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| **Year 1** | | | | | |
| Autumn | | **Spring** | | **Summer** | |
| **Algorithms**  **Computational Thinking** | **Digital Literacy**  **Computational Thinking** | **Algorithms**  **Decomposition** | **Algorithms**  **Decompositions** | **Digital Literacy**  **Computational Thinking** | **Digital Literacy** |
| **Bee-Bot Holiday**  *Design and program a holiday destination for Bee-Bot*  **(4 lessons)**  **Computer Science Concepts**  -understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions  -Create and debug simple programs  -Use logical reasoning to predict the behaviour of simple programs  **Bee Bots**  **Blank Bee Bot Grids** | **Celebrations**  *Creating a card digitally*  **(4 lessons)**  **Computer Science Concepts**  - Create, organise, store, manipulate, retrieve digital contents.  - Recognise common use of I.T. beyond school  **Learn Pads**  **Pic Collage** | **Human Crane**  *Learn and create algorithms to make your own buildings*  **(4 lessons)**  **Computer Science Concepts**  -That programs execute by following precise and unambiguous instructions  -Create and debug simple programs (algorithms)  -Use logical reasoning to predict the behaviour of simple programs (algorithms)  **Action and challenge cards**  **Blocks**  **Bowls** | **Moving Toy**  *Design your own toy and program it to move*  **(6 lessons)**  **Computer Science Concepts**  -Decompose a program, break it up to see what every part needs to do  -Repeat loops  **Scratch Jr.** | **Story Time**  *Children create a digital version of their story*  **(6 lessons)**  **Computer Science Concepts**  -All programming is an algorithm turned into code. Not all algorithms become code though.  -Algorithms are the thinking before you code. Where the user thinks what they want to happen and what order they want it to happen in. Algorithms are written, but pupils can engage in proto  algorithmic activities by talking about what they want to happen.  -Programming is where we turn that algorithmic thinking into something that works on a digital device  **Scratch Jr.** | **We are Poets**  Children perform and record their own poems  **(4 lessons)**  **Computer Science Concepts**  -Predict the behaviour of simple programs using logical reasoning.  -Understand what algorithms are; how they are implemented as programs on digital devices.  **Microsoft Movie Maker/IMovie** |
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| **Year 2** | | | | | |
| **Autumn** | | **Spring** | | **Summer** | |
| **Algorithms**  **Computational Thinking** | **Algorithms**  **Digital Literacy** | **Digital Literacy**  **Computational Thinking** | **Digital Literacy**  **Computational Thinking** | **Algorithms**  **Decomposition** | **Digital Literacy**  **Computational Thinking** |
| **Bee Bot Farm World**  *Design and program a farm for Bee-Bot*  **(4 lessons)**  **Computer Science Concepts**  -Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions  -Create and debug simple programs  -Use logical reasoning to predict the behaviour of simple programs  **Bee Bots**  **Blank Bee Bot Grids** | **Story Time**  *Children create a digital version of their story*  **(6 lessons)**  **Computer Science Concepts**  -All programming is an algorithm turned into code. Not all algorithms become code though.  -Algorithms are the thinking before you code. Where the user thinks what they want to happen and what order they want it to happen in. Algorithms are written, but pupils can engage in proto  algorithmic activities by talking about what they want to happen.  -Programming is where we turn that algorithmic thinking into something that works on a digital device.  **Scratch Jr.** | **Detectives**  *Plan, create and film the story of the Great Fire of London*  **(6 lessons)**  **Computer Science Concepts**  -Common use of I.T.  -Identify where to go for help and support.  -Use technology purposefully to create, organise.  -Store, manipulate and retrieve digital content.  **Learn-pads**  **Camera**  **Stop-motion animation** | **We Are News Reporters**  *Children to write and film a news segment about the Great Fire of London*  **(6 lessons)**  **Computer Science Concepts**  -Predict the behaviour of  simple programs using logical reasoning.  - Recognise common use of I.T. beyond school-Use technology safely and respectfully.  -Use technology purposefully to create, organise, store,  manipulate and retrieve digital content.  **Learning-Pad/iPad**  **Green Screen Technology – Just Do Ink** | **Jungle Pathway**  *Children plan and create algorithms that make their two sprites meet*  **(6 lessons)**  **Computer Science Concepts**  -All programming is an algorithm turned  into code  -An Algorithm is a step by step sequences  of instructions to do something  **Scratch Jr,** | **Royal Dance**  *Children plan and crate algorithms that make their royal sprites dance*  **(6 lessons)**  **Computer Science Concepts**  -All programming is an algorithm turned  into code  -An Algorithm is a step by step sequences  of instructions to do something  -Repeat loops  **Scratch Jr.** |
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| **Year 3** | | | | | |
| **Autumn** | | **Spring** | | **Summer** | |
| **Digital Literacy**  **Algorithms** | **Digital Literacy**  **Algorithms**  **Computational Thinking** | **Digital Literacy**  **Computational Thinking** | **Algorithms**  **Computational Thinking** | **Digital Literacy** | **Algorithms**  **Computational Thinking** |
| **Stone Age Authors**  *Children create a digital version of their story*  **(6 lessons)**  **Computer Science Concepts**  -All programming is an algorithm turned into code. Not all algorithms become code though.  -Algorithms are the thinking before you code. Where the user thinks what they want to happen and what order they want it to happen in. Algorithms are written, but pupils can engage in proto  algorithmic activities by talking about what they want to happen.  -Programming is where we turn that algorithmic thinking into something that works on a digital device.  **Stop-Frame Animator**  **http://www.stopframe.lgfl.net/** | **Romans Travel Europe**  *Children use a map of Europe to show where the Romans travelled by creating algorithms*  **(6 lessons)**  **Computer Science Concepts**  -Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.  -Solve problems by decomposing them into smaller parts -use sequence, selection, and repetition in programs.  -Work with variables and various forms of input and output.  -Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs  **Scratch** | **Chocolate Surveyors**  *Children create a survey to help them gather data*  **(4 lessons)**  **Computer Science Concepts**  -Use logical reasoning to explain how simple algorithms work and to detect and correct errors in algorithms and programs.  -Create a range of programs, systems and contents to accomplish given goals that include: collecting, analysing, evaluating and presenting data and information.  **Web browser, Google Forms, Google Sheets and Google Slides** | **Game Developers**  *Children create a Mayan themed game*  **(6 lessons)**  **Computer Science Concepts**  -Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. Solve problems by decomposing them into smaller parts.  -Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.  -Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.  **Scratch** | **We Are News Reporters**  *Children to write and film a news segment about water*  **(6 lessons)**  **Computer Science Concepts**  -Predict the behaviour of simple programs using logical reasoning.  - Recognise common use of I.T. beyond school.-Use technology safely and respectfully.  -Use technology purposefully to create, organise, store,  manipulate and retrieve digital content.  **Learning-Pad/iPad**  **Green Screen Technology – Just Do Ink** | **Pirate Maze**  *Children create a themed maze where the pirate has to find the treasure*  **(5 lessons)**  **Computer Science Concepts**  -Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. Solve problems by decomposing them into smaller parts.  -Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.  -Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.  **Scratch** |
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| **Year 4** | | | | | |
| **Autumn** | | **Spring** | | **Summer** | |
| **Digital Literacy**  **Computational Thinking** | **Digital Literacy**  **Computational Thinking** | **Digital Literacy**  **Computational Thinking** | **Digital Literacy**  **Computational thinking** | **Algorithms**  **Computational Thinking**  **Decomposition** | **Algorithms**  **Computational Thinking**  **Abstraction**  **Decomposition** |
| **Bloggers**  *Children will set up and add to their own class blog about the Vikings*  **(6 lessons)**  **Computer Science Concepts**  -Solve problems by decomposing them into smaller parts.  -Use search technologies effectively.  -Use a variety of software (including internet services), to create content including presenting information.  **Kidblog.org**  **Padlet** | **History of Computing**  *Children write, produce, record and edit a film about the History of Computing*  **(6 lessons)**  **Computer Science Concepts**  -Recognise common uses of information technology beyond school  **https://www.lgfl.net/learning-resources/summary-page/a-history-of-computing** | **Ancient Wonders Surveyors**  *Children create a survey to help them gather data*  **(6 lessons)**  **Computer Science Concepts**  -Use logical reasoning to explain how simple algorithms work and to detect and correct errors in algorithms and programs.  -Create a range of programs, systems and contents to accomplish given goals that include: collecting, analysing, evaluating and presenting data and information.  **Web browser, Google Forms, Google Sheets and Google Slides** | **We Are News Reporters**  *Children to write and film a news segment about the London Zoo*  **(6 lessons)**  **Computer Science Concepts**  -Predict the behaviour of simple programs using logical reasoning.  - Recognise common use of I.T. beyond school.-Use technology safely and respectfully.  -Use technology purposefully to create, organise, store,  manipulate and retrieve digital content.  **Learning-Pad/iPad**  **Green Screen Technology – Just Do Ink** | **In the deep**  **Programmers**  *Children create a music themed game*  **(Lesson 6)**  **Computer Science Concepts**  -Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. Solve problems by decomposing them into smaller parts.  -Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.  -Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.  **Scratch**  **Laptops** | **Out of this world programmers**  *Children create a themed game with conversation*  **(Lesson 6)**  **Computer Science Concepts**  -Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. Solve problems by decomposing them into smaller parts.  -Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.  -Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.  **Scratch**  **Laptops** |
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| **Year 5** | | | | | |
| **Autumn** | | **Spring** | | **Summer** | |
| **Computational Thinking**  **Abstraction** | **Digital Literacy**  **Algorithms**  **Computational Thinking** | **Digital Literacy** | **Digital Literacy**  **Computational Thinking** | **Digital Literacy**  **Computational Thinking**  **Abstraction**  **Algorithm** | **Digital Literacy**  **Computational Thinking**  **Abstraction**  **Algorithm** |
| **Greek Artist**  *Children create an animation drawing of a Greek artefact*  **(5 lessons)**  **Computer Science Concepts**  -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.  **Stop-Motion Animation**  **Laptops**  **Webcam** | **Cryptographers**  *Children create their own WWII codes*  **(5 lessons)**  **Computer Science Concepts**  -Use logical reasoning to explain how simple algorithms work.  -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.  **Scratch (J2)**  **Laptops** | **Meteorologist**  *Children to write and film a news segment about natural disasters and climate change*  **(6 lessons)**  **Computer Science Concepts**  -Create a range of programs, systems and contents to accomplish given goals that include: collecting, analysing, evaluating, and presenting data and information.  -Work with variables and various forms of input and output.  **BBC Weather, Green Screen Technology (Just Do Ink)** | **Blogger**  *Children will set up and add to their own class blog about rivers and deserts*  **(6 lessons)**  **Computer Science Concepts**  -Use technologies safely & respectfully, responsibly so as to recognise un/acceptable behaviour and identify a range of ways to report concerns about contents and contact.  **E-mail, School blog page, Audacity, Movie Maker, padlet** | **Virtual Tudors**  *Children to create a virtual tour of Roman London*  **(7 lessons)**  **Computer Science Concepts**  -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.  **Google Sketch-Up** | **Web Developers**  *Children will create a carnival themed website*  **(7 lessons)**  **Computer Science Concepts**  -Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.  **Google Sites, https://sites.google.com** |
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| **Year 6** | | | | | |
| **Autumn** | | **Spring** | | **Summer** | |
| **Digital Literacy**  **Computational Thinking**  **Abstraction**  **Algorithm** | **Digital Literacy**  **Computational Thinking**  **Abstraction**  **Algorithm** | **Digital Literacy**  **Computational Thinking**  **Abstraction**  **Algorithm** | **Digital Literacy**  **Computational Thinking**  **Abstraction**  **Algorithm** | **Digital Literacy**  **Computational Thinking**  **Abstraction**  **Algorithm** | **Digital Literacy**  **Computational Thinking**  **Abstraction**  **Algorithm** |
| **Fairgrounds**  *Children will plan, create and code their own quiz about fairgrounds*  **(6 lessons)**  **Computer Science Concepts**  -Use logical reasoning to explain how simple algorithms work.  -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.  **Scratch**  **Laptops** | **Music as Code**  *Children will plan and code their own Music score*  **(6 lessons)**  **Computer Science Concepts**  -Sequence -Repeat loops -Converting algorithm to code  Maths Concepts -Decimal Fractions  **Scratch**  **Laptops** | **App Planners**  *Children plan an app about Victorian London*  **(6 lessons)**  **Computer Science Concepts**  -Understand computer networks, how they provide multiple services (www) and the opportunities and collaboration.  -Work with various forms of input and output.  -Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.  **Laptops**  **App Maker** | **App Developers**  *Children design and create an app about Victorian London*  **(6 lessons)**  **Computer Science Concepts**  -Design, write & debug programs- using sequence, selection and repetition in programs working with variable and various forms of input/output.  -Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.  **Laptops**  **App Maker** | **Sporting Robots**  **Computer Science Concepts** | **Robot Championships**  **Computer Science Concepts** |