

Year 1 Computing

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---------------|--|---|---|--|---|--|
| Year 1 KS1 | <u>Computing System and Networks</u> (Technology around us) | <u>Creating Media</u> (Digital Painting) | <u>Programming A</u> (Moving a Robot) | <u>Data and Information</u> (Grouping Data) | <u>Creating Media</u> (Digital Writing) | <u>Programming B</u> (Programming Animations) |
| | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Components of a computer - Keyboard and mouse skills - Using technology responsibly | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Create their own paintings on a digital device - Use inspiration from other artists - Consider preferences with painting (with or without digital devices) | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - explore using individual commands (with learners and computer program) - Know what a command is - Predict the outcome of programs. - Introduce algorithms | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Classifying objects into labelled groups - Count objects in and out a group - Sort objects based on their properties - Answer questions about data | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Create and change text. - Type on a keyboard and use tools to change the appearance of their writing - Compare using a computer and writing on paper | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Use ScratchJr to explore sprites and backgrounds. - Use programming blocks to use, modify, and create programs. - Revisit algorithms as a tool for program design |

Year 2 Computing

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|------------------|---|--|---|---|--|--|
| Year 2 KS1 | <u>Computing System and Networks</u> (IT around us) | <u>Creating Media</u> (Digital Photography) | <u>Programming A</u> (Robot Algorithms) | <u>Data and Information</u> (Pictograms) | <u>Creating Media</u> (Digital Music) | <u>Programming B</u> (Programming Quizzes) |
| | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Learn how technology being used for good in our lives - Learn how IT benefits society - How to be responsible and make smart choices with technology | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Learnt that different devices can be used to capture photograph - Gain experience capturing, editing, and improving photos. - Identify images that are not real. - | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Instructions in sequences - Predicting outcomes using logical reasoning - Use given commands to predict the outcome. - Design, test and debug algorithms - | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Learn the term 'data'. And understand what data means and how to collect in a tally chart. - Present and use data in the form of pictograms and block diagrams. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Make patterns and use patterns to create music with percussion and digital tools. - Create different rhythms and tunes Compare creating music digitally and non-digitally. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Understand that sequences of commands have an outcome and make predictions. - Use ScratchJr to create their own quiz, modifying when needed. - Evaluate their work and make improvements to their programming projects. |

Year 3 Computing

| Year 3 | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|-----------|---|---|--|---|---|--|
| | <u>Computing System and Networks</u> (Connecting Computers) | <u>Creating Media</u> (Stop-Frame Animation) | <u>Programming A</u> (Sequencing Sounds) | <u>Data and Information</u> (Branching Databases) | <u>Creating Media</u> (Desktop Publishing) | <u>Programming B</u> (Events and Actions in Programs) |
| | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Focus on inputs, processes, and outputs. - Comparing digital and non-digital devices - Review computer networks that include network infrastructure devices like routers and switches. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Create a stop-frame animation using tablets - Create a story-based animation - Add other types of media to animations, such as music and text. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Sequencing in programming through Scratch. - Use a selection of motion, sound, and event blocks in their own programs, featuring sequences. - Apply stages of program design through this unit. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Understand what a branching database is and how to create one. - Create physical and on-screen branching databases. - Create, test and use an identification tool. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Understand 'text' and 'images' and how they communicate messages. - Use desktop publishing software - Add text and images to their own pieces of work using desktop publishing software. - Evaluate how and why desktop publishing is used in the real world. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Move a sprite in four directions (up, down, left and right). - Use pen blocks as a programming extensions - Design and code a maze tracing program. |

Year 4 Computing

| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|--|--|--|---|--|---|
| <u>Computing System and Networks</u> (The Internet) | <u>Creating Media</u> (Audio Production) | <u>Programming A</u> (Repetition in Shapes) | <u>Data and Information</u> (Data Logging) | <u>Creating Media</u> (Photo Editing) | <u>Programming B</u> (Repetition in Games) |
| <u>Key Knowledge/Skills:</u> | <u>Key Knowledge/Skills:</u> | <u>Key Knowledge/Skills:</u> | <u>Key Knowledge/Skills:</u> | <u>Key Knowledge/Skills:</u> | <u>Key Knowledge/Skills:</u> |
| <ul style="list-style-type: none"> - Appreciate the internet as a network of networks which need to be kept secure. - Learn the World Wide Web is part of the internet - Evaluate online content to decide how honest, accurate, or reliable it is, and understand the consequences of false information. | <ul style="list-style-type: none"> - Identify the input device (microphone) and output devices (speaker or headphones) - Discuss the ownership of digital audio and the copyright implications of duplicating the work of others. - Edit their work and produce a podcast. - Evaluate their work and give feedback to their peers. | <ul style="list-style-type: none"> - Repetition and loops within programming. - Plan, modify, test and create a program, testing commands to create shapes and patterns. - Use Logo, a text-based programming language. | <ul style="list-style-type: none"> - Consider how and why data is collected over time. - Explore how computers can use special input devices called sensors to monitor the environment. - Collect, access and analyse data points, sets and logging intervals. | <ul style="list-style-type: none"> - Develop understanding of how digital images can be changed and edited, and how they can then be saved and reused. - The impact that editing images can have, and evaluate the effectiveness of their choices. | <ul style="list-style-type: none"> - Repetition in programming using the Scratch environment - Analyse the difference between count-controlled and infinite loops - Modify existing animations and games using repetition. |

Year 5 Computing

| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|--|--|---|--|--|--|
| Computing System and Networks (Systems and searching) | Creating Media (Video Production) | Programming A (Repetition in Shapes) | Data and Information (Flat-File Databases) | Creating Media (Introduction to Vector Graphics) | Programming B (Repetition in Games) |
| <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Explore how information is transferred between systems and devices. - Small-scale systems as well as large-scale systems. - Explain the input, output, and process aspects of a variety of different real-world systems. - Know how to use the World Wide Web using search engines (including how they select and rank results). | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Create short videos in groups. Explore topic-based language and develop the skills of capturing, editing, and manipulating video. Reflect on and assess their progress in creating a video. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Repetition and loops within programming. - Plan, modify, test and create a program, testing commands to create shapes and patterns. - Use Logo, a text-based programming language. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Understand a flat-file database can be used to organise data in records. - Use tools within a database to order and answer questions about data. - Create and present graphs. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Create vector drawings. - Use different drawing tools to help them create images. - Layer objects and begin grouping and duplicating them to support the creation of more complex pieces of work. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Repetition in programming using the Scratch environment - Analyse the difference between count-controlled and infinite loops - Modify existing animations and games using repetition. |

Year 6 Computing

| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|--|---|---|--|--|
| <u>Computing System and Networks</u> (Communication and Collaboration) | <u>Creating Media</u> (Web Page Creation) | <u>Programming A</u> (Repetition in Shapes) | <u>Data and Information</u> (Introduction to Spreadsheets) | <u>Creating Media</u> (3D Modelling) | <u>Programming B</u> (Repetition in Games) |
| <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Explore how data is transferred over the internet. - The makeup and structure of data packets. - The internet facilitates online communication and collaboration - Communicate responsibly by considering what should and should not be shared on the internet. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Creation of websites for a chosen purpose - What makes a good web page and use this information to design and evaluate their own website - Copyright and fair use of media, the aesthetics of the site, and navigation paths. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Repetition and loops within programming. - Plan, modify, test and create a program, testing commands to create shapes and patterns. - Use Logo, a text-based programming language. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Organise data into columns and rows to create a data set. - Formatting data to support calculations - Formulas and how they can be used to produce calculated data. - Apply formulas that include a range of cells, and apply formulas to multiple cells by duplicating them. | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Use a computer to produce 3D models - Moving, resizing, and duplicating objects. - Create a model of a desk tidy. - Examine the benefits of grouping and ungrouping 3D objects | <u>Key Knowledge/Skills:</u> <ul style="list-style-type: none"> - Repetition in programming using the Scratch environment - Analyse the difference between count-controlled and infinite loops - Modify existing animations and games using repetition. |

