



# Computing

## Chaddlewood Primary School's Computing Progression Grid

	Year 5 and 6	Year 5 and 6	Year 5 and 6	Year 5 and 6	Year 5 and 6	Year 5 and 6
Coverage elsewhere	The Roman Republic Rhine and Mediterranean	Roman Empire Population	Roman Britain Coastal processes and landforms	Christianity in 3 Empires Tourism	Arabia and Early Islam Earthquakes	Cordoba Deserts
Substantive themes	<ul style="list-style-type: none"> <li>Explain how search engines rank results</li> <li>Understand how the internet provides services such as the world wide web</li> <li>Explain that web pages are written using HTML.</li> <li>Use basic HTML tags.</li> <li>Understand what having a positive digital footprint means</li> <li>Create and combine two apps.</li> </ul>	<ul style="list-style-type: none"> <li>Explain and use selection</li> <li>Explain and use variables</li> <li>Understand the features of the Google Sheets application.</li> <li>Create formulae to create tables of results</li> <li>Use spreadsheet to accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> <li>Understand how to be a critical consumer while online</li> <li>Understand different online scams</li> </ul>	<ul style="list-style-type: none"> <li>Explain what the internet is and the difference between the internet and the WWW.</li> <li>Explain how the internet provides access to the WWW.</li> <li>Design, write and debug a simulation program.</li> <li>Understand what is meant by our own Digital Wellbeing, and how certain activities can have both a positive and negative impact on it.</li> <li>Learn how screen use could make people feel both physically and mentally, and that these feelings will differ for each person.</li> </ul>	<ul style="list-style-type: none"> <li>Know a data attribute is a feature or property of something</li> <li>Know a data value is the value collected for a data attribute</li> <li>Select and use data attributes and values to work out answers to questions</li> <li>Identify which data attributes are required to answer a question</li> <li>Develop safe habits online, including the importance of protecting personal information</li> <li>Understand how to respect online privacy boundaries for themselves and others</li> </ul>	<ul style="list-style-type: none"> <li>Create a book trailer that explains the key parts of a story that they have read.</li> <li>Decompose a game into its parts</li> <li>Design a game</li> <li>Develop respectful, empathetic and healthy online relationships</li> <li>Learn to manage and respond in a healthy and safe way to hurtful online behavior</li> </ul>	<ul style="list-style-type: none"> <li>Use logical reasoning to solve a problem</li> <li>Create and vary a programme to create different light effects and two components</li> <li>Understand how certain activities may help enhance a person's Digital Wellbeing, and others may not have a positive effect.</li> <li>Learn how we can use our knowledge and tools to make personal choices to create healthy digital habits.</li> </ul>

				<ul style="list-style-type: none"> <li>• Learn how to seek or ask for help if they or others feel unsafe online</li> <li>• Decide which app is best to explore and compare Volcanoes and present finding to the class</li> </ul>		
Cross curricular connections	Hist/geog as above	Hist/geog as above	Hist/geog as above	Hist/geog as above	English - creating book trailers for the books we looked at in the Autumn term.	DT - children use electrical systems to create a working model of Seaton's tower.
Overlap of learning: which other areas in other year groups or topics does this relate to?	<ul style="list-style-type: none"> <li>• Logging into chromebooks</li> <li>• Google MyMaps from Y3/4</li> <li>• Typing skills</li> <li>• Search technologies use from Y3/4</li> <li>• Internet safety activities from year 3: BIL Lesson 1:</li> <li>• <b>Think Before You Share</b> - activities: Baseline, 1, 4 and 5</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding of algorithms</li> <li>• Writing code</li> <li>• Debugging/Logical reasoning</li> <li>• Logging into chromebooks</li> <li>• Typing skills</li> <li>• Search technologies use from Y3/4</li> <li>• Internet safety activities from year 3: BIL Lesson 1: <b>Check it's For Real</b> - activities: 1 and 3</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding of algorithms</li> <li>• Writing code</li> <li>• Debugging/Logical reasoning</li> <li>• Logging into chromebooks</li> <li>• Typing skills</li> <li>• Search technologies use from Y3/4</li> <li>• Internet safety activities from year 3: DW Ages 7-9: Lesson 1:</li> </ul>	<ul style="list-style-type: none"> <li>• Logging into chromebooks</li> <li>• Google Sheets from year 5</li> <li>• Google suite</li> <li>• Typing skills</li> <li>• Search technologies use from Y3/4/5</li> <li>• Internet safety activities from year 4: BIL Lesson 4: <b>Protect Your Stuff</b> - activities: Baseline - 1, 2, 3 and 4</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding of algorithms</li> <li>• Writing code</li> <li>• Debugging/Logical reasoning</li> <li>• Logging into chromebooks</li> <li>• Google MyMaps from Y3/4/5</li> <li>• Typing skills</li> <li>• Search technologies use from Y3/4/5</li> <li>• Internet safety activities from year 4: BIL Lesson 2: <b>Respect Each Other</b> - activities: 1, 4 and 5</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding of algorithms</li> <li>• Writing code</li> <li>• Debugging/Logical reasoning</li> <li>• Logging into chromebooks</li> <li>• Logical reasoning from KS1! and Y3</li> <li>• Google MyMaps from Y3/4/5</li> <li>• Typing skills</li> <li>• Search technologies use from Y3/4/5</li> <li>• Internet safety activities from year 4: DW Ages 7-9: Lesson 2</li> </ul>
Programming design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts		<ul style="list-style-type: none"> <li>• Children create a maths quiz in Scratch and learn about selection. Initially children will use an 'If... then...' selection command to make their quiz respond 'Well done' when the player</li> </ul>	<ul style="list-style-type: none"> <li>• Children create a simulation of the Earth orbiting the Sun using Scratch. Children firstly decide what the purpose of the simulation is and who is the intended audience. Using this,</li> </ul>	<ul style="list-style-type: none"> <li>• Children may have to find and fix any errors in the formula in their spreadsheets if their results appear incorrect. Identifying the pattern in the formula (see above)</li> </ul>	<ul style="list-style-type: none"> <li>• Children create a simple game. Children design their game and create artwork for their background and main character. They write and debug their code and present and evaluate their games.</li> </ul>	<ul style="list-style-type: none"> <li>• Children use computer programming and physical components (the Crumble kit) to create a working model of Smeaton's Tower that has both flashing lights and an audible alarm</li> </ul>

		<p>answers correctly.</p> <ul style="list-style-type: none"> <li>• Children will move on to using an 'If...then... else...' command so the program will also give the correct answer when the player gets an answer wrong.</li> <li>• Children learn about variables and how to use them in Scratch to make a scoring system for the maths quiz.</li> </ul>	<p>they then decide what the most important aspects of the simulation are, and in so doing they are abstracting</p>	<p>can make spotting bugs easier.</p>		<ul style="list-style-type: none"> <li>• Children are encouraged to experiment by creating different sequences and colours.</li> <li>• Children use loop sequences to create different phases.</li> </ul>
<p>Sequence, selection, and repetition</p> <p>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p>						
<p>Logical Reasoning</p> <p>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p>						
<p>Computer Networks</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>	<ul style="list-style-type: none"> <li>• Children are introduced to HTML. They learn that web pages are written using HTML and become familiar with basic HTML tags by remixing web pages using Mozilla X-Ray Goggles.</li> </ul>		<ul style="list-style-type: none"> <li>• Children learn that the internet is a vast network of computers and other devices connected across the world, as they explore the difference between the internet and the world wide web (WWW).</li> <li>• Children are assigned roles as different digital devices in a human model of the internet and learn</li> </ul>			

			how the internet provides access to the WWW (an internet service) as they pass data between them.			
Search technologies use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	<ul style="list-style-type: none"> <li>• Children learn about some of the main factors which influence how a search engine ranks a web page.</li> <li>• Children create paper-based 'web pages' in groups on a current topic they are studying. They then discover how their web pages would rank when searching for keywords relating to their content.</li> </ul>					
Technology use 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  *Chaddlewood also puts particular importance on giving children the opportunity to collaborate with their work.	Children utilise all of the skills they have been taught throughout KS2, especially using Google Docs and Google My Maps	<ul style="list-style-type: none"> <li>• Children collect, analyse, evaluate and present data using Google Sheets.</li> <li>• Children create tables in Google Sheets; use the internet to complete the missing information and use formulas to work out questions.</li> <li>• Children create a graph to present the information and to answer given questions.</li> </ul>	<ul style="list-style-type: none"> <li>• Children look through different blog examples and learn what a blog is and the different ways that they can be used.</li> <li>• Children learn the terminology of 'blogging'</li> </ul>	<ul style="list-style-type: none"> <li>• Children answer questions about countries' performance in a multi-sports competition by selecting and using data attributes and values.</li> <li>• Children have now been introduced to the full range of Google's apps for Education. Working in groups they must decide to use a few apps to explore and compare world volcanoes. They then need to</li> </ul>	<ul style="list-style-type: none"> <li>• Children look through a range of book trailers and identify what makes a good/poor one.</li> <li>• Children learn how to use media, transitions, text (motion, static, callouts), backgrounds and sounds,</li> <li>• Children learn different ways to construct video</li> <li>• Children use the Wevideo video editing program to collaborate one a book trailer about a</li> </ul>	<ul style="list-style-type: none"> <li>• Children learn how to control different physical systems using computer programmes and Crumble kits.</li> <li>• Children use computer programming and physical components (the Crumble kit) to create a working model of Smeaton's Tower.</li> </ul>

				<p>present their findings to the class.</p> <ul style="list-style-type: none"> <li>Children enter the data into Google Sheets. They set up formulas to calculate pupils' speed in metres per second (calculated data).</li> <li>They evaluate and analyse their data.</li> </ul>	<p>book that has been read during. They focus on.</p>	
<p>Internet Safety  <i>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i></p>	<ul style="list-style-type: none"> <li>Children look at ways that they can build a positive digital footprint.</li> </ul>	<ul style="list-style-type: none"> <li>Children identify different types of online scams people their age may experience and identify support for people who are worried about anything online.</li> </ul>	<ul style="list-style-type: none"> <li>Children learn what 'Digital Wellbeing' means, and how their screen use can affect this - in both positive and negative ways.</li> <li>Children have the opportunity to reflect on how technology plays a role in our Digital Wellbeing.</li> </ul>	<ul style="list-style-type: none"> <li>Children learn ways to keep personal information private online by using safety tools and privacy settings.</li> </ul>	<ul style="list-style-type: none"> <li>Children can describe strategies they can use to respond to hurtful online behaviour and can identify sources of support that can help peers who are experiencing this.</li> </ul>	<ul style="list-style-type: none"> <li>Children learn about the tools and knowledge that can be used to help enhance their Digital Wellbeing by creating their own healthy digital habits and making choices that work for them.</li> </ul>
<p>Be Internet Legends (BIL) and Digital Wellbeing (DW)</p>	<p>BIL Lesson 3: <b>Think Before You Share</b> - activities: Baseline, 1, 2, 3, 4 and 5 (optional)</p>	<p>BIL Lesson 4: <b>Check it's For Real</b> - activities: Baseline, 1, 2 and 3 (optional)</p>	<p>DW ages 9-11: Lesson 1:</p>	<p>BIL Lesson 5: <b>Protect Your Stuff</b> - activities: Baseline - 1, 2 and 3</p>	<p>BIL Lesson 6: <b>Respect Each Other</b> - activities: Baseline, 1, 2, 3, 4 and 5 (optional)</p>	<p>DW ages 9-11: Lesson 2:</p>
<p>Internet Safety Vocabulary</p>	<p>Y3: public, private, digital footprint, personal information, settings</p> <p>Y5: personal boundaries</p>	<p>Y3: genuine, phishing, honest, fraud, suspicious, scam trustworthy</p> <p>Y5: spear phishing, authentic, verifiable, deceptive, firewall, malware, encrypted,</p>		<p>Y4: privacy, security, hacker, scammer,</p> <p>Y6: two-step verification, security token</p>	<p>Y4: Bystander, upstander, bullying, block</p> <p>Y6: harassment, amplify</p>	

Other Vocabulary	World Wide Web, composition, algorithm, unplugged, variables, ranked, selected, evaluate, optimisation, search technologies, HTML, decomposition, tinkering, debugging, hyperlink and embed	sequencing, selection, selection commands, programming, debugging, collaborating, Variables and formulas	computer networks, internet services, computer systems, abstraction, simulation, algorithms, repeat, loop, decompose, debug, tinker, blog, blogging and blogger	data attributes, data values, collected data, calculated data, formula and collaboration	creating, debugging, evaluation, decomposition, video editing, transitions, editing and collaboration	logical reasoning and electrical systems
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