



**Computing – Year 4/5 – Medium Term Plan**  
**Autumn 1, Unit 1: Online safety year 5 and Programming (Scratch) year 3**

Lesson	Learning Objective	Success Criteria	National Curriculum Links	Vocabulary	Resources
One: Online Protection	To understand how apps can access personal information and how to alter the permissions.	<ul style="list-style-type: none"> <li>- I can explain the importance of keeping passwords safe.</li> <li>- I can recognise that passwords are needed for access to apps.</li> <li>- I can explore how apps require permission to access private information.</li> <li>- I can identify how to alter the permissions apps require.</li> </ul>	Pupils should be taught to: <ul style="list-style-type: none"> <li>- 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.</li> <li>- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<ul style="list-style-type: none"> <li>- app</li> <li>- application</li> <li>- in-app purchase</li> <li>- password</li> <li>- permission</li> <li>- personal information</li> <li>- strong password</li> </ul>	<ul style="list-style-type: none"> <li>- Desktop computers, laptops or tablets (one between two).</li> <li>- A3 paper (one between two).</li> <li>- Coloured pens (a selection per table).</li> <li>- Link: <a href="#">Assessment – Computing Y5: Online safety</a> (optional – see Attention grabber).</li> <li>- Link: <a href="#">Google - App permissions</a>.*</li> <li>- Link: <a href="#">Apple - App permissions</a>.*</li> <li>- Link: <a href="#">Microsoft - App permissions</a>.*</li> </ul>
Four: Online Bullying	To discover ways to overcome bullying.	<ul style="list-style-type: none"> <li>- I can recognise the differences between online and offline bullying.</li> <li>- I can describe some of the differences between online and offline bullying.</li> <li>- I can identify ways to help those being bullied online.</li> <li>- I can recall organisations and people who can</li> </ul>	Pupils should be taught to: <ul style="list-style-type: none"> <li>- 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.</li> <li>- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<ul style="list-style-type: none"> <li>- bullying</li> <li>- online</li> <li>- organisation</li> <li>- real world</li> <li>- trusted adult</li> </ul>	<ul style="list-style-type: none"> <li>- Desktop computers, laptops or tablets (one between two).</li> <li>- Paper or whiteboards and pens (one between two).</li> <li>- Link: <a href="#">BBC Own It - Places online to help you own it</a>.*</li> <li>- Link: <a href="#">BBC Own It - Places to get help</a>.*</li> </ul>

		help with online bullying issues.			
Five: Online Health	To understand how technology can affect health and wellbeing.	<ul style="list-style-type: none"> <li>- I can identify the advantages and disadvantages technology has to health (mental and physical).</li> <li>- I can research advice and ways to support others with their online health and well-being.</li> <li>- I can find support if my well-being is being negatively affected by technology.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>- 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.</li> <li>- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<ul style="list-style-type: none"> <li>- app</li> <li>- health</li> <li>- mental health</li> <li>- mindfulness</li> <li>- organisation</li> <li>- support</li> <li>- well-being</li> </ul>	<ul style="list-style-type: none"> <li>- Whiteboards and pens (one each).</li> <li>- Desktop computers, laptops or tablets with access to the internet and a word processing program such as Microsoft Word, Google Docs or Apple Pages (one between two).</li> <li>- Link: <a href="#">Assessment: Computing Y5: Online safety</a> (optional – see Wrapping up).</li> <li>- Link: <a href="#">Young Minds - Take time out</a></li> <li>-</li> </ul>
Programming One: Tinkering with scratch	To explore a programming application.	<ul style="list-style-type: none"> <li>- I can identify that Scratch is a coding application.</li> <li>- I can predict what I think different code will do.</li> <li>- I can explore an application independently.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> <li>- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>	<ul style="list-style-type: none"> <li>- coding</li> <li>- predict</li> <li>- program</li> <li>- sprite</li> <li>- tinker</li> </ul>	<ul style="list-style-type: none"> <li>- Devices with internet access (one between two).</li> <li>- Link: <a href="#">Assessment – Computing Y3: Programming: Scratch</a> (optional – see Attention grabber).</li> <li>- Link: <a href="#">What is new in Scratch</a> on VideoLink.*</li> <li>- Link: <a href="#">Scratch</a></li> <li>-</li> </ul>
Two: Using Loops	To use repetition (a loop) in a program.	<ul style="list-style-type: none"> <li>- I can understand and explain what a loop is.</li> <li>- I can recognise when a loop is used.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> <li>- Use sequence, selection, and repetition in programs, work with variables and various forms of input and output.</li> </ul>	<ul style="list-style-type: none"> <li>- loop</li> <li>- repetition</li> </ul>	<ul style="list-style-type: none"> <li>- Devices with internet access (one between two).</li> <li>- Class set of headphones and splitters (optional).</li> <li>- Link: <a href="#">Scratch: Using loops.</a></li> </ul>

		<ul style="list-style-type: none"> <li>- I can choose an appropriate loop.</li> </ul>			
Three: Making Animation	To program an animation.	<ul style="list-style-type: none"> <li>- I can decompose a project.</li> <li>- I can remix a project.</li> <li>- I can select the correct blocks to achieve my goals.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> </ul>	<ul style="list-style-type: none"> <li>- animation</li> <li>- code blocks</li> <li>- decomposition</li> <li>- remixing code</li> </ul>	<ul style="list-style-type: none"> <li>- Link: <a href="#">Scratch: Lost in space remix</a>.*</li> <li>- Link: <a href="#">Scratch</a>* – <i>Scratch is a project of the Scratch Foundation, in collaboration with the Lifelong Kindergarten Group at the MIT Media Lab. It is available for free at <a href="https://scratch.mit.edu">https://scratch.mit.edu</a>.</i></li> </ul>
Five: Programming a game	To program a game.	<ul style="list-style-type: none"> <li>- I can explain the purpose of an algorithm.</li> <li>- I can decompose a problem.</li> <li>- I can use an algorithm to code a program.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> <li>- Use sequence, selection, and repetition in programs, work with variables and various forms of input and output.</li> <li>- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>	<ul style="list-style-type: none"> <li>- algorithm</li> <li>- game</li> </ul>	<ul style="list-style-type: none"> <li>- BBC own it – think before you click link. Whiteboard and pen (one each).</li> <li>- Devices with internet access (one between two).</li> <li>- Link: <a href="#">Assessment – Computing Y3: Programming: Scratch</a> (optional – see Wrapping up).</li> <li>- Link: <a href="#">Scratch: Robot bop game</a>.*</li> <li>- Link: <a href="#">Scratch</a>*</li> </ul>
<p>What is an algorithm?          What word describes a repeated set of instructions?          What is the correct word for removing or replacing an error or mistake in computer code?          What does remixing code mean?          What do you call someone who bullies others through the internet?          What do safe passwords have?          What should you never post online?</p>					



**Computing – Year 4/5 – Medium Term Plan**  
**Spring 1, Unit 2: Computing systems and networks (Search engines).**



Lesson	Learning Objective	Success Criteria	National Curriculum Links	Vocabulary	Resources
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<p>One: Searching basics</p>	<p>To understand what a search engine is and how to use it.</p>	<ul style="list-style-type: none"> <li>- I can explain what a search engine is.</li> <li>- I can use a search engine to navigate the web.</li> <li>- I can suggest keywords for searching.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</li> <li>- Select, use and combine a variety of software (including internet services) to create content that accomplishes given goals, including collecting data and information.</li> </ul>	<ul style="list-style-type: none"> <li>- data leak</li> <li>- data privacy</li> <li>- network</li> <li>- online</li> <li>- search engine</li> <li>- website</li> <li>- www</li> </ul>	<ul style="list-style-type: none"> <li>- Digital devices (one between two).</li> </ul>
<p>Two: Inaccurate information</p>	<p>To be aware that not everything online is true.</p>	<ul style="list-style-type: none"> <li>- I can recognise that not everything online is true.</li> <li>- I can understand anyone can create a website.</li> <li>- I can suggest ways of checking validity.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>- Use search technologies effectively and be discerning in evaluating digital content.</li> <li>- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<ul style="list-style-type: none"> <li>- correct</li> <li>- deceive</li> <li>- fake news</li> <li>- inaccurate</li> <li>- real</li> </ul>	<ul style="list-style-type: none"> <li>- Devices with internet access (one between two).</li> <li>- Link: <a href="#">Burger King's new Whopper</a>* on VideoLink.</li> <li>- Link: <a href="#">Save The Pacific Northwest Tree Octopus</a>.*</li> <li>- Link: <a href="#">BBC penguins</a>* on VideoLink.</li> </ul>
<p>Three: Web Quest</p>	<p>To search effectively.</p>	<ul style="list-style-type: none"> <li>- I can understand the importance of keywords.</li> <li>- I can use the acronym TASK.</li> <li>- I can use my search skills to answer focused questions.</li> </ul>	<p>Pupils should be taught that:</p> <ul style="list-style-type: none"> <li>- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</li> <li>- 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.</li> <li>- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<ul style="list-style-type: none"> <li>- keywords</li> <li>- TASK</li> </ul>	<ul style="list-style-type: none"> <li>- Whiteboards and pens (one each).</li> <li>- Devices with internet access (one between two).</li> <li>- Word processing software or an app to record research (optional – see Main event).</li> <li>- Paper to record research (optional – see Main event).</li> </ul>

Four: Information Poster	To create an informative poster.	<ul style="list-style-type: none"> <li>- I can include a title and at least five facts.</li> <li>- I can choose appropriate pictures, colours and designs.</li> <li>- I can consider fair use.</li> <li>- I can credit people for information, images and videos I use.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</li> <li>- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</li> </ul>	<ul style="list-style-type: none"> <li>- copyright</li> <li>- credit</li> <li>- fair</li> <li>- inappropriate</li> </ul>	<ul style="list-style-type: none"> <li>- A photograph of artwork created by a student in the class to display on the interactive whiteboard.</li> <li>- Devices with internet access (one between two).</li> <li>- Link: <a href="#">Creativity, copyright and fair use.*</a></li> <li>- Link: <a href="#">Creative Commons - Tudor houses search webpage.*</a></li> <li>- Link: <a href="#">Sketchpad.*</a></li> </ul>
<p>What is a search engine?          What is a word or symbol, or motif used to represent an organisation?          What is a data leak?          What does TASK stand for?          What are key words?          What is a web crawler?</p>					



**Computing – Year 4/5 – Medium Term Plan  
Summer 1, Unit 3: Data Handling**



Lesson	Learning Objective	Success Criteria	National Curriculum Links	Vocabulary	Resources
One: What is the weather?	To log data taken from online sources in a spreadsheet.	<ul style="list-style-type: none"> <li>- I can recognise what the weather is and what can affect it.</li> <li>- I can recognise the importance of data in weather forecasting.</li> <li>- I can search the internet for weather data.</li> <li>- I can record this data in a spreadsheet.</li> </ul>	Pupils should be taught to: <ul style="list-style-type: none"> <li>- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</li> <li>- 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.</li> </ul>	<ul style="list-style-type: none"> <li>- accurate</li> <li>- condensation</li> <li>- degrees Celsius</li> <li>- evaporation</li> <li>- measurement</li> <li>- weather</li> </ul>	<ul style="list-style-type: none"> <li>- Desktops, laptops or tablets (one between two).</li> <li>- Spreadsheet software, such as Google Sheets, Microsoft Excel or Apple Numbers.</li> <li>- Atlases (optional – see Adaptive teaching).</li> <li>- Link: <a href="#">Met Office - How does rain form and what is the water cycle?</a> on VideoLink.*</li> <li>- Link: <a href="#">Time and date - World temperatures.</a>*</li> <li>- Link: <a href="#">Met Office - World list.</a>*</li> <li>- Link: <a href="#">Assessment – Computing Y4: Data Handling: Investigating weather</a> (optional – see Attention grabber).</li> </ul>
Three: Extreme weather	To design an automated machine to	<ul style="list-style-type: none"> <li>- I know that sensor data can be used to help predict extreme weather.</li> </ul>	Pupils should be taught to: <ul style="list-style-type: none"> <li>- Design, write and debug programs that accomplish specific goals, including controlling or simulating</li> </ul>	<ul style="list-style-type: none"> <li>- accurate</li> <li>- climate zone</li> <li>- extreme weather</li> </ul>	<ul style="list-style-type: none"> <li>- Desktops, laptops or tablets (one between two – see Main event).</li> </ul>

	respond to sensor data.	<ul style="list-style-type: none"> <li>- I can use keywords to effectively search for information on the Internet.</li> <li>- I can write an algorithm for an automated machine which uses selection.</li> </ul>	<ul style="list-style-type: none"> <li>- physical systems; solve problems by decomposing them into smaller parts.</li> <li>- Use sequence, selection, and repetition in programs, work with variables and various forms of input and output.</li> </ul>	<ul style="list-style-type: none"> <li>- lightning</li> <li>- sensor data</li> <li>- tornado</li> </ul>	<ul style="list-style-type: none"> <li>- Link: <a href="#">Lightning Maps</a>.*</li> <li>- Link: <a href="#">Predicting Lightning Strikes</a> on VideoLink.*</li> <li>- Link: <a href="#">Dr Tornado</a> on VideoLink.*</li> <li>- Link: <a href="#">Sketchpad</a>.*</li> <li>-</li> </ul>
Four:  Satellites and forecasts	To understand how weather forecasts are made.	<ul style="list-style-type: none"> <li>- I can recognise how weather is predicted.</li> <li>- I can use search engines to find information.</li> <li>- I can record data in a spreadsheet.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</li> <li>- 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.</li> <li>- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> <li>- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</li> </ul>	<ul style="list-style-type: none"> <li>- heat sensor</li> <li>- satellite</li> <li>- temperature</li> <li>- weather forecast</li> <li>- wind speed</li> </ul>	<ul style="list-style-type: none"> <li>- Whiteboards and pens (one each).</li> <li>- Desktops, laptops or tablets (one between two).</li> <li>- Spreadsheet software, such as Google Sheets, Microsoft Excel or Apple Numbers.</li> <li>- Link: <a href="#">Met Office - How a weather forecast is made</a> on VideoLink.*</li> <li>- Link: <a href="#">Met Office - Data for reuse</a>.*</li> </ul>
<p>Assessment:</p> <p>What is temperature?</p> <p>Which word means an educated guess?</p> <p>Which item is used to monitor the atmosphere?</p> <p>What do we call the written words we read out on film?</p> <p>What word describes where something comes from?</p>					



