



## Computing and Online Safety at Marazion School.

*"To start, press any key. Where's the 'Any' key?"* Homer Simpson



### **Our Vision Statement:**

We believe that advances in technology have fundamentally changed the way that we live and that it is essential that we enable children to become digitally literate and have the knowledge, confidence and ability to think critically in order to stay safe online. We are aware that much of the technology they will one day use has not yet been developed and that we need to grow together as learners in an ever-changing field. We aim to equip children with the key skills to use a wide range of existing devices so that they are able to acquire, organise, store, manipulate, interpret, communicate and present data in a range of ways. We will respond to new developments in technology and explicitly teach computing skills whilst using opportunities to apply them across the curriculum and enhance learning in all subjects. Throughout our teaching of computing, children will be taught to consider the dangers it poses alongside the benefits and develop a critical approach in how to use it responsibly and to best effect.

## Marazion School Concepts and Skills Progression

<p><b>EYFS Curriculum Content</b></p>	<p>The EYFS framework is structured differently to the national curriculum as it is organised across seven areas of learning rather than subject areas. This section identifies how the skills taught in EYFS feed into national curriculum subjects.</p> <p>This table can be seen larger at the end of the document.</p>	<table border="1"> <thead> <tr> <th colspan="3">Computing</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Three and Four-Year-Olds</td> <td>Personal, Social and Emotional Development</td> <td>• Remember rules without needing an adult to remind them.</td> </tr> <tr> <td>Physical Development</td> <td>• Match their developing physical skills to tasks and activities in the setting.</td> </tr> <tr> <td>Understanding the World</td> <td>• Explore how things work.</td> </tr> <tr> <td rowspan="3">Reception</td> <td>Personal, Social and Emotional Development</td> <td>• Show resilience and perseverance in the face of a challenge. • Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'.</td> </tr> <tr> <td>Physical Development</td> <td>• Develop their small motor skills so that they can use a range of tools competently, safely and confidently.</td> </tr> <tr> <td>Expressive Arts and Design</td> <td>• Explore, use and refine a variety of artistic effects to express their ideas and feelings.</td> </tr> <tr> <td rowspan="2">ELG</td> <td>Personal, Social and Emotional Development</td> <td>Managing Self • Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. • Explain the reasons for rules, know right from wrong and try to behave accordingly.</td> </tr> <tr> <td>Expressive Arts and Design</td> <td>Creating with Materials • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</td> </tr> </tbody> </table>	Computing			Three and Four-Year-Olds	Personal, Social and Emotional Development	• Remember rules without needing an adult to remind them.	Physical Development	• Match their developing physical skills to tasks and activities in the setting.	Understanding the World	• Explore how things work.	Reception	Personal, Social and Emotional Development	• Show resilience and perseverance in the face of a challenge. • Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'.	Physical Development	• Develop their small motor skills so that they can use a range of tools competently, safely and confidently.	Expressive Arts and Design	• Explore, use and refine a variety of artistic effects to express their ideas and feelings.	ELG	Personal, Social and Emotional Development	Managing Self • Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. • Explain the reasons for rules, know right from wrong and try to behave accordingly.	Expressive Arts and Design	Creating with Materials • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
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<p><b>KS1 Curriculum Content</b></p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>• create and debug simple programs</li> <li>• use logical reasoning to predict the behaviour of simple programs</li> <li>• use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>• recognise common uses of information technology beyond school</li> <li>• use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</li> </ul>																							
<p><b>YEAR 1/2 Skills Progression</b></p>	<p><b>Technology in our Lives (Across all Areas of Learning)</b></p> <ul style="list-style-type: none"> <li>• Identify some of the benefits of using technology</li> <li>• Recognise uses of technology in their homes and in their community</li> <li>• Understand that there are online tools that can help them create and communicate</li> </ul>																							

- Begin to understand what the Internet is and the purposes that it is used for
- Begin to understand there are a variety of sources of information and begin to recognise the differences
- Understand the different types of content on websites and that some things may not be true or accurate
- Use key vocabulary to demonstrate knowledge and understanding e.g. search engine, image, keyboard.

**Online Safety (Across all Areas of Learning)**

Children can use technology safely and respectfully, keeping personal information private; they identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Children begin to consider their activity on the internet and learn about ways to keep themselves safe and why it is important to do so. They also compare appropriate and inappropriate activity on the internet and decide what to do next.

**Multimedia**

- Know a range of different programs for presenting work e.g. Office programs and multimedia apps on tablets.
- Create own documents, adding text and images
- Use index fingers (left and right hand) on a keyboard to build words & sentences
- Know when and how to use the SPACE RETURN keys. Use SHIFT & CAPS LOCK to enter capital letters. Use DELETE & BACKSPACE buttons to correct text.
- Create sentences,

**Programming and Coding**

- Physically follow and give each other forward, backward & turn (right-angle) instructions
- Explore outcomes when buttons are pressed in sequences on a robot.
- Identify and articulate an algorithm to achieve a purpose.
- Begin to use software to create movement & patterns on a screen.
- Plan and enter a sequence of instructions to achieve an algorithm.
- Begin to identify an algorithm to achieve a specific purpose.

**Data Handling**

- Take and save photographs, video and record sound to capture learning.
- Discuss the different ways to use technology to collect information, including a camera, microscope or sound recorder.
- Sort different kinds of information and present it to others.
- Make and save a graph or chart using the data collected.
- Understand what kind of information to use to help investigate a question.

**Online Safety**

- identify what things count as personal information;
- identify what is appropriate and inappropriate behaviour on the internet;
- agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords;
- seek help from an adult when they see something that is unexpected or worrying;
- demonstrate how to safely open and close applications and log on and log off from websites;
- use key vocabulary to demonstrate knowledge and understanding in this

	<ul style="list-style-type: none"> <li>• Amend text and save regularly.</li> <li>• Use an increasing variety of tools and effects in paint programs and talk about their choices.</li> <li>• Create sounds and simple music phrases using software tools</li> <li>• Use a video or stills camera to record an activity</li> <li>• Use selected programs to produce simple visual and auditory presentation</li> </ul>	<ul style="list-style-type: none"> <li>• Use the word debug when correcting any mistakes when making a program.</li> <li>• Be able to watch a program and debug any problems.</li> <li>• Predict what will happen for a short sequence of instructions.</li> <li>• Program a robot or software to do a particular task.</li> <li>• Discuss the similarities and differences between floor robots and logo on screen.</li> </ul>		<p>strand: safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, key, question, tell, safe, share, stranger, danger, internet.</p> <ul style="list-style-type: none"> <li>• Discuss why it is important to be kind and polite online and in real life.</li> <li>• Understand that if information is put online then it leaves a digital footprint or trail.</li> <li>• Explore how email can be used to communicate with real people within their school and families.</li> <li>• Understand and discuss why you should go online for a short amount of time.</li> </ul>
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<b>KS2 Curriculum Content</b>	<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> <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 search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> </ul>
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	<ul style="list-style-type: none"> <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>			
<p><b>YEAR 3/4 Skills Progression</b></p>	<p><b>Technology in our Lives (Across all Areas of Learning)</b></p> <ul style="list-style-type: none"> <li>• Understand that computer technology has developed rapidly and is continuing to do so</li> <li>• Understand how technology has changed the way we live and work</li> <li>• Talk about the parts of a computer</li> <li>• Understand how devices are linked on the school network and how to access</li> <li>• Save work on the school network, on the internet and on individual devices</li> <li>• Use appropriate tools to communicate and collaborate on-line</li> <li>• Frame questions &amp; identify key words to search for information on the internet</li> <li>• Use simple search tools and find appropriate websites</li> <li>• Talk about the owner of information online and consider reliability of information &amp; ways it may influence you</li> <li>• Know ways to communicate with others online.</li> <li>• Further develop vocabulary in relation to computing and technology</li> </ul> <p><b>Online Safety (Across all Areas of Learning)</b></p> <p>Children become more aware of their digital footprint by reflecting on their experience on the internet. They are able to understand more about age-appropriate websites and adverts and how adverts are used by companies. Children are also introduced to the concept of plagiarism and citation. Agree sensible online safety rules for the classroom.</p> <p>Children use technology safely, respectfully and responsibly. They recognise acceptable/unacceptable behaviour and identify a range of ways to report concerns about content and contact.</p>			
	<p><b>Multimedia</b></p> <ul style="list-style-type: none"> <li>• Be confident in creating &amp; modifying text &amp; presentation documents to achieve a specific purpose.</li> <li>• Explore the use of video, animation, &amp; green screening for a specific audience</li> </ul>	<p><b>Programming and Coding</b></p> <ul style="list-style-type: none"> <li>• Achieve a specific outcome by putting commands into a specific sequence.</li> <li>• Test my program and recognise when you need to debug it.</li> </ul>	<p><b>Data Handling</b></p> <ul style="list-style-type: none"> <li>• Be able to search a ready-made database to answer questions.</li> <li>• Add to a database.</li> <li>• Organise data in different ways.</li> <li>• Collect data and identify where it could be inaccurate.</li> </ul>	<p><b>Online Safety</b></p> <ul style="list-style-type: none"> <li>• reflect on their own digital footprint and behaviour online;</li> <li>• identify what is appropriate and inappropriate behaviour on the internet, recognising the term cyberbullying;</li> </ul>

	<ul style="list-style-type: none"> <li>• Use art programs &amp; online tools to modify photos for a specific purpose using a range of effects, including brush sizes, repeats and reflections.</li> <li>• Use software to create music phrases for a specific purpose.</li> <li>• Explore how multimedia can create atmosphere &amp; appeal to different audiences</li> <li>• Use an appropriate tool to share and collaborate my work online.</li> <li>• Use a keyboard effectively, including the use of keyboard shortcuts eg select/delete &amp; copy and paste</li> <li>• Understand how to use spellchecker to write and review my work</li> <li>• Use font sizes &amp; effects such as bullet points appropriately</li> <li>• Look at their own, and a friend's work &amp; provide feedback that is constructive &amp; specific</li> </ul>	<ul style="list-style-type: none"> <li>• Be able to use an efficient procedure to simplify a program.</li> <li>• Describe the algorithm I will need for a simple task.</li> <li>• Use an algorithm to sequence more complex programming into order.</li> <li>• Recognise that using algorithms will also help solve problems in other areas of learning such as Maths, Science and DT.</li> <li>• Break an open-ended problem into smaller parts.</li> <li>• Detect problems in an algorithm which could result in unsuccessful programming.</li> <li>• Be able to use a sensor to detect a change which can select an action within my program.</li> <li>• Use a variety of tools to create a program.</li> </ul>	<ul style="list-style-type: none"> <li>• Plan and create a database to answer questions.</li> <li>• Choose the best ways to present data to friends.</li> </ul>	<ul style="list-style-type: none"> <li>• agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords;</li> <li>• seek help from an adult when they see something that is unexpected or worrying;</li> <li>• demonstrate understanding of age-appropriate websites and adverts;</li> <li>• use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, internet, world wide web, communicate, message, social media, email, password, cyberbullying/bullying, plagiarism, profiles, account, private, public.</li> </ul>
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<p><b>Year 5/6 Skills Progression</b></p>	<p><b>Technology in our Lives (Across all Areas of Learning)</b></p> <ul style="list-style-type: none"> <li>• Understand the importance of technology for shaping the way we live in the world</li> <li>• Describe different parts of a computing device &amp; how it connects to the internet</li> <li>• Connect a computing device to a keyboard, mouse or printer</li> <li>• Identify different parts of the internet (Barefoot Computing)</li> <li>• Identify appropriate forms of online communication for different audiences.</li> <li>• Choose appropriate tools for communication and collaboration and use them responsibly</li> <li>• Use search engines as part of an effective research strategy</li> <li>• Describe how search results are selected &amp; ranked</li> <li>• Talk about the different elements on web pages</li> <li>• Find out who the information presented on a webpage belongs to and cross check with other sources e.g. books</li> <li>• Understand how data can be used and shared on the internet</li> <li>• Describe different services provided by the internet &amp; how information moves around the internet.</li> </ul> <p><b>Online Safety (Across all Areas of Learning)</b></p> <p>Children use technology safely, respectfully and responsibly. They recognise acceptable/unacceptable behaviour and identify a range of ways to report concerns about content and contact. Agree sensible online safety rules for the classroom.</p> <p>Children are encouraged to identify online risks and share their knowledge of the risks and consequences for people online. They begin to think more critically about what they see online and look at the concept of fake news and false photographs.</p> <ul style="list-style-type: none"> <li>• protect their password and other personal information;</li> <li>• be a good online citizen and friend;</li> <li>• judge what sort of privacy settings might be relevant to reducing different risks;</li> <li>• seek help from an adult when they see something that is unexpected or worrying;</li> <li>• discuss scenarios involving online risk;</li> <li>• use key vocabulary to demonstrate knowledge and understanding in this strand: spam, link, privacy, virus, scam, phishing, inbox, junk, sender, subject, secure, safe, account, online, private, social media, adverts, cyberbullying, reporting, anonymous, victim, fraud/fraudulent, policy, private/personal.</li> </ul>
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	<b>Multimedia</b>	<b>Programming and Coding</b>	<b>Data Handling</b>	<b>Online Safety</b>
	<ul style="list-style-type: none"> <li>• Select and identify an appropriate software or online tool to create and share ideas.</li> <li>• Explore the effects of multimedia (photos, video, sound) in a presentation or video and show how they can be modified</li> <li>• Discuss audience, atmosphere and structure of a presentation or video</li> <li>• Develop skills using transitions and hyperlinks to enhance the structure of presentations</li> <li>• Collect information and media from a range of sources (considering copyright issues) into a presentation for a specific audience</li> <li>• Use a wide range of effects in art programs and online tools, discussing the choices made and their effectiveness</li> <li>• Use online tools to create and share</li> </ul>	<ul style="list-style-type: none"> <li>• Explore procedures using repeat commands to improve a program.</li> <li>• Use 'if' and 'then' commands to select an action.</li> <li>• Refine procedures to improve efficiency.</li> <li>• Evaluate the effectiveness and efficiency of my algorithm.</li> <li>• Use logical reasoning to detect and correct errors in algorithms and programs.</li> <li>• Recognise and use a variable to increase the programming possibilities.</li> <li>• Explore a computer model to control a physical system.</li> <li>• Decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program.</li> <li>• Change inputs on a model to achieve different outputs.</li> <li>• Use different inputs to control a device or onscreen action and</li> </ul>	<ul style="list-style-type: none"> <li>• Collect and record information using spreadsheets and databases.</li> <li>• Present data in an appropriate way.</li> <li>• Search a database using different operators to refine my search.</li> <li>• Interpret the data I collect and present it in an appropriate way.</li> <li>• Use the skills developed to interrogate a database.</li> <li>• Discuss the mistakes in data and suggest how it could be checked.</li> <li>• Be able to check the data I collect for accuracy and plausibility.</li> </ul>	<ul style="list-style-type: none"> <li>• protect their password and other personal information;</li> <li>• be a good online citizen and friend;</li> <li>• judge what sort of privacy settings might be relevant to reducing different risks;</li> <li>• seek help from an adult when they see something that is unexpected or worrying;</li> <li>• discuss scenarios involving online risk;</li> </ul> <p>use key vocabulary to demonstrate knowledge and understanding in this strand: spam, link, privacy, virus, scam, phishing, inbox, junk, sender, subject, secure, safe, account, online, private, social media, adverts, cyberbullying, reporting, anonymous, victim, fraud/fraudulent, policy, private/personal.</p>

	<p>presentations and films</p> <ul style="list-style-type: none"><li>• Know how to use text and video editing tools in programs to refine their work</li><li>• Store presentations and videos online where they can be accessed by themselves and shared with others</li><li>• Use sound, images, text, transitions, hyperlinks and HTML code effectively in presentations</li><li>• Evaluate the effectiveness of their own work and the work of others</li></ul>	<p>predict what will happen.</p> <ul style="list-style-type: none"><li>• Explain and program each of the steps in my algorithm.</li></ul>		
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