

Key Vocabulary	E-safety/ Technology in Our Lives	Programming	Multimedia	Handling Data
Years 1&2	Rules, Online, Private information, Appropriate/inappropriate sites, Cyber-bullying, Digital footprint, Keyword searching.	Instructions, Buttons, Robots, Patterns, program, Forward, Backward, Right-angle turn, Algorithm, Sequence, Debug, Predict	Photographs, Video, Sound, Data, Pictogram, Digitally, capturing moments, Magnified images, Questions, Data collection, Graphs, Charts, Save, Retrieve	Videos, Camera stills, Sounds, Image bank, Word bank, Space bar, Paint effects, Templates, Animation, Documents, Index finger typing, Enter/return, Caps lock, Backspace
Year 3 & 4	E-safety rules, Secure passwords, Report abuse button, Gaming, Blogs School network, Devices, Computer parts, Collaborate, Appropriate online communication, Search tools, Appropriate websites, Owner, Different networks, Information collection, Reliability, Owners	Sequence instructions, Sequence debugging, Test + improve, Logo commands, Sequence programming, Type + edit logo commands, Sensors, Open-ended problems, Bugs in programs, Complex programming	Multimedia, Presentations, Alignment, Brush size, Repeats, Reflections, Green screening, Amend, Copy, Paste Creating + modifying, Specific purpose, Photo modifying, Keyboard shortcuts, Bullet points, Spell check, Constructive feedback	Questioning, Database, Construct, Contribute, Recording data, Data logger, Present data Database creation, Database searches, Inaccurate data
Year 5	Responsible online communication, Informed choices, Virus threats, Blogs, Messaging	Explore procedures, Refine procedures, Variable, Hardware + software control, Change inputs, Different outputs, Articulate solutions, Commands	Online sharing, Multimedia effects, Multimedia modification, Transitions, Hyperlinks, Editing tools, Refining, Online sharing	Spreadsheets, Complex searches (and/or: q/G), Problem solving, Present answers, Analyse information Question data, Interpret
Year 6	Computing devices, Internet parts, Collaboration, Responsibility, searching strategies, Webpages, Information movement, Connecting devices, Different audiences, Research	Predicting outputs, Plan, program, test & review a program, Program writing, Control mimics + devices, Sensors, Measure input, Create variables, Link errors	Appropriate online tools, Audience, Atmosphere, Structure, Copyright, Information collection, HTML code, Storing	Generate, Process, Interpret, Store, Present information Plausibility, Appropriate data tool, Interrogate, Investigations

	strategies, Search result rankings.			
Year group	Year 5			Year 6
E-safety and technology	<p>Protect my password and other personal information.</p> <p>Explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult.</p> <p>Know that anything I post online can be seen, used and may affect others.</p> <p>Talk about the dangers of spending too long online or playing a game.</p> <p>Explain the importance of communicating kindly and respectfully.</p> <p>Discuss the importance of choosing an age-appropriate website or game.</p> <p>Explain why I need to protect my computer or device from harm.</p> <p>Know which resources on the Internet I can download and use.</p> <p>Describe different parts of the Internet.</p> <p>Use different online communication tools for different purposes.</p> <p>Use a search engine to find appropriate information and check its reliability.</p> <p>Recognise and evaluate different types of information I find on the World Wide Web.</p> <p>Describe the different parts of a webpage.</p> <p>Find out who the information on a webpage belongs to.</p>			<p>Protect my password and other personal information.</p> <p>Explain the consequences of sharing too much about myself online.</p> <p>Support my friends to protect themselves and make good choices online, including reporting concerns to an adult.</p> <p>Explain the consequences of spending too much time online or on a game.</p> <p>Explain the consequences to myself and others of not communicating kindly and respectfully.</p> <p>Protect my computer or device from harm on the Internet.</p> <p>Tell you the Internet services I need to use for different purposes.</p> <p>Describe how information is transported on the Internet.</p> <p>Select an appropriate tool to communicate and collaborate online.</p> <p>Talk about the way search results are selected and ranked.</p> <p>Check the reliability of a website.</p> <p>Tell you about copyright and acknowledge the sources of information that I find online.</p>
<b>Cc RSHE/PHSE</b> <b>E-safety</b>	<b><u>PSHE</u></b> <b><u>Online relationships</u></b>			<b><u>PSHE</u></b> <b><u>Online relationships</u></b>

	<ul style="list-style-type: none"> <li>• That people sometimes behave differently online, including by pretending to be someone they are not.</li> <li>• That the same principles apply to online relationships as to face-to face relationships, including the importance of respect for others online including when we are anonymous.</li> <li>• The rules and principles for keeping safe online, how to recognise risks, harmful content and contact, and how to report them.</li> </ul> <p><b><u>Internet safety and harms</u></b></p> <ol style="list-style-type: none"> <li>1. The impact of positive and negative content online on their own and others' mental and physical wellbeing.</li> <li>2. That the internet can also be a negative place where online abuse, trolling, bullying and harassment can take place, which can have a negative impact on mental health.</li> </ol>	<ul style="list-style-type: none"> <li>• That people sometimes behave differently online, including by pretending to be someone they are not.</li> <li>• That the same principles apply to online relationships as to face-to face relationships, including the importance of respect for others online including when we are anonymous.</li> <li>• The rules and principles for keeping safe online, how to recognise risks, harmful content and contact, and how to report them.</li> </ul> <p><b><u>Internet safety and harms</u></b> See online relationships above)</p> <ol style="list-style-type: none"> <li>1. How to keep safe when using a mobile phone.</li> </ol>
<p><b>Computing networks and systems</b></p> <p>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs; work with variables and</p>	<p><b>Suggested unit: Selection in physical computing</b> <b>Suggested software:</b> <b>Unit Objectives:</b> To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To recognise how information is transferred over the internet To explain how sharing information online lets people in different places work together To contribute to a shared project online To evaluate different ways of working together online <b>Possible cross-curricular links:</b> <b>E-safety Key question: Always, sometimes, never? If I'm collaborating online, nobody can see me. I can</b></p>	<p><b>Suggested unit: Selection in physical computing</b> <b>Suggested software:</b> <b>Unit Objectives:</b> To identify how to use a search engine To describe how search engines select results To explain how search results are ranked To recognise why the order of results is important, and to whom To recognise how we communicate using technology To evaluate different methods of online communication <b>Possible cross-curricular links:</b> <b>E-safety Key question: Always, sometimes, never? I should always select or buy from from the top</b></p>

<p>various forms of input and output</p> <p>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</p>	<p><b>type and say what I want . Nobody will ever find it out that it is me. (Ensure discussion on positive things being posted)</b></p> <p><b>Accessibility:</b></p>	<p><b>website, they are the most trusted with the best reputation.</b></p> <p><b>Accessibility:</b></p>
<p>Programming</p> <p>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output ♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in</p>	<p><b>Suggested unit: Selection in physical computing</b></p> <p><b>Suggested software:</b></p> <p><b>Unit Objectives:</b></p> <ul style="list-style-type: none"> <li>To control a simple circuit connected to a computer</li> <li>To write a program that includes count-controlled loops</li> <li>To explain that a loop can stop when a condition is met</li> <li>To explain that a loop can be used to repeatedly check whether a condition has been met</li> <li>To design a physical project that includes selection</li> <li>To create a program that controls a physical computing project</li> </ul> <p><b>Possible cross-curricular links:</b></p> <p><b>E-safety Key question: Who owns videos posted online?</b></p> <p><b>Accessibility:</b></p> <p><b>Suggested unit: Selection in quizzes</b></p> <p><b>Suggested software:</b></p> <p><b>Unit Objectives:</b></p> <ul style="list-style-type: none"> <li>To explain how selection is used in computer programs</li> </ul>	<p><b>Suggested unit: Variables in games</b></p> <p><b>Suggested software:</b></p> <p><b>Unit Objectives:</b></p> <ul style="list-style-type: none"> <li>To define a ‘variable’ as something that is changeable</li> <li>To explain why a variable is used in a program</li> <li>To choose how to improve a game by using variables</li> <li>To design a project that builds on a given example</li> <li>To use my design to create a project</li> <li>To evaluate my project</li> </ul> <p><b>Possible cross-curricular links:</b></p> <p><b>E-safety Key question: If a game is virtual, it doesn’t need to have an age rating as harmful content isn’t real. Discuss.</b></p> <p><b>Accessibility:</b></p> <p><b>Suggested unit: Sensing</b></p> <p><b>Suggested software:</b></p> <p><b>Unit Objectives:</b></p>

<p>algorithms and programs</p>	<p>To relate that a conditional statement connects a condition to an outcome  To explain how selection directs the flow of a program  To design a program which uses selection  To create a program which uses selection  To evaluate my program</p> <p><b>Possible cross-curricular links:</b>  <b>E-safety Key question:</b>  <b>Accessibility:</b></p> <p><b><u>Additional Suggestions:</u></b>  <u>Kodu</u>  Decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program.  Refine a procedure using repeat commands to improve a program.  Use a variable to increase programming possibilities.  Change an input to a program to achieve a different output.  Kodu</p> <p><u>Scratch module 3</u>  <u>Project 1 Cats</u>  <u>Project 2 Flower generator</u>  <u>Project 3 Guess the flag</u>  <u>Project 4 Line Up</u>  <u>Project 5 Flappy Parrot</u>  <u>Project 6 Binary Hero</u>  Use 'if' and 'then' commands to select an action.  Talk about how a computer model can provide information about a physical system.  Use logical reasoning to detect and debug mistakes in a program.</p>	<p>To create a program to run on a controllable device  To explain that selection can control the flow of a program  To update a variable with a user input  To use an conditional statement to compare a variable to a value  To design a project that uses inputs and outputs on a controllable device  To develop a program to use inputs and outputs on a controllable device</p> <p><b>Possible cross-curricular links:</b>  <b>E-safety Key question: If a game is virtual, it doesn't need to have an age rating as harmful content isn't real. Discuss.</b>  <b>Accessibility:</b></p> <p><b><u>Additional Suggestions:</u></b>  <u>HTML</u>  Deconstruct a problem into smaller steps, recognising similarities to solutions used before.  Explain and program each of the steps in my algorithm.  Evaluate the effectiveness and efficiency of my algorithm while I continually test the Programming of that algorithm.  Use logical reasoning to detect and correct errors in algorithms and programs.</p> <p><u>Python</u>  Recognise when I need to use a variable to achieve a required output.  Use a variable and operators to stop a program.  Use different inputs (including sensors) to control a device or onscreen action and predict what will happen. (LOGITs)</p>
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	<p>Use logical thinking, imagination and creativity Extend a program.</p>	
Data handling	<p><b>Suggested unit: Selection in physical computing</b>  <b>Suggested software:</b>  <b>Unit Objectives:</b>          To use a form to record information          To compare paper and computer-based databases          To outline how grouping and then sorting data allows us to answer questions          To explain that tools can be used to select specific data          To explain that computer programs can be used to compare data visually          To apply my knowledge of a database to ask and answer real-world questions</p> <p><b>Possible cross-curricular links:</b>  <b>E-safety Key question: How can I protect my data from being leaked or stolen? What should I do if I think my data has been leaked or stolen? (Data breach).</b></p>	<p><b>Suggested unit: Spreadsheets</b>  <b>Suggested software:</b>  <b>Unit Objectives:</b>          To identify questions which can be answered using data          To explain that objects can be described using data          To explain that formulas can be used to produce calculated data          To apply formulas to data, including duplicating          To create a spreadsheet to plan an event          To choose suitable ways to present data</p> <p><b>Possible cross-curricular links: Fiver Challenge/Year 6 leavers disco/Leavers t-shirts/Residential meal orders</b>  <b>E-safety Key question: What should I do if data is leaked to me?</b></p>

	<p><b>Accessibility:</b> <i>Use pre-made explanation sheets to support children.</i></p> <p><b>Additional suggestions</b> Use a spreadsheet and database to collect and record data. Excel Choose an appropriate tool to help me collect data. Present data in an appropriate way. Search a database using different operators to refine my search. Talk about mistakes in data and suggest how it could be checked</p>	<p><b>Accessibility:</b></p> <p><b>Additional suggestions</b> Plan the process needed to investigate the world around me. Select the most effective tool to collect data for my investigation. Check the data I collect for accuracy and plausibility. Interpret the data I collect. Present the data I collect in an appropriate way. Use the skills I have developed to interrogate a database.</p>
<p>Creating media</p> <p>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p> <p>♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</p>	<p><b>Suggested unit: Video Editing</b> <b>Suggested software:</b> <b>Unit Objectives:</b> To explain what makes a video effective To identify digital devices that can record video To capture video using a range of techniques To create a storyboard To identify that video can be improved through reshooting and editing To consider the impact of the choices made when making and sharing a video <b>Possible cross-curricular links: English/History</b> <b>E-safety Key question: Link to:</b> - Managing online information - Online relationships - Online reputation - Self-image and identity <b>Accessibility:</b></p> <p><b>Suggested unit: Vector Drawing</b> <b>Suggested software:</b> <b>Unit Objectives:</b></p>	<p><b>Suggested unit: Designing a webpage</b> <b>Suggested software: adobe express</b> <b>Unit Objectives:</b> To review an existing website and consider its structure To plan the features of a web page To consider the ownership and use of images (copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people <b>Possible cross-curricular links: Any topics being covered</b> <b>E-safety Key question: Name 3 ways you can give credit to somebody on a webpage when you've used their ideas.</b> <b>Accessibility:</b></p> <p><b>Suggested unit: 3D modelling</b> <b>Suggested software:</b> <b>Unit Objectives:</b></p>

<p>♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<p>To identify that drawing tools can be used to produce different outcomes          To create a vector drawing by combining shapes          To use tools to achieve a desired effect          To recognise that vector drawings consist of layers          To group objects to make them easier to work with          To evaluate my vector drawing  <b>Possible cross-curricular links: DT/Digital Art</b>  <b>E-safety Key question: Link to:</b>          - Managing online information          - Online relationships          - Online reputation          - Self-image and identity</p> <p><b>Accessibility:</b></p> <p><b>Additional suggestions:</b>          Adobe spark (progression from Year 3)          Use text, photo, sound and video editing tools to refine my work.</p> <p>Movie Maker and iStop animation.</p> <p>Use the skills I have already developed to create content using technology.          Select, use and combine the appropriate technology tools to create effects that will have an impact on others.</p> <p>Select an appropriate online or offline tool to create and share ideas.          Review and improve my own work and support others to improve their work</p>	<p>To use a computer to create and manipulate three-dimensional (3D) digital objects          To compare working digitally with 2D and 3D graphics          To construct a digital 3D model of a physical object          To identify that physical objects can be broken down into a collection of 3D shapes          To design a digital model by combining 3D objects          To develop and improve a digital 3D model</p> <p><b>Possible cross-curricular links: Art, physical 3D modelling</b>  <b>Accessibility:</b>  <b>E-safety Key question: Link to:</b>  <b>Online relationships, copyright and ownership</b>  <b>Additional suggestions</b>          Evaluate the task and choose the most appropriate software to publish their work          Talk about audience, atmosphere and structure when planning a particular outcome.          Identify the potential of unfamiliar technology to increase my creativity.          Combine a range of media, recognising the contribution of each to achieve a particular outcome.          Say why I select a particular online tool for a specific purpose.          Be digitally discerning when evaluating the effectiveness of my own work and the work of others.</p>
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