

Progression in Computing

| Autumn | Understand what algorithms are | Debugging | Logical reasoning for prediction. | Networking | Using technology for a purpose. | Staying safe and respectful. |
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| Y1 | | <u>Into the spider's web</u> start to learn debugging methods. To suggest where the error might be. | <u>Into the spider's web</u> Start predicting what might happen when an even occurs e.g. pressing a hyperlink | | <u>A splash of colour</u> To start to understand how information is stored and retrieved on a digital device. Using a variety of applications to start to develop content. | <u>Into the spider's web</u> Starting internet safety, looking at what to do if anything pops up on the screen unexpected. Who to talk to. How to record evidence. |
| Y2 | | <u>Tell me about it</u> Recognising errors in email addresses. Suggesting possible fixes | | | <u>Show me what you've got</u> To begin to use multiple files in one presentation. To further develop file management to store and retrieve files. | <u>Tell me about it</u> Start to develop understanding of respectful language and appropriate behaviour online. Start to understand consequences of misuse and/or cyber bullying. |
| Y3 | <u>Answer me this</u> To implement loops and variables within algorithms that fulfil a task. Take user input and use this to engage with the user. Create variables for specific data storage. | <u>Answer me this</u> Identifying errors in code and suggesting fixes. Working with peers to find errors and suggest possible fixes. | <u>Answer me this</u> Predicting outcome of scripts Using previous experience to influence predictions. | <u>LANWAN thinking</u> To start to visualise local area networks. To understand the difference between LAN and WAN To begin to understand IP addresses and how computers communicate. | | <u>LANWAN Thinking.</u> Develop understanding of networks and how to secure files and folders. Understand how usernames and passwords allow access in different ways. |
| Y4 | | <u>Becoming a web designer</u> Identify line numbers of code that are not displaying using browser development tools | <u>Becoming a web designer</u> Predict logically what tags might mean. Use development tools to examine code and pick out areas of interest. | | <u>Cool when you're part of a team</u> Using multiple online communication systems to share and create content. To understand that content can be stored not only physical devices but cloud networks too. | <u>Becoming a web designer</u> <u>Cool when your part of a team</u> Further developing use of appropriate language. Develop understanding of copyright and ownership of content. Develop working together online. |
| Y5 | | | | <u>Design Scan and bring to life</u> <u>Blogging Vlogging</u> How network devices can send information to other devices. How upload and download works. How we use network to send and receive files. | <u>Design Scan and bring to life</u> <u>Blogging Vlogging</u> Using multiple applications and devices to create content. Using a variety of mediums to share content. | <u>Design Scan and bring to life.</u> <u>Blogging Vlogging</u> Give clear and knowledgeable reasons as to what we should not post online. Start to develop a clear understanding of the term Cyber Footprint and how we |

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| | | | | | | need to manage this. Start to develop a continuity in online personality |
| Y6 | | | | Helpful resources Using network services to find, store and share resources. Using security measures to share content securely. | What's your goals? Helpful resources Using a variety of applications to not only create content but to inspire and encourage others. To build a bank of helpful resources to enhance learning. To use independent research to critically evaluate content and evaluate its usefulness. | Helpful resources Confidently displaying strategies to stay safe online while searching and testing online resources. Being able to confidently explain how they would handle unexpected content. |
| Spring | Understand what algorithms are | Debugging | Logical reasoning for prediction. | Networking | Using technology for a purpose. | Staying safe and respectful. |
| Y1 | <u>Tell me your Algorithm</u> <u>Robot programmers</u> To begin to understand algorithms and what they are/do. To start to implement algorithms on physical and non-physical systems. | <u>Tell me your Algorithm</u> <u>Robot programmers</u> Identify when code did not go as expected. Identify where in the code the error happened | <u>Tell me your Algorithm</u> <u>Robot programmers</u> To predict what algorithms might do. To use experience of outcomes to help predict the next. Using the solution to predict the algorithm needed | | | |
| Y2 | <u>What's cooking?</u> <u>Let's get moving</u> Understand how algorithms follow a specified order. To understand how algorithms, need to be unambiguous. Understand the difference between input/output and how 'events' trigger scripts. | <u>What's cooking?</u> <u>Let's get moving</u> Start to trial fixes for bugs identified Start to work with peers suggesting and receiving feedback. | <u>What's cooking?</u> <u>Let's get moving</u> What will happen if... prediction. Using more logical language to describe possible outcomes; It will do this because... If this happens it means this... | | <u>What's cooking?</u> Using a variety of devices to create content. Working together to create content | |
| Y3 | <u>My game rocks</u> To use complex and multilayer algorithms to create a user playable game. To use multiple inputs to create engaging outputs. | <u>My game rocks</u> Recognise errors in code when reviewing before running. Test code is running properly by examining all aspects of the script. | <u>My game rocks</u> Using logic to inform script selection. Using debugging with logical thinking to improve upon scripts. | <u>Forms, sorts and cells</u> To understand how we can use the internet to request and receive information. Understand how information received can be sorted and used in other applications away from the network. | <u>Forms, sorts and cells</u> Using and combining a variety of informational sources to edit and evaluate data. Understanding data and how it can be manipulated to see patterns and trends. | <u>Forms, sorts and cells</u> Understanding personal information online and how to keep it private. Being able to create and answer surveys without giving away identifiable information. |

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| | | | | | | Ethical practices when asking someone for information online. |
| Y4 | | | <p><u>Interior designer</u> Using logic and perspective to rotate and size objects to fit and/or be proportionate to other objects. Using physical measurements to create scalable objects within CAD</p> | <p><u>Can you find it?</u> Using the internet to search and find information. Understand that people post information and sometimes that can be wrong. Skills to verify content is genuine</p> | <p><u>Interior designer</u> <u>Can you find it?</u> Understanding that content can be illustrational and not always code or text. Using and combining multiple forms of content to create an informed piece of content.</p> | <p><u>Can you find it?</u> Using “ “ in searches to make searches more specific. Understanding ranking in searches and how the top results may be adverts not 100% reliable to your search.</p> |
| Y5 | | | | <p><u>Stop. Think. Share</u> <u>The Encrypted Factor</u> Develop further understanding in verifying content. Understand sharing content and the possible consequences. To gain a basic understanding on encryption and how it is used on a network.</p> | <p><u>The encrypted Factor</u> To begin to understand security in files and folders. To assign passwords/encryption to files for private viewing and sharing.</p> | <p><u>Stop. Think. Share</u> <u>The encrypted Factor</u> Developing a firm understanding of cyber footprint and how to manage it. Looking at consequences of posting online and what that could mean for future opportunities. Looking at how encryption helps when communicating online.</p> |
| Y6 | <p><u>3D game development</u> Using a 3D game engine enhance understanding of 3-dimensional virtual space. To use complex algorithms on multiple objects to create content.</p> | <p><u>3D game development</u> Using tutorials for reference recognise when your example differs. Refer to tutorials to compare and resolve issues independently.</p> | <p><u>3D game development</u> Using previous experience to apply knowledge of scripts running in a 2D environment to help decode and improve scripts running in a 3D environment. Look at tutorials and predict where they might lead next, look to progress learning independently.</p> | | <p><u>Streaming dreaming</u> Using display capture and video to look at the world of streaming live. Using a combination of techniques to combine media.</p> | <p><u>Streaming dreaming</u> Managing a social media type environment. Understanding how to deal with comments and feedback. Keeping your content/location secure while sharing online.</p> |
| Summer | Understand what algorithms are | Debugging | Logical reasoning for prediction. | Networking | Using technology for a purpose. | Staying safe and respectful. |
| Y1 | | | | | <p><u>Pose for the camera</u> <u>Tell me about...</u> Using a criteria to evaluate content. Using a medium to share content.</p> | <p><u>Pose for the camera</u> <u>Tell me about...</u> Begin to develop an understanding of the internet and its good and bad points. Develop understanding of creating and sharing online.</p> |
| Y2 | | | | | <u>Tell me a story</u> | <u>Tell me a story</u> |

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| | | | | | <p><u>Morden meets Audiable.</u> Developing multimedia content. Sharing content in various mediums.</p> | <p><u>Morden meets Audiable.</u> Start to understand how your identity online differs from person life. Further develop online sharing mediums and how we can safely enjoy content.</p> |
| Y3 | | | | <p><u>My first webpage</u> Understanding servers and how they serve files on request. Looking at URLs and how they are similar to file locations.</p> | <p><u>Convince me</u> <u>My first webpage</u> Using persuasive language and visuals in content. Using multiple applications to create a web page.</p> | <p><u>Convince me</u> <u>My first webpage</u> Understanding personal information and how to keep it safe. Developing further respectful language online and how to give feedback.</p> |
| Y4 | <p><u>Imposter Machine</u> To use more complex sensing algorithms to detect input and give a response. To understand the difference between a computational output and a human out to bridge the gap.</p> | <p><u>Imposter Machine</u> Using debugging methods make incremental changes to code to continually improve. Receive feedback from peers and make changes independently based on feedback</p> | <p><u>Imposter Machine</u> To predict human reaction and simulate through scripts.</p> | <p><u>Here I am, read my blog</u> Sharing information, where is it stored and how is it accessed.</p> | <p><u>Here I am, read my blog</u> <u>Imposter Machine</u> Further developing content to share on various mediums. Using research to understand criteria. Using media to add to content.</p> | <p><u>Here I am, read my blog</u> Giving and receiving feedback in a respectful and constructive manner. How to cope with negative feedback and how to respond.</p> |
| Y5 | <p><u>First look at 3D game development</u> Using a 3D game engine start to explore 3-dimensional space and how we can control objects within that space. Start to apply algorithms to multiple objects within the 3-dimensional space.</p> | <p><u>First look at 3D game development</u> Using tutorials for reference recognise when your example differs. Use peer examples to find errors and work together to fix.</p> | <p><u>First look at 3D game development</u> To start to predict outcomes of tutorials and predict ending of scripts to progress learning.</p> | | <p><u>What's going on?</u> Developing delivering multimedia content aimed at an audience. Using various device techniques to capture more advanced footage.</p> | <p><u>What's going on?</u> Developing an understanding how reporting or telling stories about others can affect you and them. Understanding the concept of consent and how we should seek it.</p> |
| Y6 | | | | | <p><u>Wellbeing and Awareness</u> <u>Making memories</u> Using self-awareness and research to make informed decisions on using digital devices and apps. Use multiple complex image, video and search techniques to combine digital content.</p> | <p><u>Wellbeing and Awareness</u> <u>Making memories</u> Coping with communication and comments online and who we can talk to. Further developing skills to look after our own wellbeing. Gaining, giving and declining consent for our picture to be used.</p> |

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