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|  | Autumn 1 | | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | | Summer 2 | |
| **Nursery/Rec** | **Access to Mini-mash and PurpleMash in continuous provision throughout the year.** | | | | | | | | |
| **Key to specific area of Computing** |  | | | | | | | | |
| **Year 1** | Exploring PurpleMash | Grouping and Sorting | Online Safety  (Project Evolve) | Lego Builder  Maze Explorers | Digital Literacy - Animated Story Books | Coding (code.org) | | Using Technology Outside of school | |
| **Year 2** | Online Safety (Project Evolve) | | Coding (code.org) | Questioning | Creating Pictures | Making Music | Effective Searching | Presenting Ideas | |
| **Year 3** | Online Safety (Project Evolve) | | Coding (code.org) | Touch Typing and Spreadsheets | Email (Including Email safety) | Simulations | Graphing | Presenting Ideas | |
| **Year 4** | Online Safety (Project Evolve) | | Coding (code.org) | Spreadsheets | Writing for different Audiences | Effective Searching | Animation | Making Music | Hardware Investigators |
| **Year 5** | Online Safety (Project Evolve) | | Coding (code.org) | Spreadsheets | Game Creator | 3D Modelling | Concept Maps | Word processing | |
| **Year 6** | Online Safety (Project Evolve) | | Coding (code.org) | Quizzing & Blogging | | | | | |

**Online safety – Project Evolve -** <https://projectevolve.co.uk/toolkit/resources/>

6 lessons to begin with and lessons implemented throughout the year if required.

**Coding – Code.org -** [**https://code.org/**](https://code.org/)

Coding

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| **Nursery/Rec** | Digital literacy – Jigsaw |
| **Year 1** | Computer Science Fundamentals – Course A  Extension: Artist |
| **Year 2** | Computer Science Fundamentals – Course B  Extension: Code with Anna and Elsa |
| **Year 3** | Computer Science Fundamentals – Course C & Course D  Extension: Choose your team and make a basketball game, Code your own sports game |
| **Year 4** | Computer Science Fundamentals – Course E  Extension: Flappy Code, Classic Maze (Angry Birds) |
| **Year 5** | Computer Science Fundamentals – Course F  Extension: Minecraft designer, Minecraft hero’s journey, Minecraft Voyage Aquatic. |
| **Year 6** | Computer Science Fundamentals – Express course  Extension: Dance Party (2018), Keep on Dancing (2019) |

**Purple Mash – every other aspect of the curriculum.**

All pupils to have logins and can access Purple Mash for homework, if required.

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| Year 1 | **Autumn**  **Grouping and Sorting**  • To begin to think logically about the steps of a process.  • To sort items using a range of criteria.  • To sort items on the computer using the ‘Grouping’ activities in Purple Mash.  • To bring together logical thinking and the use of technology.  • To introduce the term ‘algorithm’ to describe logically following a process.  **Online Safety (Project Evolve)**  Teachers will teach specific lessons for their year groups to what they feel is appropriate based upon the following areas, which can also be revisited throughout the year if required:  • Self-image and identity • Online relationships  • Online reputation  • Online bullying  • Privacy and security  **Spring**  **Lego Builder**  • To emphasise the importance of following instructions.• To follow and create simple instructions on the computer.  • To consider how the order of instructions affects the result.  **Maze Explorers**  • To understand the functionality of the basic direction keys in Challenges 1 and 2.  • To be able to use the direction keys to complete the challenges successfully.  • To understand the functionality of the basic direction keys in Challenges 3 and 4.  • To understand how to create and debug a set of instructions (algorithm).  • To use the additional direction keys as part of their algorithm.  • To understand how to change and extend the algorithm list.  **Digital Literacy - Animated Story Book**  • To understand the differences between traditional books and ebooks.  • To explore the tools of 2Create a Story’s My Simple Story level.  • To save the page they have created.  • To add animation to a picture.  • To play the pages created so far.  • To save the additional changes and overwrite the file.• To add a sound effect to a picture.  • To add a voice recording to the picture.  • To add created music to the picture.  • To add a background to the story.  • To demonstrate a good understanding of all the tools they have used in 2Create a Story and use these successfully to create their own story.  **Summer**  **Coding (code.org)**  • Understanding that computer programs are created by people to perform tasks on computers  • Learning how to break down larger problems into smaller steps  • Developing skills in pattern recognition, problem solving, and computational thinking  • Exploring different types of input and output devices used with computers  **Using Technology Outside of school**  • To find and understand examples of where technology is used in the local community  • To record examples of technology outside school. |
| Year 2 | **Autumn** **Online Safety (Project Evolve)**  Teachers will teach specific lessons for their year groups to what they feel is appropriate based upon the following areas, which can also be revisited throughout the year if required:  • Self-image and identity • Online relationships  • Online reputation  • Online bullying  • Privacy and security  **Coding (code.org)**  • Basics of programming and sequencing  • Collaboration techniques  • Investigation and critical thinking skills  • Persistence in problem-solving  • Internet safety and digital citizenship  **Spring**  **Questioning**  • Develop the ability to ask relevant and purposeful questions.  • Distinguish between closed and open-ended questions.  • Use questioning to gather information and deepen understanding.  • Formulate questions to drive investigations and discussions.  • Evaluate the effectiveness of questions in different contexts.  **Creating Pictures**  • Explore a range of digital tools to create visual content.  • Use colour, shape, and texture effectively to communicate ideas.  • Combine images and graphics to convey meaning or tell a story.  • Improve digital art through iteration and feedback.  • Understand and apply basic design principles.  **Summer**  **Making Music**  • Use digital tools to create, edit, and arrange music.  • Explore rhythm, tempo, and pitch in digital compositions.  • Understand how different sounds and instruments create mood.  • Record and layer audio using music software or apps.  • Evaluate and refine musical pieces based on feedback.  **Effective Searching**  • Understand how to use keywords to search for information online.  • Develop strategies to improve search results (e.g. quotation marks, filters).  • Evaluate the reliability and relevance of digital information.  • Understand how search engines rank results.  • Use search skills to support research and learning projects.  **Presenting Ideas**  • Use digital tools to create effective presentations.  • Organise content clearly using text, images, and multimedia.  • Tailor presentation style for different audiences and purposes.  • Develop confidence in speaking and explaining ideas.  • Evaluate and improve presentations based on feedback |
| Year 3 | **Autumn**  **Online Safety (Project Evolve)**  Teachers will teach specific lessons for their year groups to what they feel is appropriate based upon the following areas, which can also be revisited throughout the year if required:  • Self-image and identity • Online relationships  • Online reputation  • Online bullying  • Privacy and security  **Coding (code.org)**  • Recognizing patterns in data through a new lesson focused on data analysis  • Continuing to build programming skills through coding activities and lessons  • Fostering computational thinking and problem-solving abilities  **Spring**  **Touch Typing and Spreadsheets**  • To introduce typing terminology.  • To understand the correct way to sit at the keyboard.  • To learn how to use the home, top and bottom row keys.  • To practice and improve typing for home, bottom, and top rows.  • To practice the keys typed with the left hand.  • To practice the keys typed with the right hand  • To add and edit data in a table layout.  • To find out how spreadsheet programs can automatically create graphs from data.  • To introduce the Advanced mode of 2Calculate.  • To learn about describing cells using their addresses.  • To learn about the formula wizard and the formula bar in 2Calculate Advanced mode.  • To use formulae to complete calculations.  • To explore how tools can be combined to make number games.  • To explore the use of the timer, random number, and spin button tools.  • To use the line graphing tool in 2Calculate with appropriate data.  • To interpret a line graph to estimate values between data readings.  • To use range notation.  • To create a model of a real-life situation.  • To create a spreadsheet file with more than one sheet.  **Email (Including Email safety)**  • To think about different methods of communication.  • To open and respond to an email.  • To write an email to someone from an address book.  • To learn how to use email safely.  • To continue learning how to use email safely.  • To add an attachment to an email.  • To explore a simulated email scenario.  **Summer**  **Simulations**  • To find out what a simulation is and understand its purpose.  • To explore a simulation, making choices and discussing their effects.  • To work through and evaluate a more complex simulation.  **Graphing**  • To enter data into a graph and answer questions.  • To investigate to answer a question.  • To present results in graphic form.  **Presenting Ideas**  • To create a page in a presentation.  • To add media to a presentation.  • To add animations into a presentation.  • To add timings to a presentation.  • To use all skills learnt to design and present an effective presentation. |
| Year 4 | **Autumn** **Online Safety (Project Evolve)**  Teachers will teach specific lessons for their year groups to what they feel is appropriate based upon the following areas, which can also be revisited throughout the year if required:  • Self-image and identity • Online relationships  • Online reputation  • Online bullying  • Privacy and security  **Coding (code.org)**  • Digital citizenship and online safety  • Programming concepts like events, sequences, loops, and conditionals using visual programming environments like Game Lab and Minecraft  • Human-centred design principles like designing for accessibility  • Digital sharing and online collaboration  • Culminating project to apply learned coding and design skills  **Spring**  **Spreadsheets**  • To use the formula wizard to add and subtract two cells.  • To use the formula wizard to multiply and divide two cells.  • To use a spreadsheet to create a budget.  • To use the currency formatting.  • To use the formula wizard to create averages.  • To combine tools to make a quiz.  To use a spreadsheet to explore place value.  **Writing for different Audiences**  • To explore how font size and style can affect the impact of a text.  • To use a simulated scenario to produce a news report.  • To use a simulated scenario to write for a community campaign.  **Summer**  **Effective Searching**  • To locate information on the search results page.  • To use search effectively to find out information.  • To assess whether an information source is true and reliable.  **Animation**  • To decide what makes a good, animated film or cartoon and discuss favourite animations.  • To learn how animations are created by hand.  • To find out how 2Animate animations can be created in a similar way using technology.  • To learn about onion skinning in animation.  • To add backgrounds and sounds to animations.  • To introduce ‘stop motion’ animation.  • To share animation on the class blog.  **Making Music**  • To identify and discuss the main elements of music: Pulse, Rhythm, Tempo, Pitch, Texture.  • To understand and experiment with rhythm and tempo.  • To create a melodic phrase.  • To compose a piece of electronic music.  **Hardware Investigators**  • To understand the different parts that make up a desktop computer.  • To recall the different parts that make up a computer. |
| Year 5 | **Autumn**  **Online Safety (Project Evolve)**  Teachers will teach specific lessons for their year groups to what they feel is appropriate based upon the following areas, which can also be revisited throughout the year if required:  • Self-image and identity • Online relationships  • Online reputation  • Online bullying  • Privacy and security  **Coding (code.org)**  Explaining how system limitations can affect project design  • Describing how compromise can help keep a project on track and inspire creativity  • Drafting and implementing plans to resolve issues in code  • Learning to plan in advance for an ongoing programming assignment  • Spend time creating projects with the Artist and Sprite Lab tools to understand their capabilities and limitations  • Familiarize themselves with the course rubric and project design worksheet, modifying them as needed for their class  **Spring**  **Spreadsheets**  • To use formulae within a spreadsheet to convert measurements of length and distance.  • To use a spreadsheet to model a real-life problem.  • To use formulae to calculate area and perimeter of shapes.  • To use a spreadsheet to investigate the probability of the results of throwing many dice.  • To use spreadsheets to model real-life situations.  • To use the created spreadsheet to make decisions about these situations.  • To use the count tool to answer hypotheses about common letters in use.  **Game Creator**  • To introduce the 2DIY 3D tool and begin planning a game.  • To design the game environment.  • To design the game quest to make it a playable game.  • To finish and share the game.  • To self- and peer-evaluate.  **Summer**  **3D Modelling**  • To be introduced to the 2Design and Make tool.  • To explore the effect of moving points when designing.  • To design a 3D model to fit certain criteria.  • To refine and print a model.  **Concept Maps**  • To understand the need for visual representation when generating and discussing complex ideas.  • To understand the uses of a ‘concept map’.  • To understand and use the correct vocabulary when creating a concept map.  • To create a concept map.  • To understand how a concept map can be used to retell stories and information.  • To create a collaborative concept map and present this to an audience.  **Word processing**  • To know what a word processing tool is for.  • To add and edit images to a word document.  • To know how to use word wrap with images and text.  • To change the look of text within a document.  • To add features to a document to enhance its look and usability.  • To use tables to present information.  • To introduce children to templates.  • To consider page layout including heading and columns. |
| Year 6 | **Autumn**  **Online Safety (Project Evolve)**  Teachers will teach specific lessons for their year groups to what they feel is appropriate based upon the following areas, which can also be revisited throughout the year if required:  • Self-image and identity • Online relationships  • Online reputation  • Online bullying  • Privacy and security  **Coding (code.org)**  • Self-paced or independent learning of computer science fundamentals.  • Skill-building lessons done on the computer and is built using lessons from Courses C, D, E, and F.  The Express Course can be delivered with or without an actively involved teacher, making it suitable for self-study, stations, or other flexible learning environments. Provide every pupil the opportunity to learn computer science through an engaging, supportive, and equitable curriculum. The course aims to build fundamental computer science skills while connecting the content to students' lived experiences with technology in a way that is accessible and empowering.  **Spring & Summer**  **Quizzing**  • To create a picture-based quiz for young children.  • To learn how to use the question types within 2Quiz.  • To explore the grammar quizzes.  • To make a quiz that requires the player to search a database.  • To develop skills in creating surveys and questionnaires.  • To use a survey to gain information rather than scores.  **Blogging**  • To identify the purpose of writing a blog.  • To identify the features of successful blog writing.  • To plan the theme and content for a blog.  • To understand how to write a blog and a blog post.  • To consider the effect upon the audience of changing the visual properties of the blog.  • To understand how to contribute to an existing blog.  • To understand the importance of commenting on blogs.  • To peer-assess blogs against the agreed success criteria.  • To understand how and why blog posts and comments are approved by the teacher. |