music so that it sounds correct when looping and doesn't have a noticeable jump when it restarts each repeat. • Locate the My Sounds section. • Click on the record button. • Use the record button to incorporate new sound from a microphone. • Test the recording back by pressing play. • Click done when happy with recording.		
	Knowledge	• Live, instrumental music is created by real instruments and digital music is created using a computer. • Music can be made digitally using programs like Zhequence. • Sounds can be incorporated into music programs to make a tune. • Notes that are the same colour on Zhequence represent the same note. • The speed of a digital musical (BPM) can be changed using the beats per minute slider. • The volume of instruments/sounds on a track can be changed when using music programs. • Looping a track means that it continues to play on repeat. • Music programs let users incorporate their own sounds into a composition.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Mutual Respect – Listening to and valuing different musical compositions created by peers. Tolerance of Different Beliefs and Backgrounds – Exploring how music can represent different cultures, styles and emotions.	Proud	Johann Sebastian Bach	Composition – a piece of created music. BPM (Beats Per Minute) – the speed of the music. Loop – repeating a section of music. Track – a row of sounds in a music program. Volume – how loud or quiet a sound is.	Sound Recording Experience

Oracy Opportunities	Question Tennis and Show-and-Tell – in pairs, pupils ask questions to find out more about digital composition choices including tempo, volume and looping, then build on or challenge a partner's idea. They invite their partner to add a final point before giving a short, prepared explanation to the group.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I believe... • In my opinion... • However, .../Also...	• They are similar because... • They are different because... • They are both alike because they are both...	• I... because... • Before I... • After I...	• I think... will happen because... • I predict... • I know that...

End product	Digital Music Producer Showcase

Progression of Knowledge and skills

YEAR 3		Information Technology	Computer Science	Digital Literacy
Unit 1 Introduction to Purple Mash **How can we use Purple Mash safely, confidently and independently to complete and manage our work?**	Skill	• Access Purple Mash from home and school. • Log out of Purple Mash. • Give reasons why it is important to keep a password safe and not share it with other people. • Make and edit their own avatar. • Open 2Dos. • Save 2Dos. • Hand in 2Dos and communicate with their teacher via the 2Dos. • Access the Purple Mash homepage when on the site. • Access alerts within Purple Mash. • Close activities in Purple Mash. • Access their work area. • Save work in their work area. • Locate and open work they have previously completed in their work folder. • Open a specified tool. • Scroll up and down and from side to side where applicable.		
	Knowledge	• It is important to log in to a site, the importance of keeping passwords safe and the need to log out at the end of a session. • An avatar is a virtual representation of a person suitable for use online. • The 2Do system is used to set work for children within Purple Mash. • Online sites have a main page called the homepage. • Online sites often use an alert system to communicate with the user. • To move to a different activity in Purple Mash, you must close the current activity. • Many online sites, including Purple Mash, have an area for an individual's work that is accessible only to the individual (and in Purple Mash to their teacher as well). • To access Purple Mash programs, you use the Tools area. • You can access non-visible parts of a screen using scrolling.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
• **Rule of Law** – Understanding that rules for passwords, logging in and logging out are there to keep everyone safe online. • **Democracy** – Understanding that everyone should have the opportunity to use digital technology, share ideas and participate in online learning.	Loving	Tim Berners Lee	Password – a secret code used to keep an account safe. Avatar – a digital character that represents a user online. Homepage – the main page of a website or online system. 2Do – a task set by a teacher in Purple Mash. Alert – a message or notification within a system.	Avatar Identity Exploration Activity

Oracy Opportunities	Computing Expert Trio – pupils discuss safe and independent use of Purple Mash using specific vocabulary. One pupil chairs and asks clarifying questions, one explains as the expert and one acts as the silent summariser. The trio reaches a shared explanation and reports the key points.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• My view is... • I understand, but/however... • Building on what you are saying...	• They are the same because... • They are different because... • They are both alike because...	• Before I... • After I... • It reminds me of...	• This is probable because... • After... I predict that... • This is a result of...

End product	Purple Mash Digital Citizenship Portfolio

Progression of Knowledge and skills

YEAR 3		Information Technology	Computer Science	Digital Literacy
Unit 2 Email **How can we use email to communicate effectively, responsibly and safely with others?**	Skill			• Explain the advantages and disadvantages of different communication methods. • Choose an appropriate communication method for a task. • Make use of 2Email to communicate within school. • Recognise the differences between digital and non-digital communication methods. • Explain different digital communication methods such as instant messaging, email and chat. • Identify the advantages of instant communication. • Explain the differences between email and traditional communication methods which are not instant. • Identify the common features of the email screen. • Make use of common features of email software to communicate digitally. • Check alerts for new messages and respond to these. • Use the address book within 2Email to find contacts. • Send emails to multiple contacts using the address book. • Identify the attachment icon. • Select files to attach to an email and send. • Be cautious of emails that have attachments. • Discuss the advantages and disadvantages of being able to send attachments with emails. • Recognise a concerning email/contact. • Identify who is trusted to contact and use the report feature in 2Email. Consider content when sharing content digitally. • Recognise personal and private information and know what is not appropriate to share with a recipient.
	Knowledge			• There are different methods of communication and they each have strengths and weaknesses. • Emails are a form of digital communication. • Emails can be sent and received almost instantly to anyone with an email address. • Common features of email software are the inbox, the 'To' address field, the sender email address, the subject, the message text, and the compose and reply functions. • Alerts can be used to notify a person that they have unread email. • Address books can be saved in email software. This provides a convenient way to send emails without typing the full email address each time. • Pictures, documents and other file types can be attached to emails. • There are risks related to the use of email.

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Mutual Respect – Communicating politely and appropriately with others using email and digital tools. Rule of Law – Understanding rules around safe communication, privacy and appropriate online behaviour	Loving	Key Timeliners	Email – a digital message sent over the internet. Attachment – a file added to an email. Address book – a list of saved contacts for sending emails. Inbox – where received emails are stored. Consent – permission to share information with someone.	Real-Life Office Communication Roleplay

Oracy Opportunities	Computing Expert Trio – pupils discuss safe, appropriate and effective email communication using specialist vocabulary. One pupil listens and asks clarifying questions, one explains as the expert and one acts as the silent summariser. The trio reaches a shared explanation and reports the key points.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• My view is... • I understand, but/however... • Building on what you are saying...	• They are the same because... • They are different because... • They are both alike because...	• Before I... • After I... • It reminds me of...	• This is probable because... • After... I predict that... • This is a result of...

End product	Create a "Safe and Effective Email Guide for Pupils"

Progression of Knowledge and skills

YEAR 3		Information Technology	Computer Science	Digital Literacy
Unit 3 Route Planners **How can we use algorithms, angles and repeats to program a turtle to follow a route?**	Skill		• Input commands in 2Go. • Input purposeful commands in 2Go to make the turtle move in a particular direction towards a goal. • Input commands that rotate the turtle to face the desired direction for movement using both 90° and 45° angles. • Use techniques such as finger movements to plan a route. • Plan the route by first writing the algorithm and then inputting the code commands. • Input several commands into a sequential algorithm layout and run this code to move the turtle along the programmed route. • Reset the turtle to the starting position to re-run the code. • Use the repeat algorithm layout for 2Go commands. • Anticipate the effect of the repeat and use logical reasoning to decide when this layout is useful for accomplishing a task. • Make logical attempts to debug code for routes. • Reset, debug and re-run the code to test routes.	
	Knowledge		• The combination of a direction and a distance is known as a command in 2Go. • Commands can be input into 2Go to control the movement of a screen turtle in four directions. • The turtle can be set to rotate by angles of 90° or 45° both clockwise and anticlockwise. • Planning a route is important to ensure the correct commands are input. • A list of instructions for a route is called an algorithm. • Routes can be programmed to perform more than one command in a sequence. • Routes can be programmed to repeat a sequence of commands a set number of times. • Errors (bugs) occur because commands may have been input incorrectly. • Fixing the errors is called debugging.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Following precise instructions and understanding that algorithms must be correctly structured to work. Individual Liberty – Designing and choosing their own routes, sequences and solutions.	Positive	Ada Lovelace	Algorithm – a set of instructions in order. Command – a single instruction in a program. Angle – a measure of turn (e.g. 90° or 45°). Repeat – a command that runs instructions more than once. Debugging – finding and fixing errors in code.	Become a real-life navigator by planning routes like a delivery driver or explorer.

Oracy Opportunities	Computing Expert Trio – pupils discuss route planning, commands and debugging using specialist vocabulary. One pupil chairs and asks clarifying questions, one explains as the expert and one acts as the silent summariser. The trio reaches a shared explanation and reports the key points.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• My view is... • I understand, but/however... • Building on what you are saying...	• They are the same because... • They are different because... • They are both alike because...	• Before I... • After I... • It reminds me of...	• This is probable because... • After ... I predict that... • This is a result of...

End product	"Human Turtle" Classroom Activity

We Are PURPLE!

Progression of Knowledge and skills

YEAR 3		Information Technology	Computer Science	Digital Literacy
Unit 3.4 Branching Databases **How can we use questions and branching databases to organise, sort and find information?**	Skill		• Explain what a database is. • Provide examples of common uses of a database, such as a school's attendance database. • Explain the differences between a binary question and an open question. • Identify binary questions that could be used to sort items. • Sort items according to whether the answer to the question is yes or no. • Choose binary questions that split a group of objects into half. • Use a binary database in 2Question to identify items. • Add records to a 2Question database then sort the records using binary questioning to create the database. • Work through all routes of a branching database to test whether it works as intended. • Identify and fix bugs in a database.	
	Knowledge		• A database is a collection of data organised in a way that it can be searched, and information found easily. • A binary question is one that can be answered with 'yes' or 'no'. • Branching databases are structured using binary choices. • A good binary question splits a group roughly in half, with half the items answering 'yes' and half answering 'no'. • When using a binary database, the questions eliminate data until just one record is left, so the item can be identified. • Branching databases can be created using programs such as 2Question. • It is important to test and debug when creating branching databases so that they work as intended.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Following logical rules and structured questioning to ensure databases work correctly. Individual Liberty – Choosing and creating their own binary questions and classification systems.	Reflective	Charles Babbage	Database – an organised collection of information. Binary question – a question with only yes/no answers. Branching database – a system that uses yes/no questions to sort information. Record – a single item of information in a database. Sort – to organise information into groups.	Animal Classification Experience (Zoo or Virtual Visit)

Oracy Opportunities	Computing Expert Trio – pupils discuss how branching databases classify information using specialist vocabulary. One pupil chairs and asks clarifying questions, one explains as the expert and one acts as the silent summariser. The trio reaches a shared explanation and reports the key points.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• My view is... • I understand, but/however... • Building on what you are saying...	• They are the same because... • They are different because... • They are both alike because...	• Before I... • After I... • It reminds me of...	• This is probable because... • After... I predict that... • This is a result of...

End product	Create a fully functioning branching database game

Progression of Knowledge and skills

YEAR 8		Information Technology	Computer Science	Digital Literacy
Unit 5 Spreadsheets **How can we use spreadsheets, formulae and functions to organise data and solve real-life problems?**	Skill	• Create and open a spreadsheet to record and organise data effectively. • Add, rename, and organise multiple sheets within a single spreadsheet. • Enter, edit and delete data accurately within cells. • Explore and use features available in Advanced Mode of 2Calculate to enhance spreadsheets. • Use the copy and total tools to duplicate or aggregate data efficiently to different areas. • Enter simple formulae manually or make use of the Formula Wizard to create values. • Open and use the Formula Wizard in simple or advanced mode to select operations or functions. • Apply built-in functions such as SUM, AVERAGE, MIN and MAX to sets of data. • Select a range of cells when applying formulae or functions. • Merge cells to create headings or improve layout and organisation. • Use spreadsheets to solve real-world problems and explain how solutions were reached. • Select and apply appropriate formulae, functions or tools to answer a given question or scenario.		
	Knowledge	• A spreadsheet is a digital tool used to organise and analyse data. • A sheet is one page within a spreadsheet file and several sheets can exist in one file. • Cells are the individual boxes where data is entered, arranged in rows and columns. • Advanced Mode provides more tools and features than Simple Mode. • Copy and total tools allow data to be copied or totalled automatically across rows, columns and diagonals. • A formula is a set of instructions that tells a spreadsheet what to calculate, starting with an equals sign (=). • The Formula Wizard helps users build formulae without typing them manually. • A function is a built-in formula (e.g., SUM, AVERAGE, MIN, MAX) that performs specific calculations quickly. • A range is a group of selected cells used together in a formula or function. • Formatting tools, such as merge cells, can improve how data looks. • Spreadsheets can be used to solve real-life problems, such as comparing values. • Problem solving with data involves choosing the most efficient tool or function for the task.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Following logical rules and formulas to ensure calculations are accurate and reliable. Individual Liberty – Making informed choices about which tools, functions and layouts best solve a problem.	Empowered	Margaret Hamilton	Formula – an instruction that tells a spreadsheet what to calculate. Function – a built-in formula such as SUM or AVERAGE. Range – a group of selected cells used in a calculation. Sheet – one page within a spreadsheet file. Cell – a single box where data is entered.	Sports Statistics Investigation

Oracy Opportunities	Computing Expert Trio – pupils discuss spreadsheet organisation, formulas and data interpretation using specialist vocabulary. One pupil chairs and asks clarifying questions, one explains as the expert and one acts as the silent summariser. The trio reaches a shared explanation and reports the key points.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• My view is... • I understand, but/however... • Building on what you are saying...	• They are the same because... • They are different because... • They are both alike because...	• Before I... • After I... • It reminds me of...	• This is probable because... • After... I predict that... • This is a result of...

End product	Create a "Real-Life Data Challenge Report"

Progression of Knowledge and skills

YEAR 7		Information Technology	Computer Science	Digital Literacy
Unit 6 Coding **How can we plan, create and debug efficient programs using flowcharts, timers, repeats and nesting?**	Skill		• Identify features of a flowchart including the starts, inputs, outputs, delays such as a timer, actions and events. • Follow the flow of the chart and interpret what it is representing. • Use a flowchart as part of a planning process for designing a program. • Code the features of timer-after command including the interval, action(s), correct nesting of commands. • Distinguish between the use of timer-every and timer-after commands. • Use a timer-every command to make an event happen repeatedly. • Identify situations when a repeat command can make the code more efficient. • Use a repeat command to make other commands repeat. • Read the code of example programs with nesting to determine the outcome of running the code. • Test what happens when changing how a program is nested. • Move a timer so that it is nested within another timer and compare how it executes. • Use the knowledge of nesting to help debug a program that isn't working as intended.	
	Knowledge		• Identify features of a flowchart including the starts, inputs, outputs, delays such as a timer, actions and events. • Follow the flow of the chart and interpret what it is representing. • Use a flowchart as part of a planning process for designing a program. • Code the features of timer-after command including the interval, action(s), correct nesting of commands. • Distinguish between the use of timer-every and timer-after commands. • Use a timer-every command to make an event happen repeatedly. • Identify situations when a repeat command can make the code more efficient. • Use a repeat command to make other commands repeat. • Read the code of example programs with nesting to determine the outcome of running the code. • Test what happens when changing how a program is nested. • Move a timer so that it is nested within another timer and compare how it executes. • Use the knowledge of nesting to help debug a program that isn't working as intended.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Designing and testing their own programming solutions using different coding structures. Mutual Respect – Collaborating to review, test and improve coding ideas constructively.	Reflective	Grace Hopper	Flowchart – a diagram used to plan a program step by step. Timer – a command that delays or repeats actions. Repeat – a command that makes instructions happen more than once. Nesting – placing code inside another block of code. Debugging – finding and fixing mistakes in a program.	Theme Park Ride Designer Challenge

Oracy Opportunities	Computing Expert Trio – pupils discuss algorithm design, coding, testing and debugging using specialist vocabulary. One pupil chairs and asks clarifying questions, one explains as the expert and one acts as the silent summariser. The trio reaches a shared explanation and reports the key points.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• My view is... • I understand, but/however... • Building on what you are saying...	• They are the same because... • They are different because... • They are both alike because...	• Before I... • After I... • It reminds me of...	• This is probably because... • After... I predict that... • This is a result of...

End product	**Create an interactive timed program or mini-game**

Progression of Knowledge and skills

YEAR 3		Information Technology	Computer Science	Digital Literacy
Unit 3 Presentations **How can we create and deliver an effective digital presentation that informs and engages an audience?**	Skill	• Explain what presentation software is used for. • Locate and open appropriate presentation software. • Identify some of the basic layout features of the software. • Locate and click on a blank presentation. • Delete existing text boxes on a blank slide. • Insert new text boxes, manipulating size and position. • Insert word art into a presentation slide. • Insert images into a presentation slide. • Resize and manipulate images appropriately on a slide. • Identify the design area from the menu ribbon. • Explore the different design templates available. • Preview designs and apply one of your choice to a presentation. • Select an image on a slide. • Identify the animation area from the menu ribbon. • Apply an animation to an image. • Select a slide that a transition should be applied to. • Identify transitions from the menu ribbon. • Select and apply a suitable transition. • Locate the slide notes box. • Type notes that are useful prompts for presenting. • Consider features of an effective presentation when creating one. • Use all taught skills to produce an effective and informative presentation. • Rehearse slideshows before presenting in front of others. • Follow instructions to present effectively.		
	Knowledge	• You can use presentation software to create and display information to an audience that is clear and engaging. • There is a range of different presentation software available such as Microsoft PowerPoint, Google Slides and Apple Keynote which share similar layout features. • Simple presentations can be made quickly by using tools that allow users to add textboxes, word art and images. • Designs of slides can be changed. • Animations can be applied to images and text to make a presentation more eye-catching. • Transitions can be used to change the way a slide moves onto the next in an eye-catching way. • Slide notes can be added to provide the presenter with prompts of what to say when presenting each slide. • An effective presentation contains a clear main message with short, simple sentences and information that connects the slides. • When presenting to an audience, it is important to speak clearly, make eye contact and take your time.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make creative choices about design, layout and how to present information. Mutual Respect – Listening attentively to others and presenting respectfully to an audience.	Proud	Sir David Attenborough	Presentation – information shown to an audience using slides. Animation – movement added to text or images on a slide. Transition – the effect used when moving between slides. Textbox – an area where text can be added. Template – a pre-designed slide style.	Public Speaking Workshop

Oracy Opportunities	Computing Expert Trio – pupils discuss effective presentation design for a specific audience using specialist vocabulary. One pupil chairs and asks clarifying questions, one explains as the expert and one acts as the silent summariser. The trio reaches a shared explanation and report(s) the key points.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• My idea is... • I understand, but/however... • Building on what you are saying...	• They are the same because... • They are different because... • They are both alike because...	• Before I... • After I... • It reminds me of...	• This is probable because... • After ... I predict that... • This is a result of...

End product	To create and present an engaging digital presentation to an audience.

Progression of Knowledge and skills

YEAR 7		Information Technology	Computer Science	Digital Literacy
Unit 8 Touch Typing **How can we use the correct techniques to become faster, more accurate and efficient typists?**	Skills	• Use basic touch-typing skills to become quicker and more efficient with typing. • Check that posture is correct when typing. • Position equipment correctly so that eyes are level with the monitor. • Place feet on the floor. • Position wrists so they are not touching anything when typing. • Use a range of different keyboards to type letters, numbers, punctuation and symbols. • Use the left hand to type letters. • Use the right hand to type letters. • Locate the ridges on keys F and J to find where index fingers should rest on the keyboard. • Position the left and right hands correctly. • Build up to combining left and right hand use to type words. • Locate the home, top and bottom keys. • Open activities in 2Type referencing the keyboard layout to support recognition of using the correct key when typing letters.• Type numbers using the correct hand and fingers. • Use the shift key by pressing the key on either side of the keyboard with the little finger. • Press the space bar efficiently to form spaces between words.		
	Knowledge	• Typing is the action or skill of writing something by means of a keyboard (physical or virtual). • It is important to have good posture when typing to ensure their bodies remain comfortable and don't get sore. • A keyboard is a device with a set of keys (buttons) that you press to type letters, numbers, punctuation and symbols into a computer. It can come in different shapes and sizes. • To be efficient at typing, hands should be positioned correctly on a keyboard and the left and right hands should work independently of each other. • Home, top and bottom row keys are areas on a keyboard where specific keys are located. • Numbers are located on the Number Row at the top of the keyboard. • The shift key is used alongside another key to type capital letters and different punctuation marks and symbols. • The space bar is pressed with the thumbs and types a space between letters.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children develop independence and confidence using technology effectively and improving their typing skills. Mutual Respect – Pupils support and encourage one another while practising keyboard skills and working collaboratively.	Empowered	Christopher Latham Sholes	Keyboard – A tool used for typing. Typing – Writing using a keyboard. Posture – How you sit when typing. Shift – A key for capital letters. Space bar – A key used to make spaces between words.	Explore real life careers.

Oracy Opportunities	Computing Expert Trio – pupils discuss efficient and accurate touch typing using specialist vocabulary. One pupil chairs and asks clarifying questions, one explains as the expert and one acts as the silent summariser. The trio reaches a shared explanation and reports the key points.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• My view is... • I understand, but/however... • Building on what you are saying...	• They are the same because... • They are different because... • They are both alike because...	• Before I... • After I... • It reminds me of...	• This is probable because... • After ... I predict that... • This is a result of...

End product	**To type confidently and efficiently using correct keyboard techniques.**

Progression of Knowledge and skills

YEAR 3		Information Technology	Computer Science	Digital Literacy
Unit 3.7 Micro:bit **How can we use inputs, outputs, sequences and loops to program a micro:bit to perform different tasks?**	Skill		• Explain that a micro:bit is a piece of hardware that can have code created for it that makes use of its inputs and outputs. • Recognise and locate key hardware components on the micro:bit such as its display, speaker and accelerometer. • Identify and use code blocks that produce outputs. • Use display text, show LEDs and play music outputs in programs to meet specific intentions. • Code a micro:bit to make different outputs happen depending on different inputs. • Identify and use code blocks that are associated with receiving inputs. • Use event commands such as 'when micro:bit button' and 'when gesture' in programs to meet specific intentions. • Make a program that requires inputs (event commands as above) that produce an output. • Use the simulator within the Freecode micro:bit environment to test code before transferring to a micro:bit. • Use the transfer feature to move code to a micro:bit. • Recognise how the order of code is essential in order to meet a program's intentions. • Use sleep command within a sequence of code to create timed effects such as animations with LEDs. • Use the repeat forever command in a sequence to coordinate looping actions. • Develop understanding of how sequencing and loops can be used to create continuously repeating visual patterns.	
	Knowledge		• A micro:bit is a tiny computer which needs instructions in code to make it work. • A micro:bit can produce outputs. • A micro:bit can receive inputs. • Code from the coding environment can be transferred onto a micro:bit. • The order (sequence) of instructions is important when coding. • Using the sleep command within a sequence of code can temporarily pause a program, e.g. when creating an animation effect using LEDs. • The repeat forever command within a sequence of code will continue to loop the code to produce an infinite looping program.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children independently create and test code to solve problems and make creative choices. Mutual Respect – Pupils collaborate, debug and support one another when coding and testing programs.	Reflective	Ada Lovelace	Micro – A tiny computer used for coding. Code – Instructions for a computer. Input – Something that starts an action. Output – What the computer does. Loop – Code that repeats again and again.	School Tech Showcase

Oracy Opportunities	Computing Expert Trio – pupils discuss micro:bit inputs, outputs, sensors and code using specialist vocabulary. One pupil chairs and asks clarifying questions, one explains as the expert and one acts as the silent summariser. The trio reaches a shared explanation and reports the key points.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• My view is... • I understand, but/however... • Building on what you are saying...	• They are the same because... • They are different because... • They are both alike because...	• Before I... • After I... • It reminds me of...	• This is probable because... • After... I predict that... • This is a result of...

End product	Interactive Micro:bit Gadget Showcase

Progression of Knowledge and skills

YEAR 4		Information Technology	Computer Science	Digital Literacy
Unit 1 Introduction to Purple Mash **How can we use Purple Mash safely, responsibly and independently to manage our digital learning?**	Skill	• Access Purple Mash from home and school. • Log out of Purple Mash. • Give reasons why it is important to keep a password safe and not share it. • Make and edit their own avatar. • Open 2Dos. • Save 2Dos. • Hand in 2Dos and communicate with their teacher via the 2Do. • Access the Purple Mash homepage when on the site. • Access alerts within Purple Mash. • Close activities in Purple Mash. • Access their work area. • Save work in their work area. • Locate and open work completed previously in their work folder. • Open a specified tool from the Tools area. • Scroll up and down and from side to side where applicable.		
	Knowledge	• It is important to log in to a site, keep passwords safe, and log out at the end of a session. • An avatar is a virtual representation of a person suitable for use online. • The 2Do system is used to set work for children within Purple Mash. • Online sites have a main page called the homepage. • Online sites often use an alert system to communicate with the user. • To move to a different activity in Purple Mash, you must close the current activity. • Many online sites, including Purple Mash, have an area for an individual's work that is accessible only to the individual (and in Purple Mash, their teacher). • To access Purple Mash programs, you use the Tools area. • You can access non-visible parts of a screen using scrolling.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make safe choices online and understand how to protect their personal information. Rule of Law – Pupils follow agreed rules for safe and responsible use of passwords, logins and online platforms.	Proud	Tim Berners-Lee	Login – Entering a website safely. Password – A secret code for security. Avatar – A digital character for a user. Homepage – The main screen of a website. Tools – Programs you can use online.	Visit or Virtual Tour of a Tech Company

Oracy Opportunities	Evidence and Probe – pupils collaboratively solve a problem linked to safe and independent use of Purple Mash. Each pupil justifies a choice using evidence from their work, a questioner asks probing questions, and the group gives constructive feedback before agreeing one improvement.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• In my opinion... • I understand your point of view, but/however... • However, I think differently because...	• One similarity/difference is... • A further similarity/difference is... • In contrast to...	• As a result... • Meanwhile... • Furthermore...	• This is probable because... • After... I predict that... • This is a result of...

End product	**To confidently use Purple Mash to create, save, access and submit work safely and independently.**

Progression of Knowledge and skills

YEAR 4		Information Technology	Computer Science	Digital Literacy
Unit 2 Unpacking Hardware and Software **How do hardware and software work together to help technology complete different tasks?**	Skill	• Identify whether an item is an example of technology. • Decide whether an item is an example of electrical, digital or smart technology. • Define what is meant by hardware, components and peripherals. • Name hardware components of a computer system. • Describe the function of different hardware parts. • Identify the functions and common components of different software tools and relate them to the tasks those tools perform. • Describe a process in terms of inputs, hardware and outputs.		
	Knowledge	• The word technology describes using scientific knowledge to design and make tools, systems or machines that help solve problems or make tasks easier. • Electrical, digital and smart technology are sub-sets of technology. • Hardware describes the physical parts of a computer. • Software describes the programs that instruct a computer to complete computational tasks. • Software and hardware operate together to follow processes that assist in completing tasks.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children explore different technologies and make informed choices about how they are used. Mutual Respect – Pupils share ideas and listen to others when discussing how technology supports everyday life.	Reflective	Alan Turing	Technology – Tools that solve problems. Hardware – Physical computer parts. Software – Computer programs. Input – Data put into a system. Output – Result from a system.	Coding or Robotics Workshop

Oracy Opportunities	Evidence and Probe – pupils collaboratively solve a problem linked to how hardware and software work together. Each pupil justifies a choice using evidence from their work, a questioner asks probing questions, and the group gives constructive feedback before agreeing one improvement.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• In my opinion... • I understand your point of view, but/however... • However, I think differently because...	• One similarity/difference is... • A further similarity/difference is... • In contrast to...	• As a result... • Meanwhile... • Furthermore...	• This is probable because... • After ... I predict that... • This is a result of...

End product	**To identify, describe and explain how technology, hardware and software work together in a computer system.**

Progression of Knowledge and skills

YEAR 4		Information Technology	Computer Science	Digital Literacy
Unit 3 Animation **How can we plan and create an effective animation using digital tools?**	Skill	• Describe how hand drawn animation is created. • Make a simple flick animation book. • Contrast the process of animating by hand with the use of animation technology. • Use 2Animate to make simple animations using animation tools. • Choose appropriate sound effects and speeds for animations. • Use storyboarding to plan an animation.		
	Knowledge	• Some animations are created by hand and others with the help of technology. • Animation software has specific functions that support the animation of still images, such as static backgrounds, onion skinning and copying frames. • Choices of sound effects, their timing and frames per second settings can enhance an animation. • Storyboarding is a process that supports planning an animation.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make creative choices when designing characters, sounds and movements in their animations. Mutual Respect – Pupils share and discuss animations respectfully, giving positive feedback and ideas for improvement.	Positive	Walt Disney	Animation – Making images move. Frame – A single picture in animation. Storyboard – A plan for an animation. Sound effects – Sounds added to animation. Onion skinning – Seeing previous frames to help draw movement.	Cinema experience

Oracy Opportunities	Evidence and Probe – pupils collaboratively solve a problem linked to animation choices and techniques. Each pupil justifies a choice using evidence from their work, a questioner asks probing questions, and the group gives constructive feedback before agreeing one improvement.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• In my opinion,... • I understand your point of view, but/however... • However, I think differently because...	• One similarity/difference is... • A further similarity/difference is... • In contrast to...	• As a result... • Meanwhile... • Furthermore...	• This is probable because... • After... I predict that... • This is a result of...

End product	To plan and create a simple digital animation using animation tools, sound effects and timing.

Progression of Knowledge and skills

YEAR 4		Information Technology	Computer Science	Digital Literacy
Unit 4 Logo **How can we use Logo commands, repeats and procedures to create efficient programs and patterns?**	Skill		• Input commands in the Logo tool to make the turtle move in a particular direction towards a goal. • Input directional commands (FD, BK, RT, LT) and non-directional commands (such as PU and PD). • Space commands correctly and debug with consideration for spacing when errors occur. • Alter line properties to explore visual effects. • Use line commands to achieve desired visual effects from code. • Identify where the repeat command would be efficient to use. • Create regular shapes using the repeat command. • Anticipate the effect of the repeat command in example code. • Write and save Logo procedures. • Call procedures within their code. • Consider how best to use procedures to make their code efficient. • Make logical attempts to debug Logo code. • Use multi-line mode for more complex code to support debugging.	
	Knowledge		• Logo is a text-based coding language in which commands are written to control the movement of a screen turtle. • Commands in Logo consist of directional or rotational commands that include a direction and a distance in spaces or degrees, and operational commands that alter how the output looks or how the code runs. • Spacing of commands in Logo is important. • Visual effects can be achieved by using the PU, PD, SETPC and SETPS commands. • Logo commands can be repeated a set number of times using the repeat command. • A procedure is a named set of Logo commands that will be run in the program when referred to by name. • Errors (bugs) occur because commands have been input incorrectly. • Fixing errors is called debugging.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children independently create and experiment with code to produce their own shapes and designs. Rule of Law – Pupils follow agreed programming rules and structures to ensure code works correctly and safely.	Empowered	Seymour Papert	Logo – A text-based coding language. Command – An instruction for the turtle. Repeat – A command that loops instructions. Procedure – A named set of commands. Debug – Finding and fixing errors.	Coding Challenge Day

Oracy Opportunities	Evidence and Probe – pupils collaboratively solve a problem linked to Logo commands, procedures and debugging. Each pupil justifies a choice using evidence from their work, a questioner asks probing questions, and the group gives constructive feedback before agreeing one improvement.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• In my opinion... • I understand your point of view, but/however... • However, I think differently because...	• One similarity/difference is... • A further similarity/difference is... • In contrast to...	• As a result... • Meanwhile... • Furthermore...	• This is probable because... • After... I predict that... • This is a result of...

End product	**To write and debug Logo code to create shapes, patterns and procedures.**

Progression of Knowledge and skills

YEAR 4		Information Technology	Computer Science	Digital Literacy
Unit 5 Sound Stories **How can we use voices, sound effects and digital editing to create an engaging audiobook?**	Skills	• Explain the differences between an audiobook and a physical book. • Explain the advantages and disadvantages of an audiobook compared to a physical book. • Recognise features that make an audiobook engaging. • Identify where voice or sound effects could enhance a recorded story. • Create a range of sound effects using everyday items. • Use the library of music and sound effects on 2Cast. • Read and understand cues on an audiobook script. • Contribute to writing a successful audiobook script. • Explain the roles of narrator, sound technician, editor and sound effects manager. • Take on a role within a team and contribute to recording and editing an audiobook extract. • Experiment with a variety of voice tones and effects, refining narration for impact. • Use editing tools within 2Cast, including cut, copy, paste, duplication and moving segments on a timeline. • Reflect on their work and identify improvements using given criteria.		
	Knowledge	• An audiobook is a story or book read aloud and recorded for people to listen to. • Audiobooks make texts more accessible for a range of people as well as being enjoyable. • Audiobooks can be enhanced by adding expression, different voices, sound effects and background music. • An audiobook script may include notes on the speaker, spoken text and how sound effects are created and used. • There are specific roles within a group when creating an audiobook with recording software. • Exciting audiobook narration includes clear pronunciation, varied tone and pitch, and pauses for dramatic effect. • Editing is the process of polishing and improving an audiobook to ensure it is the best it can be. • Reviewing and evaluating is an important step when creating any digital content, including audiobooks.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make creative choices when performing, editing and producing their own audiobook recordings. Mutual Respect – Pupils work collaboratively in roles, listening to and valuing each other's ideas during recording and editing.	Proud	Alexander Graham Bell	Audiobook – A recorded story read aloud. Narrator – The person reading the story. Sound effects – Extra sounds added for effect. Editing – Improving a recording. Script – Written text for recording.	Storytelling performance event

Oracy Opportunities	Evidence and Probe – pupils collaboratively solve a problem linked to how sound can communicate meaning in a digital story. Each pupil justifies a choice using evidence from their work, a questioner asks probing questions, and the group gives constructive feedback before agreeing one improvement.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• In my opinion... • I understand your point of view, but/however... • However, I think differently because...	• One similarity/difference is... • A further similarity/difference is... • In contrast to...	• As a result... • Meanwhile... • Furthermore...	• This is probable because... • After... I predict that... • This is a result of...

End product:	To plan, record, edit and produce an engaging audiobook using narration, sound effects and music.

Progression of Knowledge and skills

YEAR 4		Information Technology	Computer Science	Digital Literacy
Unit 6 Effective Searching **How can we search the internet effectively and decide whether the information we find is reliable?**	Skill			• The internet is a global network of computers that share information between devices worldwide. • A search engine is a tool used to find information on the internet. • Search engines collect and organise large amounts of data from webpages. • Typing keywords rather than full questions can make searches quicker and more effective. • Search engines use programs called web crawlers (or spiders) to gather and store information in an index. • When a search is made, the search engine looks through its index rather than the whole internet. • Search results are ranked based on relevance, popularity and paid promotion, meaning higher results are not always the best. • Techniques such as quotation marks, the minus sign and filters can refine searches. • Information online can be created by anyone, so not everything should be trusted. • A fact is true and provable, an opinion is a personal view, and a belief is something accepted as true based on faith or tradition. • Fake news is information that appears real but is not, and may be created to entertain, influence or make money. • It is important to evaluate the reliability of information found online.
	Knowledge			• Recognise and find a search engine on the internet. • Explain the uses of a search engine. • Recognise and name popular search engines. • Explain how search engines work to find relevant information. • Select appropriate keywords to answer a question. • Perform keyword searches effectively. • Explain how web crawlers gather, copy and store information. • Explain how search results are selected and ranked. • Review search results and evaluate which are the most useful. • Use techniques such as quotation marks, the minus sign and filters to refine searches. • Explain the importance of checking where online information comes from. • Identify examples of facts, opinions and beliefs. • Identify the difference between real news and fake news. • Explain why fake news may be created. • Check whether information is reliable by considering accuracy, source, date and credibility.

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make informed choices when searching online and decide which information is reliable. Rule of Law – Pupils understand the importance of reasonable online behaviour, including using accurate and appropriate information sources.	Reflective	Tim Berners-Lee	Internet – A global network of computers. Search engine – A tool to find information online. Keyword – Important word used in a search. Crawler – Program that gathers website data. Reliable – Trustworthy information.	Create a School Search Guide

Oracy Opportunities	Evidence and Probe – pupils collaboratively solve a problem linked to effective search strategies and reliable information. Each pupil justifies a choice using evidence from their work, a questioner asks probing questions, and the group gives constructive feedback before agreeing one improvement.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• In my opinion… • I understand your point of view, but/however… • However, I think differently because…	• One similarity/difference is… • A further similarity/difference is… • In contrast to…	• As a result… • Meanwhile… • Furthermore…	• This is probable because… • After… I predict that… • This is a result of…

End product	To use search engines effectively and evaluate online information for reliability and accuracy.

Progression of Knowledge and skills

YEAR 6		Information Technology	Computer Science	Digital Literacy
Unit 2 Coding **How can we use selection, loops and variables to create more complex and effective programs?**	Skill		• Change object attributes in design view. • Choose appropriate object types based on their attributes and actions. • Interpret flowcharts containing selection and explain outcomes based on conditions. • Identify co-ordinates in design view. • Change the co-ordinates of objects within code. • Identify 'if' and 'if/else' control blocks. • Read and explain code that includes selection. • Create selection using 'if' and 'if/else' statements. • Debug programs that use selection. • Nest 'if/else' blocks to create more complex decision making. • Use the 'repeat' command to create loops. • Use the 'repeat until' command to create loops. • Decide when to use repeat commands or timers based on program requirements. • Create number variables and set initial values. • Change variable values using code commands. • Use variables within programs to track information. • Use a variable watch to monitor how a variable changes during a program.	
	Knowledge		• There are object types in 2Code, each with different attributes (properties) that can be changed in code and design view. • Selection in a program uses decision commands to run different procedures depending on whether a condition is met. • Co-ordinates are used in programming to determine the position of objects on a screen. • 'If' and 'if/else' statements are used to create selection in 2Code. • Programs use commands such as repeat, repeat until and timers to create loops. • Variables are a place in computer memory that exist for the duration of a program. • Variables have names and values, and these values can be changed. • Variables are used in programming to keep track of changing information.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children independently design and modify programs, making creative decisions about how their code behaves. Mutual Respect – Pupils collaborate when debugging and discussing solutions, respecting different approaches to problem-solving.	Empowered	Grace Hopper	Selection – Code that makes decisions. Variable – A value that can change. Loop – Code that repeats. Condition – A rule checked in code. Coordinates – Position on a screen.	Debugging challenge

Oracy Opportunities	Evidence and Probe – pupils collaboratively solve a problem linked to algorithm design, coding, testing and debugging. Each pupil justifies a choice using evidence from their work; a questioner asks probing questions, and the group gives constructive feedback before agreeing one improvement.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• In my opinion... • I understand your point of view, but/however... • However, I think differently because...	• One similarity/difference is... • A further similarity/difference is... • In contrast to...	• As a result... • Meanwhile... • Furthermore...	• This is probable because... • After... I predict that... • This is a result of...

End product	**To design, code and debug a program using selection, variables and loops.**

Progression of Knowledge and skills

YEAR 4		Information Technology	Computer Science	Digital Literacy
Unit 4 Composing Beats **How can we use rhythm, melody, tempo and pitch to create and arrange our own digital music?**	Skill	• Recognise, demonstrate and explain the elements of music. • Clap the pulse of a piece of music. • Identify sounds and instruments in a piece of music. • Explain what they like and dislike about a piece of music. • Identify simple rhythms in music and everyday life. • Clap back simple rhythms. • Create simple rhythms using samples in Busy Beats. • Adjust the tempo of a piece by changing the BPM. • Identify simple melodies in music. • Hum or sing back a simple melody. • Create simple melodies using synths in Busy Beats. • Adjust the pitch of notes using the synth board. • Experiment with samples and synths to create a specific mood or effect. • Create and record a piece of music using Busy Beats. • Build and arrange music by creating and switching between multiple patches.		
	Knowledge	• Music is made up of elements such as pulse, rhythm, tempo, pitch, melody, texture and dynamics, which create mood and feel. • Rhythm is the pattern of long and short sounds and silences in music. • In digital music, rhythm is created using sample sounds. • A sample is a short recording of a sound that can be used in music, such as a drumbeat. • Tempo is how fast or slow a piece of music is and can be measured in BPM (beats per minute). • Melody is the tune of the music made up of notes that can be sung or hummed. • In digital music, melodies are created using synths (electronic instrument sounds). • Pitch describes how high or low a sound is. • The pitch of a note in Busy Beats changes depending on its position on the synth board. • A piece of music can be created using a range of samples and synths. • Music can be arranged digitally by layering and switching between different sections (patches).		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make creative choices when composing music, selecting sounds, rhythms and melodies. Mutual Respect – Pupils listen to and evaluate each other's compositions respectfully, offering constructive feedback.	Positive	Brian Eno	Pulse – The steady beat of music. Rhythm – Pattern of sounds and silences. Tempo – Speed of music. Pitch – How high or low a sound is. Melody – The tune of a song.	Live performance

Oracy Opportunities	Evidence and Probe – pupils collaboratively solve a problem linked to digital composition choices including tempo, volume and looping. Each pupil justifies a choice using evidence from their work, a questioner asks probing questions, and the group gives constructive feedback before agreeing one improvement.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• In my opinion... • I understand your point of view, but/however... • However, I think differently because...	• One similarity/difference is... • A further similarity/difference is... • In contrast to...	• As a result... • Meanwhile... • Furthermore...	• This is probable because... • After... I predict that... • This is a result of...

End product	**To compose, arrange and record an original piece of digital music using samples and synths.**

Progression of Knowledge and skills

YEAR 4		Information Technology	Computer Science	Digital Literacy
Unit 9 Introduction to AI **How can we use AI effectively and responsibly, and how might it shape our future?**	Skill	• Explain what AI is and give practical examples of how it is used. • Explain how generative AI works. • Describe different actions AI can perform (finder, personaliser, assistant, organiser and maker). • Identify key features of an effective AI prompt. • Write clear and effective prompts. • Refine prompts to improve clarity and results. • Test prompts using AI tools (e.g. Google AI). • Identify characteristics of a good citizen and apply these to digital contexts. • Follow rules for being a responsible digital citizen when using AI. • Recognise when digital citizenship rules are not being followed in AI scenarios. • Explain how AI may be used in the future (e.g. education, transport, environment). • Design an AI tool for the future.		
	Knowledge	• Artificial Intelligence (AI) is a type of technology that can make predictions, take actions and create content by learning from data. • AI learns from data, and more accurate data leads to better quality outputs. • Generative AI is a type of AI that can create new content such as text, images or sounds. • AI can act in different ways, including as a finder, personaliser, assistant, organiser and maker. • Effective communication with AI requires clear and precise prompts. • There are specific behaviours that support being a responsible AI digital citizen. • AI will continue to evolve and develop in the future. • Human oversight is important when designing and using AI tools.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children understand and follow rules for safe, responsible and ethical use of AI and digital tools. Individual Liberty – Pupils explore AI systems creatively, designing prompts and imagining future uses of technology.	Reflective	Alan Turing	AI – Technology that learns from data. Prompt – Instructions given to AI. Generative AI – AI that creates content. Data – Information used by AI. Citizen – A responsible user of technology.	Visit a Tech Company or Virtual Tour

Oracy Opportunities	Evidence and Probe – pupils collaboratively solve a problem linked to uses, benefits and limitations of artificial intelligence. Each pupil justifies a choice using evidence from their work, a questioner asks probing questions, and the group gives constructive feedback before agreeing one improvement.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• In my opinion... • I understand your point of view, but/however... • However, I think differently because...	• One similarity/difference is... • A further similarity/difference is... • In contrast to...	• As a result... • Meanwhile... • Furthermore...	• This is probable because... • After... I predict that... • This is a result of...

End product	**To design and evaluate an AI tool and write effective prompts to control its outputs.**

Progression of Knowledge and skills

YEAR 4		Information Technology	Computer Science	Digital Literacy
Unit 10 micro:bit **How can we use sensors, variables and logic to create a micro:bit control system?**	Skill		• Use sensors on a microbit to detect changes in the environment. • Create and use variables to store changing information. • Use **If/Else** statements to make decisions in a program. • Use **repeat forever** to continuously monitor sensor inputs. • Design, test and debug a sensor-based control system.	
	Knowledge		• Sensor inputs can be used to detect changes in the environment. • The accelerometer detects movement and changes in motion. • The light sensor detects changes in light levels. • Variables are used to keep track of changes in a program. • Variables hold values that can be changed during a program. • Inputs, outputs and computer code work together to create control systems. • Logic is used to make different outputs happen depending on changes in data from a sensor. • If/Else blocks are used to create logical decisions in programs. • The repeat forever command allows code to continuously check for changes.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow clear programming rules when creating control systems that respond to inputs. Individual Liberty – Pupils design and test their own programs, making creative decisions about how systems respond to sensor data.	Empowered	George Boole	Sensor – Detects changes in the environment. Input – Information entering a system. Output – What a system does. Variable – A value that can change. Logic – Rules used for decision making.	Robotics Demonstration

Oracy Opportunities	Evidence and Probe – pupils collaboratively solve a problem linked to micro:bit inputs, outputs, sensors and code. Each pupil justifies a choice using evidence from their work, a questioner asks probing questions, and the group gives constructive feedback before agreeing one improvement.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• In my opinion... • I understand your point of view, but/however... • However, I think differently because...	• One similarity/difference is... • A further similarity/difference is... • In contrast to...	• As a result... • Meanwhile... • Furthermore...	• This is probable because... • After... I predict that... • This is a result of...

End product	To design and code a sensor-based control system that responds to changes in the environment.

Progression of Knowledge and skills

YEAR 5:		Information Technology	Computer Science	Digital Literacy
Unit 1 Introduction to Purple Mash **How can we use Purple Mash safely, independently and collaboratively to support our learning?**	Skill	• Access Purple Mash from home and school. • Log out of Purple Mash. • Explain why it is important to keep passwords safe and not share them. • Make and edit their own avatar. • Open 2Dos. • Save 2Dos. • Hand in 2Dos and communicate with their teacher via the 2Do. • Access the Purple Mash homepage. • Access alerts within Purple Mash. • Close activities in Purple Mash. • Access their work area. • Save work in their work area. • Locate and open previously saved work. • Open a specified tool from the Tools area. • Find activities using the Topics area. • Scroll up, down and side to side where needed. • Recommend an appropriate collaboration tool to use.		
	Knowledge	• It is important to log in to a site, keep passwords safe and log out at the end of a session. • An avatar is a virtual representation of a person suitable for use online. • The 2Do system is used to set work for children within Purple Mash. • Online sites have a main page called the homepage. • Online sites often use an alert system to communicate with the user. • To move to a different activity in Purple Mash, you must close the current activity. • Many online sites, including Purple Mash, have an area for an individual's work that is accessible only to the individual (and their teacher). • To access Purple Mash programs, you use the Tools area. • The Topics area can be used to find activities related to a specific subject. • You can access non-visible parts of a screen using scrolling. • Purple Mash includes collaborative tools.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow clear rules for safe and responsible use of online platforms, including password security and logging out. Individual Liberty – Pupils make independent choices when using Purple Mash tools and managing their own learning and work.	Proud	Tim Berners-Lee	Login – Accessing a system securely. Password – Secret code for safety. Avatar – A digital character. 2Do – Assigned online task. Tools – Programs used in Purple Mash.	E Safety Role Play Activities

Oracy Opportunities	Computing Review Panel – pupils compare approaches to safe and independent use of Purple Mash, draw on evidence and different perspectives, and argue which is most effective. They listen for an extended period and use appropriate language to bring the discussion back on track if it drifts.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• An argument for/against is… because… • However, I would point out… • I understand your point of view, however…	• In some ways… • Another feature they have in common is… • However, they also differ in some ways because…	• To begin with… • As a result… • The reasons for…	• I predict… because… • Based on… I predict that… • The outcome will be…

End product	**To confidently use Purple Mash to access, complete, save and submit work safely and independently.**

Progression of Knowledge and skills

YEAR 5		Information Technology	Computer Science	Digital Literacy
Unit 2 Quizzing **How can we design and create an effective digital quiz for a specific audience and purpose?**	Skill	• Select the most appropriate type of quiz for a given task. • Choose suitable question types based on the topic and purpose. • Design effective quizzes that meet a specific brief using 2Quiz tools. • Use additional features (e.g. title and content screens) to enhance a quiz. • Explore and apply different settings, including quiz style, time limits and feedback options. • Adapt quizzes to suit the needs and abilities of the intended audience.		
	Knowledge	• There are different types of quizzes suitable for a variety of purposes. • Within 2Quiz, there are different types of quiz questions, each suited to different tasks. • The success of a quiz depends on its difficulty, level of interest and suitability for the intended audience. • Enjoyability, visual variety and feedback are important factors in a successful quiz. • Additional features such as title screens and content screens can improve a quiz. • Settings such as quiz style, time limits and feedback options affect the look and feel of a quiz.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make independent creative decisions when designing quizzes, selecting questions and settings. Mutual Respect – Pupils test and evaluate each other's quizzes, giving respectful feedback to improve outcomes.	Positive	Seymour Papert	Quiz – A set of questions. Question type – Style of question asked. Audience – Who the quiz is for. Feedback – Responses given after answers. Settings – Options that change how a quiz works.	Quiz Testing Panel

Oracy Opportunities	Computing Review Panel – pupils compare approaches to quiz design, audience and feedback, draw on evidence and different perspectives, and argue which is most effective. They listen for an extended period and use appropriate language to bring the discussion back on track if it drifts.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• An argument for/against is... because... • However, I would point out... • I understand your point of view, however...	• In some ways... • Another feature they have in common is... • However, they also differ in some ways because...	• To begin with... • As a result... • The reasons for...	• I predict... because... • Based on... I predict that... • The outcome will be...

End product	To design, create and evaluate an interactive digital quiz for a specific audience using 2Quiz tools.

Progression of Knowledge and skills

YEAR 5		Information Technology	Computer Science	Digital Literacy
Unit 3 Databases **How can we use databases to organise, search and analyse data to answer questions?**	Skill	• Use the functionality of the 2Investigate tool to work with data. • Identify, create and edit records and fields in a database. • Sort, group and arrange data effectively. • Search for and retrieve information from a database. • Answer questions by interrogating a database. • Add records to a collaborative database and analyse shared data. • Design a database with appropriate validation. • Use a query builder to set conditions and retrieve specific data. • Apply conditional operators correctly when creating queries. • Build more complex queries across linked tables. • Produce automated reports using database fields.		
	Knowledge	• A database contains a set of data that can be searched and sorted to retrieve information. • A table-based database contains records and fields. • Database tools support interpreting data using features such as sorting, filtering, grouping and searching. • Collaborative databases allow multiple users to work on the same data set at the same time. • A well-designed database includes validation to ensure data is entered correctly. • Queries can be used to answer specific questions about data. • Some databases contain multiple related tables that can be linked using common fields. • Databases can produce automated reports using stored data.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow structured rules when entering, sorting and querying data to ensure accuracy and reliability. Individual Liberty – Pupils independently explore data, create queries and make decisions about how information is organised and presented.	Empowered	Charles Babbage	Database – A collection of organised data. Record – A single entry in a database. Field – A category of data. Query – A search request in a database. Sort – To arrange data in order.	Real-World Data Exploration

Oracy Opportunities	Computing Review Panel – pupils compare approaches to database design, fields, records and queries, draw on evidence and different perspectives, and argue which is most effective. They listen for an extended period and use appropriate language to bring the discussion back on track if it drifts.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• An argument for/against is… because… • However, I would point out… • I understand your point of view, however…	• In some ways… • Another feature they have in common is… • However, they also differ in some ways because…	• To begin with… • As a result… • The reasons for…	• I predict… because… • Based on… I predict that… • The outcome will be…

End product	**To design, build and interrogate a database to answer specific questions using 2Investigate tools.**

Progression of Knowledge and skills

YEAR 5		Information Technology	Computer Science	Digital Literacy
Unit 4 Game Creator **How can we design, create and improve an engaging and playable 3D video game?**	Skill	• Evaluate the playability of a video game. • Create a 3D game using the key functions of the 2DIY 3D tool. • Use a design document to plan a game, including theme, aim, characters, world, features, timing and movement. • Design and apply suitable textures for walls, floors, lighting, hazards and scenery. • Choose or create appropriate sound effects and music. • Design collectable items and apply movement, sound effects and actions. • Position collectable items so the game is achievable. • Place characters and obstacles to create challenge without making the game impossible. • Select appropriate penalties for encountering enemies. • Create clear and helpful instruction screens for players. • Evaluate games created by others using set criteria. • Review feedback from others on their own game. • Make improvements to their game based on evaluation.		
	Knowledge	• There are criteria which determine the playability of a video game. • 3D games can be created using the 2DIY 3D tool. • Planning and designing a game is important to maximise playability. • The visual properties of a game should match its theme and enhance immersion. • The audio properties of a game should also match its theme and enhance immersion. • The design of enemies (baddies) and collectable items is an important part of game creation. • Player instructions are important to ensure a game is enjoyable and easy to understand. • Evaluation is important in order to improve a game.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children make creative decisions when designing game worlds, characters and features. Mutual Respect – Pupils evaluate each other's games fairly, offering constructive feedback to improve playability.	Proud	Shigeru Miyamoto	Game – An interactive digital activity. Playability – How enjoyable a game is to play. Texture – Visual surface design. Obstacle – Something that blocks progress. Collectable – Item players can pick up.	Game Design Showcase Event

Oracy Opportunities	Computing Review Panel – pupils compare approaches to game design, testing and improvement, draw on evidence and different perspectives, and argue which is most effective. They listen for an extended period and use appropriate language to bring the discussion back on track if it drifts.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• An argument for/against is… because… • However, I would point out… • I understand your point of view, however…	• In some ways… • Another feature they have in common is… • However, they also differ in some ways because…	• To begin with… • As a result… • The reasons for…	• I predict… because… • Based on… I predict that… • The outcome will be…

End product	**To design, build and evaluate a playable 3D game using 2DIY 3D, incorporating textures, sound, challenges and instructions.**

Progression of Knowledge and skills

YEAR 5		Information Technology	Computer Science	Digital Literacy
Unit 5 Spreadsheets **How can we use spreadsheets, formulas and graphs to analyse data and solve real-world problems?**	Skill	• Enter data accurately into cells using rows, columns and headings. • Select and navigate cells and use cell references correctly. • Create and edit formulas (e.g. =A2*B2, =A3+B3) and apply them across cells. • Apply conversion formulas to automate unit changes. • Create line graphs in 2Calculate with appropriate scales and labels. • Sort data into continuous or discrete categories and choose appropriate representations. • Input and analyse weather data to identify trends and make predictions. • Use calculations to compare costs and stay within a budget. • Use spreadsheets to plan events, analyse data or compare costs, making justified decisions. • Format spreadsheets with clear headings, consistent layouts and accurate tables.		
	Knowledge	• A spreadsheet is a digital tool for storing, organising and analysing data. • Cells, rows, columns and cell references provide a structure for organising information. • Formulas allow spreadsheets to perform calculations automatically (e.g. addition, subtraction, multiplication and division). • Conversions rely on known mathematical relationships (e.g. cm÷m, mm÷cm, g÷kg). • Line graphs are used to represent continuous data and show trends over time. • Continuous data changes over time, while discrete data represents separate values. • Weather data contains patterns that can be compared and interpreted. • Budgets are used to plan spending and support financial decisions. • Spreadsheets can be used to solve real-world problems by presenting data clearly. • A good spreadsheet is clear, well-labelled, accurate and logically structured.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow structured steps and rules when entering data, using formulas and creating accurate spreadsheets. Individual Liberty – Pupils make independent decisions when organising data, choosing formulas and interpreting results.	Reflective	Florence Nightingale	Spreadsheet – A tool for organising data. Cell – A single box in a spreadsheet. Formula – A calculation in a cell. Graph – A chart showing data. Data – Information collected.	Budget Planning Challenge

Oracy Opportunities	Computing Review Panel – pupils compare approaches to spreadsheet organisation, formulas and data interpretation, draw on evidence and different perspectives, and argue which is most effective. They listen for an extended period and use appropriate language to bring the discussion back on track if it drifts.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• An argument for/against is… because… • However, I would point out… • I understand your point of view, however…	• In some ways… • Another feature they have in common is… • However, they also differ in some ways because…	• To begin with… • As a result… • The reasons for…	• I predict… because… • Based on… I predict that… • The outcome will be…

End product	**To create and use a spreadsheet to organise data, perform calculations and present findings clearly using graphs and formulas.**

Progression of Knowledge and skills

YEAR 5		Information Technology	Computer Science	Digital Literacy
Unit 6 Coding **How can we plan, organise and improve code to create efficient simulations of real-world systems?**	Skill		• Use tags to write code for multiple objects using generated variables. • Organise code using tabs. • Use functions to reduce repetition and improve readability. • Explain what a simulation is and give examples of real-world systems. • Plan algorithms for simulations (e.g. traffic lights) using 2Chart. • Write code based on an algorithm. • Test and evaluate programs. • Modify simulations to model improvements or changes. • Recognise and apply abstraction when planning programs. • Use decomposition to break down tasks and organise code. • Create flowcharts with sub-routines using 2Chart. • Create and use functions within 2Code. • Refactor code by identifying repetition and replacing it with functions. • Choose appropriate datatypes for variables. • Predict how operators will affect variables based on their datatype. • Use the Variable Watch tool to monitor values. • Initialise variables correctly. • Debug programs by checking datatypes and initialisation. • Identify where concatenation is useful. • Use concatenation to combine text and variables in programs. • Create outputs using print commands with concatenated text. • Debug programs effectively.	
	Knowledge		• Well-organised code is written and structured can improve debugging, simplify programs and make them more efficient. • A simulation is a model that represents a real or imaginary situation. • Abstraction involves focusing on important details while ignoring unnecessary information. • Decomposition breaks a task into smaller, manageable parts (sub-routines). • A function is a named set of commands that can be reused within a program. • A datatype defines the type of data (e.g. number or text) and what can be done with it. • Variables must be initialised to prevent unexpected program errors. • Concatenation is the process of joining items together, such as text strings.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow structured programming rules and conventions to create accurate and reliable simulations. Individual Liberty – Pupils independently design, test and refine their own programs, making creative choices in how simulations behave.	Reflective	Donald Knuth	Simulation – A model of a real system. Function – Reusable block of code. Variable – A value that can change. Datatype – Type of data stored. Concatenation – Joining text and values.	Game on: App Design Showcase

Oracy Opportunities	Computing Review Panel – pupils compare approaches to algorithm design, coding, testing and debugging, draw on evidence and different perspectives, and argue which is most effective. They listen for an extended period and use appropriate language to bring the discussion back on track if it drifts.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• An argument for/against is… because… • However, I would point out… • I understand your point of view, however…	• In some ways… • Another feature they have in common is… • However, they also differ in some ways because…	• To begin with… • As a result… • The reasons for…	• I predict… because… • Based on… I predict that… • The outcome will be…

End product	To design, code and evaluate a simulation program using functions, variables and structured programming techniques.

Progression of Knowledge and skills

YEAR 5		Information Technology	Computer Science	Digital literacy
Unit 2 Word Processing **How can we use word-processing tools to create clear, organised and effective digital documents?**	Skill	• Recognise different types of documents created using a word processor. • Open new and existing documents. • Identify and use templates to create documents. • Navigate the main toolbar and sub-toolbars. • Expand toolbar options to access additional features. • Save and rename documents. • Select and format specific text. • Type and format sentences appropriately. • Change page orientation (portrait/landscape). • Adjust page margins. • Search for and insert images. • Edit images using handles, including cropping and resizing. • Wrap text around images. • Modify the appearance of images. • Use keyboard or touchscreen shortcuts (copy, cut, paste). • Use formatting tools (bold, italic, underline) effectively. • Choose appropriate fonts for a document's purpose. • Add headings and subheadings. • Create bullet points and numbered lists. • Insert and format tables. • Add and adjust rows and columns in tables. • Format table borders and cell backgrounds.		
	Knowledge	• A word processing tool can be used to create a range of documents. • The layout of a document can be altered (e.g. orientation and margins). • Images can be inserted and edited in a word processor. • The appearance and placement of text within a document can be modified. • Tables can be used to present information clearly within a document.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow structured rules when creating and formatting documents to ensure clarity and consistency. Individual Liberty – Pupils make creative choices when designing documents, selecting fonts, layouts and images to suit their purpose.	Reflective	Tim Berners-Lee	Word processor – Software for writing documents. Format – Changing appearance of text. Layout – Arrangement of a page. Image – Picture inserted into a document. Table – Grid used to organise information.	Digital Publishing Showcase

Oracy Opportunities	Computing Review Panel – pupils compare approaches to professional document design and formatting, draw on evidence and different perspectives, and argue which is most effective. They listen for an extended period and use appropriate language to bring the discussion back on track if it drifts.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• An argument for/against is... because... • However, I would point out... • I understand your point of view, however...	• In some ways... • Another feature they have in common is... • However, they also differ in some ways because...	• To begin with... • As a result... • The reasons for...	• I predict... because... • Based on... I predict that... • The outcome will be...

End product	**To design, format and produce a professional-looking document using a word processor.**

Progression of Knowledge and skills

YEAR 5		Information Technology	Computer Science	Digital Literacy
Unit 8 Concept Maps **How can we use concept maps to organise, connect and present our ideas clearly?**	Skill	• Create a concept map using 3Connekt. • Add nodes and link ideas. • Organise ideas into categories and sub categories. • Move, connect and arrange nodes logically. • Adjust layout, spacing and formatting to improve clarity. • Choose an appropriate concept map structure for a task. • Refine and improve a concept map to make it clear. • Explain their concept map to an audience. • Present ideas clearly and confidently. • Review and improve their work based on feedback.		
	Knowledge	• A concept map is used to organise ideas and show how they are linked. • Concept maps usually begin with a main idea and branch into categories and sub-ideas. • Concept maps can be used for planning, organizing and presenting information. • Different layouts and structures help make information clearer. • Concept maps can be adapted depending on the purpose or topic. • Clear organisation helps others understand information more easily. • Concept maps can support presentations. • Presentations should be clearly structured and organised. • Feedback can help improve organisation and presentation.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Individual Liberty – Children independently organise and present their own ideas in a way that makes sense to them. Mutual Respect – Pupils listen to and give feedback on each other's concept maps, helping improve clarity and understanding.	Proud	Joseph D. Novak	Concept map – A diagram of linked ideas. Node – A single idea or point. Link – A connection between ideas. Category – A group of related ideas. Structure – How information is organised.	Presentation Showcase Event

Oracy Opportunities	Computing Review Panel – pupils compare approaches to how concept maps organise and connect ideas, draw on evidence and different perspectives, and argue which is most effective. They listen for an extended period and use appropriate language to bring the discussion back on track if it drifts.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• An argument for/against is... because... • However, I would point out... • I understand your point of view, however...	• In some ways... • Another feature they have in common is... • However, they also differ in some ways because...	• To begin with... • As a result... • The reasons for...	• I predict... because... • Based on... I predict that... • The outcome will be...

End product	To create and present a clear, well-organised concept map that shows linked ideas effectively.

Progression of Knowledge and skills

YEAR 5	Information Technology		Computer Science	Digital Literacy
Unit 9 Coding External Devices **How can we use external devices, inputs, outputs and sensors to create and control programs?**	Skill		• Identify whether something is an input or an output. • Define what an external device is. • Start coding using external device code blocks. • Connect an external device using a QR code. • Run and test simple programs. • Describe the features of a game controller. • Complete a partially built game. • Debug code when it is not working correctly. • Locate and use blocks for graphics and text. • Create programs that output text to an external device. • Recognise when sensors can be used and apply them in code. • Find and use sensor blocks (e.g. shake, tilt, sound detected). • Plan and create programs using sensors. • Plan a program before coding. • Write code to meet a specific design brief. • Debug and improve programs. • Share programs with others. • Evaluate programs and suggest improvements.	
	Knowledge		• External devices can be used to control a coded program. • An external device is a piece of hardware that can connect to and interact with a computer system. • External devices can act as inputs and outputs in a program. • External devices can be used as game controllers. • Text and graphics can be output to an external device. • External devices can model real-life situations using sensors. • Sensors such as shake, tilt and sound detection can be used in coding. • Programs can be designed to meet a specific purpose or design brief.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow clear programming rules and structured steps when designing and testing interactive programs. Individual Liberty – Pupils independently design, code and improve their own programs using external devices and sensors.	Empowered	Steve Wozniak	Input – Information sent into a program. Output – Result from a program. Sensor – Detects changes like movement or sound. External device – Hardware connected to a computer. Debug – Fixing errors in code.	Gaining Technology Investigation Day

Oracy Opportunities	Computing Review Panel – pupils compare approaches to how external devices interact with coded programs, draw on evidence and different perspectives, and argue which is most effective. They listen for an extended period and use appropriate language to bring the discussion back on track if it drifts.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• An argument for/against is... because... • However, I would point out... • I understand your point of view, however...	• In some ways... • Another feature they have in common is... • However, they also differ in some ways because...	• To begin with... • As a result... • The reasons for...	• I predict... because... • Based on... I predict that... • The outcome will be...

End product	**To design, code and evaluate an interactive program using external devices and sensors.**

Progression of Knowledge and skills

YEAR 5		Information Technology	Computer Science	Digital Literacy
Unit 10 micro:bit **How can we use inputs, outputs, selection and variables to program a micro:bit to control different systems?**	Skill		• Identify event blocks. • Use event blocks to initiate programs. • Nest code inside event blocks. • Identify and use input code blocks. • Identify and use output code blocks. • Write code that responds to sensor inputs (e.g. temperature). • Create simple programs that simulate control systems. • Use 'if' statements to introduce selection. • Combine event, output and variable blocks to change outputs based on inputs. • Connect crocodile clips to micro:bit pins and predict inputs. • Write code that responds to inputs from pins. • Create number variables. • Initialise variable values. • Change variable values when events occur. • Use IF statements to check variable values. • Produce outputs based on variable values.	
	Knowledge		• Inputs from an accelerometer, button, pin or sound can be used to start a program. • Inputs from the micro:bit can control outputs and simulate control systems. • External equipment, such as crocodile clips and circuits, can connect to the micro:bit to create inputs and outputs. • Variables can be used to track changes in a program and support logical decisions.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow clear programming structures and rules when creating reliable control systems. Individual Liberty – Pupils design and develop their own programs, choosing how inputs and outputs respond to events.	Empowered	Ada Lovelace	Event – Something that triggers code. Input – Data entering a system. Output – Result from a program. Variable – A value that can change. Sensor – Detects changes in the environment.	School Innovation Showcase

Oracy Opportunities	Computing Review Panel – pupils compare approaches to micro:bit inputs, outputs, sensors and code, draw on evidence and different perspectives, and argue which is most effective. They listen for an extended period and use appropriate language to bring the discussion back on track if it drifts.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• An argument for/against is... because... • However, I would point out... • I understand your point of view, however...	• In some ways... • Another feature they have in common is... • However, they also differ in some ways because...	• To begin with... • As a result... • The reasons for...	• I predict... because... • Based on... I predict that... • The outcome will be...

End product	To design and code an event-driven control system that responds to inputs and uses variables and selection.

Progression of Knowledge and skills

YEAR 6		Information Technology	Computer Science	Digital Literacy
Unit 6.1 Introduction to Purple Mash **How can we use Purple Mash safely, independently and collaboratively to support our learning?**	Skill	• Access Purple Mash from home and school. • Log out of Purple Mash. • Explain why it is important to keep passwords safe and not share them. • Make and edit their own avatar. • Open 2Dos. • Save 2Dos. • Hand in 2Dos and communicate with their teacher via the 2Do. • Access the Purple Mash homepage. • Access alerts within Purple Mash. • Close activities in Purple Mash. • Access their work area. • Save work in their work area. • Locate and open previously saved work. • Open a specified tool from the Tools area. • Find activities using the Topics area. • Scroll up, down and side to side where needed. • Recommend an appropriate collaborative tool for group or class work.		
	Knowledge	• It is important to log in to a site, keep passwords safe and log out at the end of a session. • An avatar is a virtual representation of a person suitable for use online. • The 2Do system is used to set work for children within Purple Mash. • Online sites have a main page called the homepage. • Online sites often use an alert system to communicate with the user. • To move to a different activity in Purple Mash, you must close the current activity. • Many online sites, including Purple Mash, have an area for an individual's work that is accessible only to the individual (and their teacher). • To access Purple Mash programs, you use the Tools area. • The Topics area can be used to find activities related to a specific subject. • You can access non-visible parts of a screen using scrolling. • Purple Mash includes collaborative tools.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow clear rules for safe online behaviour, including keeping passwords secure and logging out correctly. Individual Liberty – Pupils make independent choices when using Purple Mash tools, avatars and work areas.	Proud	Tim Berners-Lee	Login – Entering a system securely. Password – A secret code for safety. Avatar – A digital character. 2Do – Assigned task. Homepage – Main screen of a website.	Visit from an IT Professional

Oracy Opportunities	Expert Conference and Teach-Back – pupils give a fluent, evidence-based explanation of safe and independent use of Purple Mash, respond spontaneously to increasingly complex questions, and then teach the key idea to another group. Speakers consciously adapt tone, pace and volume to their audience.

Sentence Stems			
Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I am convinced...	• In some ways...	• To begin with...	• Based on... I predict that...
• Based on the fact...	• Another feature they have in common is...	• As a result...	• After hearing all the evidence...
• Having analysed ..., it is clear that...	• However, they also differ in some ways because...	• In conclusion... / In summary...	• In light of... the outcome will be...

End product	To confidently use Purple Mash to access, complete, save and submit work safely and independently.

Progression of Knowledge and skills

YEAR 6		Information Technology	Computer Science	Digital Literacy
Unit 2 Graphing **How can we choose, create and interpret different graphs to present data and draw conclusions?**	Skill	• Create a variety of graphs and interpret them to draw conclusions. • Select appropriate graph types for specific data sets. • Create comparative bar charts using 2Graph. • Add titles, keys and axis labels to graphs. • Export graphs from 2Graph and import them into other documents (e.g. 2Publish). • Create and interpret pie charts using 2Graph and 2Calculate. • Compare graphing tools and choose the most suitable one. • Decide when a line graph is the most appropriate format. • Create line graphs with suitable scales, labels and titles. • Create line graphs with multiple datasets and interpret comparisons.		
	Knowledge	• Graphing helps to make sense of data and draw conclusions. • There are different types of graphs, and the best type depends on the data and purpose. • Comparative bar charts can be used to visually compare multiple datasets. • Graphs can be exported from graphing tools and used in other documents. • Pie charts show data as parts of a whole. • Line graphs show relationships between variables, especially over time.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow structured steps when creating accurate graphs, including correct labelling and scaling. Individual Liberty – Pupils make independent decisions about which graph types to use and how to present their data.	Empowered	Florence Nightingale	Graph – A way to show data visually. Bar chart – Graph using bars to compare data. Pie chart – Graph showing parts of a whole. Line graph – Graph showing change over time. Axis – Lines used to label a graph.	Weather Data Tracking Project

Oracy Opportunities	Expert Conference and Teach-Back – pupils give a fluent, evidence-based explanation of graph choices, patterns and conclusions, respond spontaneously to increasingly complex questions, and then teach the key idea to another group. Speakers consciously adapt tone, pace and volume to their audience.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I am convinced... • Based on the fact... • Having analysed ..., it is clear that...	• In some ways... • Another feature they have in common is... • However, they also differ in some ways because...	• To begin with... • As a result... • In conclusion... / In summary...	• Based on... I predict that... • After hearing all the evidence... • In light of... the outcome will be...

End product	To create and interpret a range of graphs to analyse data and draw clear conclusions.

Progression of Knowledge and skills

YEAR 6		Information Technology	Computer Science	Digital Literacy
Unit 3 Blogging **How can we create an engaging blog and communicate safely and effectively with our online audience?**	Skill	• Suggest topics for blog posts. • Create a blog post. • Plan the structure of a blog, including hook, style, conclusion and reader engagement. • Write an effective hook using a question, story, quote or observation. • Write clearly structured blog posts using lists, bullet points, key formatting and an appropriate tone. • Write conclusions that summarise key points and may offer advice. • Follow the process of planning, drafting, revising and editing before publishing. • Read and respond to comments on blog posts. • Use comments to improve engagement and inform future posts. • Apply appropriate online behaviour (netiquette) when blogging. • Identify inappropriate content and report posts or comments that break guidelines.		
	Knowledge	• A blog is a regularly updated webpage written about a particular topic. • Blogs consist of multiple blog posts. • A well-written blog post includes features that make it clear, engaging and easy to understand. • A hook is used to capture the reader's attention at the beginning of a post. • The layout and style of a blog affect how easily information can be understood. • A conclusion brings together the main points of a blog post. • Writing a blog post involves planning, drafting, revising and editing. • Engaging with readers is important for a successful blog. • Moderation is used to keep blogs safe and appropriate for readers and writers.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow online safety rules and blog guidelines, including reporting inappropriate content and using netiquette. Individual Liberty – Pupils express their own ideas and opinions when planning and writing blog posts on topics of interest.	Loving	Tim Berners-Lee	Blog – A website with regular posts. Post – A single blog entry. Hook – An opening to grab attention. Conclusion – Ending summary. Netiquette – Online manners.	Create a Class Blog

Oracy Opportunities	Expert Conference and Teach-Back – pupils give a fluent, evidence-based explanation of responsible and engaging blogging for an online audience, respond spontaneously to increasingly complex questions, and then teach the key idea to another group. Speakers consciously adapt tone, pace and volume to their audience.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I am convinced… • Based on the fact… • Having analysed…, it is clear that…	• In some ways… • Another feature they have in common is… • However, they also differ in some ways because…	• To begin with… • As a result… • In conclusion… / In summary…	• Based on… I predict that… • After hearing all the evidence… • In light of… the outcome will be…

End product	To plan, write, edit and publish an engaging blog post for an online audience.

Progression of Knowledge and skills

YEAR 6		Information Technology	Computer Science	Digital Literacy
Unit 4 Data Detectives **How can we use databases, queries and linked tables to organise, analyse and present information effectively?**	Skill	• Identify tables, records and fields in a database. • Explain the data types and formats used in fields. • Use query tools to retrieve useful information. • Apply filters to create conditions within a query. • Group related data using grouping tools. • Perform calculations on selected data. • Sort records based on selected fields and order. • Use chart tools to create graphs from selected data. • Choose appropriate graph types to represent data clearly. • Identify when multiple tables are needed in a database. • Explain why data may need to be split across tables. • Link tables using common fields. • Create queries that use data from linked tables. • Apply multiple conditions using AND/OR operators. • Use brackets to organise complex query conditions correctly.		
	Knowledge	• A database contains data organised so that it can be queried to find useful information. • Databases are made up of tables, records and fields. • Fields contain specific data types and may have formatting applied. • Query tools allow users to find and analyse information within a database. • Different tools (filter, group, calculate, sort) help organise and interpret data. • Chart tools can be used to create graphs from database data. • Some databases require multiple related tables. • Tables can be linked using a common field. • Queries can retrieve data from multiple linked tables. • Conditions can be applied to queries to narrow down results. • AND/OR operators affect how multiple conditions are applied.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow structured rules when entering, organising and querying data to ensure accuracy and consistency. Mutual Respect – Pupils work collaboratively when exploring and discussing data, listening to others' ideas and valuing different approaches to analysis.	Reflective	Charles Babbage	Database – Organised collection of data. Record – A single entry. Field – A category of data. Query – A request to find data. Filter – A condition used to narrow results.	STEM Careers Insight Session

Oracy Opportunities	Expert Conference and Teach Back – pupils give a fluent, evidence-based explanation of database design, querying and interpretation, respond spontaneously to increasingly complex questions, and then teach the key idea to another group. Speakers consciously adapt tone, pace and volume to their audience.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I am convinced... • Based on the fact... • Having analysed..., it is clear that...	• In some ways... • Another feature they have in common is... • However, they also differ in some ways because...	• To begin with... • As a result... • In conclusion... / In summary...	• Based on... I predict that... • After hearing all the evidence... • In light of... the outcome will be...

End product	To design, query and analyse a multi-table database to extract and interpret meaningful information.

Progression of Knowledge and skills

YEAR 6		Information Technology	Computer Science	Digital Literacy
Unit 5 Networks **How do computer networks connect devices and help us communicate and share information safely?**	Skill		• Identify types of computer networks locally and globally. • Explain which hardware resources a network can share. • Explain the difference between LAN and WAN. • Create a network diagram including a router and connected devices. • Identify examples of wireless connections (Wi-Fi, mobile data, 5G). • Describe the difference between the Internet and the World Wide Web, with examples. • Give examples of web browsers. • Give examples of online communication. • Suggest safety tips for online communication. • Explain the difference between internet filtering and censorship and why they are used.	
	Knowledge		• A network is a group of connected computers that can share information and hardware resources. • LAN (Local Area Network) and WAN (Wide Area Network) are different types of networks. • Networks require specific hardware (e.g. routers, devices and peripherals). • Networks can be wired, wireless or a combination of both. • Wi-Fi, mobile data and 5G are types of wireless network connections. • There is a difference between the Internet and the World Wide Web. • Web browsers are used to access the World Wide Web. • Networks enable online communication. • Internet filtering and censorship are used to restrict access to certain content for different reasons.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow clear rules when using networks and online communication to ensure safe and responsible behaviour. Mutual Respect – Pupils communicate respectfully online and consider how their actions affect others when using shared networks.	Positive	Vint Cerf	Network – Connected computers sharing data. LAN – Local area network. WAN – Wide area network. Router – Device that connects networks. Browser – Software used to access websites.	Internet Safety Workshop

Oracy Opportunities	Expert Conference and Teach-Back – pupils give a fluent, evidence-based explanation of how networks connect devices and share resources, respond spontaneously to increasingly complex questions, and then teach the key idea to another group. Speakers consciously adapt tone, pace and volume to their audience.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I am convinced...	• In some ways...	• To begin with...	• Based on... I predict that...
• Based on the fact...	• Another feature they have in common is...	• As a result...	• After hearing all the evidence...
• Having analysed..., it is clear that...	• However, they also differ in some ways because...	• In conclusion... / In summary...	• In light of... the outcome will be...

End product	**To create and explain a labelled network diagram showing how devices connect and share information across local and global systems.**

Progression of Knowledge and skills

YEAR 6		Information Technology	Computer Science	Digital Literacy
Unit 6 Coding **How can we combine coding techniques to design, create and improve an interactive program?**	Skill		• Write code to clone objects and modify their attributes. • Make objects draggable within a program. • Create hotspots and control program flow when objects interact with them. • Combine draggable objects, hotspots and cloning with sequences, repetition and selection. • Choose appropriate datatypes when creating variables. • Predict how datatypes affect calculations, concatenation and potential errors. • Use 'prompt for input' and 'get input' commands to collect user input. • Use variables to process and respond to user input. • Create IF statements that respond to user input values. • Interpret flowcharts and use them to guide coding or debugging. • Create flowcharts including with notations for complex programs. • Create and use functions, and recognise when they improve code efficiency. • Interpret code that includes functions. • Use design documentation to plan programs effectively. • Use interface designs to create the look of a program. • Use flowcharts to determine program structure and required functions. • Review code from a text-based adventure and relate it to gameplay. • Identify how variables, functions, selection and loops are used in programs. • Adapt existing code while maintaining structure and changing gameplay.	
	Knowledge		• Cloning allows additional objects to be created while a program is running. • Objects can be made draggable to allow user interaction. • Hotspots are areas that can trigger actions when objects enter or leave them. • Combining coding structures and objects enables interactive and creative programs. • Variables have different datatypes, which affect how their values can be used. • User input can be collected and used within programs in different ways. • A flowchart is a diagram that represents an algorithm using symbols and arrows. • Functions help make programs more efficient by avoiding repeated code. • Design documentation supports planning through abstraction and decomposition. • Text-based adventures are games that use text commands instead of graphics.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow structured programming rules and logical sequences to ensure their code works correctly and reliably. Individual Liberty – Pupils design their own interactive programs, making creative decisions about gameplay, interaction and structure.	Reflective	Alan Turing	Variable – A value that can change. Function – Reusable block of code. Input – Data entered by a user. Hotspot – Interactive area that triggers an action. Clone – A copy of an object created during runtime.	Game Testing Workshop

Oracy Opportunities	Expert Conference and Teach Back – pupils give a fluent, evidence-based explanation of algorithm design, coding, testing and debugging, respond spontaneously to increasingly complex questions, and then teach the key idea to another group. Speakers consciously adapt tone, pace and volume to their audience.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I am convinced...	• In some ways...	• To begin with...	• Based on... I predict that...
• Based on the fact...	• Another feature they have in common is...	• As a result...	• After hearing all the evidence...
• Having analysed..., it is clear that...	• However, they also differ in some ways because...	• In conclusion... / In summary...	• In light of... the outcome will be...

End product	To design, code and evaluate an interactive program that uses user input, variables, functions and object interaction to create a playable experience.

Progression of Knowledge and skills

YEAR 6		Information Technology	Computer Science	Digital Literacy
Unit 7 Introduction to Python **How can we use Python syntax, functions, loops and coordinates to create effective programs?**	Skill		• Use correct Python syntax, including brackets, quotes, indentation and case. • Use the print function to display text, variables or combinations of both. • Import functions (e.g. sleep from the time module). • Use the sleep function to control the timing of program output. • Use a for loop to repeat code a set number of times. • Explain the difference between for loops and while loops. • Use the range function to control loop repetition. • Use range to define start and end values within loops. • Use mathematical operators to perform calculations in code. • Select and place sprites using design mode. • Identify and use coordinates to position sprites. • Program sprites to move to different positions using coordinates.	
	Knowledge		• Python is a text-based programming language. • Python has specific syntax rules, including brackets, quotes, indentation and case sensitivity. • Python has built-in functions that can be used in programs. • Additional functions can be imported from libraries. • The sleep function can control the speed of program execution. • There are two main types of loops in Python: for loops and while loops. • The range function generates a sequence of numbers for use in loops. • Python can perform mathematical calculations using operators. • Sprites can be programmed and positioned on a screen using coordinates.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow strict syntax rules in Python to ensure programs run correctly and consistently. Individual Liberty – Pupils create their own programs and choose how to control outputs, loops and sprite movement creatively.	Reflective	Guido van Rossum	Python – A text-based programming language. Syntax – Rules of writing code. Loop – Repetition of code. Function – A reusable block of code. Sprite – A programmable object on screen.	Game Sprite Design Activity

Oracy Opportunities	Expert Conference and Teach-Back – pupils give a fluent, evidence-based explanation of Python syntax, program structure and debugging, respond spontaneously to increasingly complex questions, and then teach the key idea to another group. Speakers consciously adapt tone, pace and volume to their audience.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I am convinced... • Based on the fact... • Having analysed..., it is clear that...	• In some ways... • Another feature they have in common is... • However, they also differ in some ways because...	• To begin with... • As a result... • In conclusion... / In summary...	• Based on... I predict that... • After hearing all the evidence... • In light of... the outcome will be...

End product	To design and code a Python program that uses loops, functions, timing and sprite movement to produce a working interactive output.

Progression of Knowledge and skills

WAE's		Information Technology	Computer Science	Digital Literacy
Unit 8 Spreadsheets **How can we use spreadsheets to organise, calculate, analyse and present data to solve real-life problems?**	Skill	• Describe uses of a spreadsheet. • Navigate around a spreadsheet and use cell references. • Enter data accurately into cells. • Use key spreadsheet vocabulary correctly. • Define and create simple formulae. • Navigate using cell references or by selecting cells. • Use the series fill function. • Apply formulae to update calculations automatically. • Adjust cell and row sizes. • Add headers and organise data clearly. • Sort data using appropriate tools. • Use the SUM function within formulae. • Format cells (e.g. as currency). • Create spreadsheet models for real-life situations. • Add data in table format. • Use functions beyond SUM (e.g. average, min, max). • Create graphs and charts to represent data. • Identify and use axes correctly in graphs. • Sort data alphabetically or numerically. • Apply filters to display specific data. • Explain that filtered data is hidden, not deleted. • Clear filters to restore hidden data. • Plan and model a real-life scenario (e.g. an event) using a spreadsheet. • Apply learned skills to solve problems and present data clearly.		
	Knowledge	• Spreadsheets contain key features such as cells, rows and columns used to organise data. • Data can be entered into cells and structured using headings. • Formulae can be used to carry out calculations efficiently. • Spreadsheet formatting can make complex data clearer. • Spreadsheets can be used to model real-life situations. • Functions can perform calculations such as sum, average, maximum and minimum. • Spreadsheets can display data using graphs and charts. • Sorting and filtering tools help analyse large amounts of data. • Spreadsheets can be used to solve problems when data may change.		

British Values	Purple Values	Significant People	Key Vocabulary	Cultural Capital
Rule of Law – Children follow structured procedures when entering data, using formulae and applying functions to ensure accuracy. Individual Liberty – Pupils independently choose how to organise, model and present data using spreadsheets to solve real-life problems.	Reflective	Florence Nightingale	Spreadsheet – A tool for organising data. Cell – A single box in a spreadsheet. Formula – A calculation in a cell. Function – Built-in calculation tool. Filter – A way to show selected data.	Plan a School Event Budget

Oracy Opportunities	Expert Conference and Teach-Back – pupils give a fluent, evidence-based explanation of spreadsheet organisation, formulas and data interpretation, respond spontaneously to increasingly complex questions, and then teach the key idea to another group. Speakers consciously adapt tone, pace and volume to their audience.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I am convinced... • Based on the fact... • Having analysed..., it is clear that...	• In some ways... • Another feature they have in common is... • However, they also differ in some ways because...	• To begin with... • As a result... • In conclusion.../ In summary...	• Based on..., I predict that... • After hearing all the evidence... • In light of... the outcome will be...

End product	**To create and use a spreadsheet model to organise, calculate and analyse real-world data clearly and accurately.**

We Are PURPLE!

Progression of Knowledge and skills

YEAR 6		Information Technology		Computer Scienti	Digital Literacy
Unit 3 3D Modelling **How can we use CAD and 3D modelling to design, test and create products for a real-world purpose?**	Skill	• Define what a 3D model is. • Identify industries where CAD is used. • Explain the benefits of using CAD. • Use 2Design and Make to select and adapt appropriate models. • Identify and fix issues within their 3D designs. • Apply textures using painting tools. • Use the design slider to adjust model dimensions. • View and edit models using Points, Net and 3D views. • Create and apply repeating patterns in designs. • Add, remove and move points to change the shape of a model. • Explain why prototypes are important. • Explain the purpose of packaging prototypes.	• Evaluate different packaging designs. • Explain the role of packaging. • Understand and use a design brief. • Plan a model based on a given design brief. • Refine models before final production. • Print models using paper/card or a 3D printer. • Construct 3D models where appropriate. • Identify differences between standard printers and 3D printers. • Recognise and describe an STL file. • Discuss uses of 3D printing in different industries. • Discuss materials used in 3D printing.		
	Knowledge	• CAD (Computer Aided Design) is used to create accurate drawings or 3D models on a screen. • A 3D model is a digital representation of an object in three dimensions. • CAD is used in a range of industries such as car manufacturing, architecture and packaging design. • CAD allows designers to create accurate, flexible designs and test ideas before production. • 2Design and Make is a CAD tool used to create 3D models. • 2Design and Make includes different viewpoints: Points view, Net view and 3D view. • Patterns and textures can be added to enhance a model's design. • Modifying points changes the shape and structure of a model. • A prototype is an early version of a design used for testing ideas. • CAD can be used to design packaging prototypes. • Packaging serves purposes such as protection, information, promotion and usability. • A design brief outlines what needs to be designed. • Models need to be refined before final production. • A 3D printer creates physical objects from digital models using layers of material. • A 3D printer uses a file format such as STL. • 3D printing is used across different industries and with different materials.		

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow structured design processes and rules when creating, testing and refining 3D models to ensure accurate outcomes. Individual Liberty – Pupils make independent creative decisions when designing, modifying and evaluating their own 3D models and prototypes.	Proud	Chuck Hull	CAD – Computer Aided Design software. 3D model – A digital object in three dimensions. Prototype – A test version of a design. Texture – Surface appearance of a model. STL file – File format used for 3D printing.	Packaging Design Project

Oracy Opportunities	Expert Conference and Teach-Back – pupils give a fluent, evidence-based explanation of CAD design choices, refinement and evaluation, respond spontaneously to increasingly complex questions, and then teach the key idea to another group. Speakers consciously adapt tone, pace and volume to their audience.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I am convinced...	• In some ways...	• To begin with...	• Based on... I predict that...
• Based on the fact...	• Another feature they have in common is...	• As a result...	• After hearing all the evidence...
• Having analysed..., it is clear that...	• However, they also differ in some ways because...	• In conclusion... / In summary...	• In light of... the outcome will be...

End product	To design, refine and produce a 3D model or packaging prototype using CAD software and evaluate its effectiveness against a design brief.

Progression of Knowledge and skills

YEAR 6		Information Technology	Computer Science	Digital Literacy
Unit 10 Binary **How do computers use binary numbers to store, process and control information?**	Skill		• Compare binary numbers with decimal numbers. • Explain how binary represents data in computers. • Recognise when inputs are converted into outputs (e.g. typing a key and seeing it on screen). • Represent a bit using 0 or 1. • Create decimal values by combining binary values. • Count in binary using practical methods (e.g. binary cards). • Convert decimal numbers into binary (e.g. using the divide-by-two method). • Identify where binary states are used in programs. • Create simple programs that use variables with binary (0/1) values to control program flow.	
	Knowledge		• Binary is a number system using only the digits 0 and 1 (base-2). • The decimal system (base-10) is used in everyday life. • Binary is used by computers to store and process data. • In binary, 0 represents an off state and 1 represents an on state within a computer. • A bit is the smallest unit of information and can be either 0 or 1. • Binary values increase in powers of two (e.g. 1, 2, 4, 8, 16, 32). • Binary can be used to represent all decimal numbers. • Binary is used in programs to control states and actions (e.g. on/off conditions).	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow logical rules and step-by-step processes when converting between binary and decimal systems. Individual Liberty – Pupils explore and apply their own methods for representing and using binary in problem-solving activities.	Empowered	George Boole	Binary – A number system using 0 and 1. Bit – The smallest unit of data. Decimal – Base-10 number system. Convert – Change from one form to another. State – On (1) or off (0).	Binary Card Game Activity

Oracy Opportunities	Expert Conference and Teach Back – pupils give a fluent, evidence-based explanation of binary representation and logic, respond spontaneously to increasingly complex questions, and then teach the key idea to another group. Speakers consciously adapt tone, pace and volume to their audience.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I am convinced... • Based on the fact... • Having analysed..., it is clear that...	• In some ways... • Another feature they have in common is... • However, they also differ in some ways because...	• To begin with... • As a result... • In conclusion... / In summary...	• Based on... I predict that... • After hearing all the evidence... • In light of... the outcome will be...

End product	To convert between binary and decimal numbers and use binary logic to control simple computer programs.

Progression of Knowledge and skills

YEAR 5		Information Technology	Computer Science	Digital Literacy
Unit 13 Microbit **How can we use a micro:bit's inputs and sensors to collect, record and analyse real-world data?**	Skill		• Connect crocodile clips to pins and the GND pin to create a circuit. • Use the 'when pin' command to trigger events from inputs. • Create programs that respond to pin inputs with outputs. • Create and use variables to count input events. • Output text, images and sounds when inputs are detected. • Use the sleep command to control timing in programs. • Identify sensors on the micro:bit and explain their uses. • Connect a micro:bit to 2Graph. • Set up data logging by selecting sensors and sampling intervals. • Download code to the micro:bit and begin data collection. • Upload collected data into 2Graph. • Display data in tables and charts. • Modify and format data for clear analysis.	
	Knowledge		• A micro:bit has pins that can be used to detect inputs. • Connecting components (e.g. crocodile clips) creates an electrical circuit that can be detected as an input. • Free Code micro:bit can use pin inputs to trigger events and produce outputs. • Variables can be used to count and track inputs. • The micro:bit can produce outputs such as text, images and sound. • The sleep command can control the timing of code execution. • The micro:bit includes sensors to collect environmental data. • 2Graph can be used alongside a micro:bit to collect and display data. • Data collected can be presented and analysed using tables and charts.	

British Values	Purple Values	Significant Person	Key Vocabulary	Cultural Capital
Rule of Law – Children follow clear rules and structured steps when building circuits and programming inputs to ensure safe and accurate outcomes. Individual Liberty – Pupils independently design, code and test their own micro programs and data collection investigations.	Reflective	Charles Babbage	Input – Information sent into a system. Circuit – A complete electrical path. Sensor – Detects changes in the environment. Variable – A value that can change. Data logging – Recording data over time.	Data Scientist Role Exploration

Oracy Opportunities	Expert Conference and Teach Back – pupils give a fluent, evidence based explanation of micro:bit inputs, outputs, sensors and code, respond spontaneously to increasingly complex questions, and then teach the key idea to another group. Speakers consciously adapt tone, pace and volume to their audience.

Sentence Stems

Argument / opinion	Comparing / contrasting	Explanation / description	Prediction
• I am convinced... • Based on the fact... • Having analysed..., it is clear that...	• In some ways... • Another feature they have in common is... • However, they also differ in some ways because...	• To begin with... • As a result... • In conclusion... / In summary...	• Based on... I predict that... • After hearing all the evidence... • In light of... the outcome will be...

End product	To design, code and evaluate a micro system that uses circuit inputs and sensors to collect and analyse real-world data.