

Yearly Overview Computing

Year Group Curriculum Overview

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|--|--|---|--|--|
| Year 1 | E-safety: Using the internet safely. Information Technology: Typing training. | Coding with Tynker JR E-safety: the internet safely | Digital Literacy: Using a computer/device. | Information Technology: bug hunters Finding, saving, organising, sending, and presenting | Information Technology: Potty Painters - Digital Art and book design | Computer Science: Scratch Jnr - introduction and fundamentals |
| Year 2 | E-safety: Staying safe on the internet – Jessie and Friends. | Computer Science: Scratch Jnr - introduction and fundamentals | Digital Literacy: Using search. Typing training. | Information Technology: Using a computer. What is the Internet. Information Technology: Introduction to photo editing. | Information Technology: taking and using photos Information Technology: Presentations iOS | Computer Science: Scratch Jnr - introduction and fundamentals |
| Year 3 | E-safety: Google Share with care | Information Technology: Research and develop a topic Use school current school topic | E-safety: Google Be Internet Brave Computer Science: Lightbot - Algorithms | Computer Science: Tynker - Animations | Computer Science: Tynker – Loops, debugging and events. | Computer Science: Tynker – If statements. HTML App Coding |
| Topic related activities throughout the year. | | | | | | |
| Year 4 | E-safety: Google Don't fall for fake | Computer Science: Networks: Understanding the different ways computer communicate Information Technology: Email | Information Technology: Word processing PowerPoint | Information Technology: Photo Editing - Functions Computer Science: Tynker - Algorithms Conditions, Functions and App design | Information Technology: Stop motion animation | Computer Science: Scratch Creation of controllable maze game. |
| Year 5 | E-safety: Google Secure your secrets Information Technology: Using shared cloud documents Use school current school topic | Computer Science: Spreadsheets – Using Formula to automate mathematical problems. Computer Science: Networks: Search Algorithms | E-safety: Cyberbullying Computer Science: Lightbot – Algorithms Procedures. Loops and Debugging | Computer Science: Scratch – Simple Game creation | Information Technology: Animation through varied apps Information Technology: Website creation. SharePoint Use school current school topic | Computer Science: Microsoft Kodu – Advanced game creation |
| Topic related activities throughout the year. | | | | | | |
| Year 6 | E-safety: Google It's cool to be kind Interland's Kind Kingdom | Information Technology: 3D modelling using Sketchup. Information Technology: Creating CVs Using IT beyond school | E-safety: Why is Social Media Free? Fake News in real life. Information Technology: Making Videos | Computer Science: MIT App Inventor– Making an app about secondary schools to take home Using IT beyond school | Computer Science: HTML Hacking and Python Coding Information Technology: ChildNet video competition | Computer Science: Swift Playground – Conditional Code, While loops and Logic. |

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Sequence of knowledge over time to meet curriculum end points.

| | Knowledge | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| Digital Literacy | Using technology safely | Internet safety rules and keeping safe. | Avatar and profile safety online. | To understand how different activities and responses online affect our feelings | Know the implications of when we post anything online. | To understand how Pop ups work. | To understand Password safety and how complexity keeps your accounts safe. | To understand cyberbullying and how to respond. |
| | Keeping Personal information private | Understanding what information should and should not be online. | Knowing how to respond to personal questions online and having the right to say no! | To understand what could happen if photos/pictures are shared. | Investigating different levels of privacy. What information should we protect? Public or private? | To understand about catfishing and scams online | To understand how much you share online exposes your safety | To understand Password safety and different layers of security such as 2 factor authentication. To understand email scams. |
| | Identify where to go for help and support if they have concerns over content. | Understanding who our trusted adults are. | Children know what to do if something is concerning them – trusted adults at home and in school. | Identifying 4 trusted adults. Looking at what is and what is not acceptable to post online. | To know there are different ways to take actions. To know they don't have to deal with concerns alone. | To recognise if online information is credible. Fake news and disinformation. | To understand what to do if your personal information is leaked. | To understand how to report cyberbullying. |
| | Using IT beyond school | Understanding of only talking online to people we know | Putting media stories into context and look at sites that help us like Childline and CEOP Using technology outside of school. | Understand that not everyone online is telling the truth. | To understand what a positive online presence looks like. | Google Interland – putting learning into practice – e-Safety class assembly | To introduce the CV and what it is used for. | To understand why social media sites don't charge to be used. To understand bias and fake news. To code an app that is useful outside of school |
| | Using devices effectively – mechanics Automaticity | Using a mouse and starting to learn key letters on a keyboard. | Log in practice Developing keyboard and mouse skills. To understand what cut, copy and paste does. | Developing touch typing skills. To understand how the internet works and how computers help us learn. | Topic related word processing and presentation skills. Saving and retrieval. | To use keyboard shortcuts for Cut, copy and paste Ctrl C, V | To use copy, paste in spreadsheet to automate formula. | To use different types of mouse and keyboard combination such as drag and drop and two finger scrolling. |

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| | Searching and selecting | Selecting the correct app | Using safe search and understanding why. | Identifying websites that are appropriate to my age. Using search engines and rating favourite websites | Selecting credible sources for digital artefacts. Saving to a folder for easy access. | To understand how search engines display information. How to get better search results. | Searching for templates to build your own work on. | Learn about advanced search algorithms such as linear, binary and hashing, using a battleship game. |
| Information Technology | Knowledge | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | Use technology purposefully to organise, store and retrieve digital content. | | Learn how to find, save, show, and send images on iPad devices. | Using a computer to edit saved images. | Create and save documents to do with topic. | To use Word and PowerPoint to display work/projects | Create a website using SharePoint to advertise a business. Understand the use of copyright. | How to save video/picture files to cloud storage (iCloud, OneDrive) for later use. |
| | Use technology purposefully to create and manipulate digital content. | Using PicCollage to manipulate photos (Shrink, expand, turn) | | To use photo editing software to discover different layers in images. | To import images into documents and manipulate size and wrapping. | To use more advanced photo editing functions | Create and understand animation principles and use software to create animations | Use Computer Aided Design (CAD) software to create and manipulate 3D shapes |
| | Select, use and combine a variety of software (including internet services) on a range of digital devices. KS2 | | | Use book creation apps to create eBooks. | Use browsers and apps/programs to import and display work | To use different apps/programs to photo edit to see how skills are transferable. | To use different software and platforms to create animations. | To use video creation tools and programs to create layers and effects for a video project. Use Apple and Windows devices to sync and transfer content. |
| | Design and create a range of programs, systems and content that accomplish given goals. | | | To use a range of applications to save and edit work to produce a newly created image. | To collect and organise topic work digitally to produce a display piece. | Use different programs to create videos using a range of techniques such as green screen and stop motion animation. | Using spreadsheets, we create formula that automatically completes the tasks at hand. | Video creation and effects. 3D modelling. |
| Computer Science | Knowledge | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | Understand what algorithms are | Introduction to the word Algorithm and what it means | Using a list of instructions to complete coding tasks. | Using instructions in the right order to achieve desired results | To understand how different platforms have different but similar instructions | To use algorithms to make aspects of a game work. | To use a list of instructions to create a 3D game world. | To use algorithms to create an app that links to the pupils secondary schools website |
| | Create and debug simple programs (that accomplish specific goals – KS2) | Following instructions and looking at order. | Learning that debugging is fixing wrong code – Tynker Jnr – directional | Fixing the wrong code – Scratch Jnr | Presented with code problems and children must detect the error | Create a maze game that others will play. Debug the ways others will try and cheat. | Create own controllable game that includes score, timer and lives. The game will need debugging in | Developing an app to share with others – pupils must debug problems for app to work successfully. |

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| Use logical reasoning to predict the behaviour of simple programs (and to detect and correct errors – KS2) | | | introduce the idea of how to predict the behaviour of code before it has run. | Predicting code using questions and showing errors to allow pupils to correct the code. | Use prediction to plan how someone might cheat in a maze game and patch any issues. | Predict the path of sprites that have been coded. | Predict how functions will act when coding an app. |
| Use sequence, selection and repetition in programs; work with variables. | | To introduce the term REPEAT and how programs can loop an action | To repeat a sequence of events and predict the behaviour. | To use repeat blocks to code a looped solution to problems. | To code forever a sequence that helps our maze game run without errors or cheating. | Introducing Variables and how they are used to code a scoreboard, timer and life counter. | Using Logic to code loops of code when needed. |
| Controlling or simulating physical systems | Using simple commands to control a sprite's direction | Using simple commands to reach a specified destination. | Using commands to create a range of motion. Using 1 sprite to control another. | Using commands to create a simple game. | Creating a simple game from scratch using a variety of control methods. | Advancing from 2D to 3D control within a game building environment. | Designing an app - control hyperlink and website destination. |
| Solve problems by decomposing them into smaller parts | One direction at a time. | Phrase "What do I need to do next?" to be used to draw out the next step. | Code one aspect at a time. | Code one solution at a time. | Code one sprite until it works, then move onto the next. | Code the game until it works, add variables and other decorations after. | Code one app button at a time. Copy and edit code later. |
| Work with various forms of input and output | Taping the screen. Using 2 fingers to zoom and twist. | Using the screen keyboard. | Drag and drop. | Using a keyboard and mouse | Using multiple keys at the same time. | Using cloud sync to output to different devices. | Using QR codes to output app updates. To use different platforms for coding. |
| Understand how networks can provide multiple services, such as the world wide web. | | | | | To understand how a network used physical infrastructure to connect devices. How local devices communicate What an IP address it and how it is used on the world wide web | Now networks search internally to return results. Using cloud networks to share documents. | |

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| | Collecting, analysing, evaluating, and presenting data and information. | | Create an eBook | Using Word to collect and save topic work. | Using PowerPoint to present work. | Using a website/Microsoft Sway to present information. | To understand spreadsheet formula. Data is collected, entered and presented in spreadsheets shared via Teams. | Creating a mobile device app to display information |
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