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| **Lewknor Medium-Term Plan**  |
| **Computing – Reception** |
|  | **Choose your Unit** |
| **Theme/Unit** | **Computing systems and networks 1: Using a computer** | **Programming 1: All about instructions** | **Computing systems and networks 2: Exploring hardware** | **Programming 2: Programming Bee-Bots** | **Data handling: Introduction to data** |
| **Choose your lesson****Lesson 1** | **Keyboards**To learn what a keyboard is and how to locate relevant keys. | **Following instructions**To learn to follow instructions as part of practical activities and games. | **Exploring hardware tinker tray**To learn how to explore and tinker with hardware to develop familiarity and introduce relevant vocabulary | **Understanding arrows**To learn the meaning of directional arrows and to follow a simple sequence of instructions. | **Loose parts play**To learn to sort and categorise objects |
| **Lesson 2** | **Logging in and out**To learn to log in and out. | **Giving simple instructions**To learn to guide partners through an obstacle course to develop an understanding of giving simple instructions. | **Real-world tinker tray**To learn how to explore and tinker with hardware to develop familiarity and introduce relevant vocabularyTo recognise that a range of technology is used in places such as homes and schools. | **Introducing Bee-Bot**To learn and experiment with Bee-Bot and tinker with hardware to develop familiarity and introduce relevant vocabulary. | **Sorting ourselves**To learn to sort themselves into groups based on given categories. |
| **Lesson 3** | **Mouse control**To learn what a mouse is and developing control when using a mouse. | **Dressing up instructions**To learn to follow instructions as part of a dressing up game and learn to give simple instructions. | **Picture of play**To learn how to operate a camera and/or iPad and use it to take photographs. | **Simple Bee-Bot programming**To learn and experiment with Bee-Bot and tinker with hardware to develop familiarity and introduce relevant vocabulary.  | **Yes or no?**To learn to respond to yes or no questions as an introduction to branching databases. |
| **Lesson 4** | **Mouse control – Clicking**To learn basic mouse skills, including moving and clicking and using an online paint tool. | **Debugging instructions – Washing hands**To learn to follow instructions as part of a practical handwashing activity and to learn to debug when things go wrong. | **Picture walk**To learn how to operate a camera and/or iPad and use it to take photographs. | **Understanding algorithm**To learn to follow algorithms as part of an unplugged game and learn to debug instructions when things go wrong. | **Creating a branching database**To learn branching databases through physical sorting and categorising |
| **Lesson 5** | **Mouse control – Clicking and dragging.**To learn further developing mouse skills, including the ability to click and drag. | **Predictions**To learn that an algorithm is a set of instructions to carry out a task, in a particular order. | **Class photo**To learn how to operate a camera and/or iPad and use it to take photographs. | **Programming a Bee-Bot**To learn to experiment with programming a Bee-Bot and learn how to give simple commands. | **Exploring pictograms**To learn to interpret a basic pictogram |

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| **Lewknor Medium-Term Plan**  |
| **Computing – Year 1/2 - Cycle A** |
|  | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Theme/Unit** | **Computing systems and networks****Improving mouse skills****Yr.1** | **Programming****Algorithms unplugged****Yr.1** | **Skills showcase****Rocket to the moon****Yr.1** | **Computing systems and networks****What is a computer?****Yr.2** | **Programming****Algorithms and debugging****Yr.2** | **Computing systems and networks****Word processing****Yr.2** |
| **Week 1** | **Logging in**To log in to a computer and access a website. | **What is an algorithm?**To understand what an algorithm is. | **Rocket materials**To recognise that digital content can be represented in many forms. | **Computer parts**To recognise the parts of a computer. | **Dinosaur algorithm**To decompose a game to predict the algorithms that are used. | **Getting to know the keyboard**To begin to learn to touch type. |
| **Week 2** | **Click and drag skills**To develop mouse skills. | **Algorithm pictures**To follow instructions precisely to carry out an action. | **Rocket design**To design a rocket using a graphics editing programme. | **Inputs**To recognise how technology is controlled. | **Machine learning**To understand that computers can use algorithms to make predictions (machine learning). | **Getting started with word processing**To understand how to use a word processor. |
| **Week 3** | **Drawing shapes**To use mouse skills to draw and edit shapes. | **Virtual assistants**To understand that computers and devices around us use inputs and outputs. | **Rocket building instructions**To sequence a set of instructions. | **Inputs**To recognise how technology is controlled. | **Through the maze**To plan algorithms that will solve problems. | **Newspaper writer**To understand how to add images to a text document. |
| **Week 4** | **Drawing a story**To draw a scene from a story using digital tools. | **Step by step**To understand and be able to explain what decomposition is. | **Making a rocket**To build a rocket. | **Invention**To create a design for an invention. | **Making maps**To understand what abstraction is. | **Poetry book**To create a poetry book using sources from the internet. |
| **Week 5** | **Self-portrait**To create a self-portrait using digital techniques. | **Debugging directions**To know how to debug an algorithm. | **Making a rocket**To build a rocket. | **Real-world role play**To understand the role of computers. | **Unplugged debugging**To understand what debugging is. | **Digital writer**To create a digital piece of writing. |

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| **Lewknor Medium Term Plan**  |
| **Computing – Year 1/2 - Cycle B** |
|  | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Theme/Unit** | **Programming** **Bee-bots****Option 1:** Bee-Bots **Option 2:** Virtual Bee-botsYr.1 | **Creating media**Digital imageryYr.1 | **Data handling**Introduction to dataYr.1 | **Programming**Introduction to block coding **Option 1:** MakeCode **Option 2:** ScratchJrYr.2 | **Creating media**Stop motionOption 1: Using tablets Option 2: UsingYr.2 | **Data handling**International space stationYr.2 |
| **Week 1** | **Getting to know a Bee-Bot**To explore a new device. | **Planning a photo story**To understand and create a sequence of pictures. | **Zoo data**To show data in different ways. | **Using ScratchJr**To explore a new application. | **What is animation?**To understand what animation is. | **Homes in space**To locate features on an interactive map. |
| **Week 2** | **Making a Bee-Bot video**To create a demonstration video. | **Taking photos**To take clear photos. | **Picture data**To use technology to represent data. | **Creating an animation**To create an animation. | **Taking photographs**To take clear photographs using a digital camera. | **Space bag**To create a digital drawing. |
| **Week 3** | **Precise instructions**To plan and follow a precise set of instructions. | **Editing photos – Microsoft**To edit photos. | **Minibeast hunt**To collect and record data. | **Making a musical instrument**To use characters as buttons. | **My first animation**To create a stop motion animation. | **Warmer, colder**To input data in a spreadsheet. |
| **Week 4** | **Bee-Bot world**To program a device. | **Searching for images**To search for and import images. | **Animal branching databases**To sort data into a branching database. | **Programming a joke**To follow an algorithm. | **Planning my project**To plan my stop motion animation. | **Experiments in space**To create algorithms for healthy plant growth. |
| **Week 5** | **Three little pigs**To create a program that tells a story. | **Photo collage**To create a photo collage. | **Inventions**To design an invention to gather data. | **‘The Three Little Pigs’ algorithms**To plan and use code to create an algorithm. | **Creating my project**To create a stop motion animation. | **Goldilocks planets**To retrieve data from a spreadsheet. |

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| **Lewknor Medium Term Plan**  |
| **Computing – Year 3/4 - Cycle A** |
|  | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Theme/Unit** | **Computing systems and networks**Emailing**Option 1:** Google**Option 2:** Microsoft Office 365Yr.3 | **Programming**Programming: ScratchYr.3 | **Creating media**Video trailers**Option 1:** Using devices other than iPads**Option 2:** Using iPadsYr.3 | **Creating media**Website design**Option 1:** Google**Option 2:** Microsoft Office 365Yr.4 | **Programming**Further coding with ScratchYr.4 | **Programming**Computational thinkingYr.4 |
| **Week 1** | **Communicating with technology**To understand how we communicate with technology. | **Tinkering with Scratch**To explore a programming application. | **Planning a book trailer**To plan a book trailer. | **Getting to know Microsoft Sway**To explore the features of Microsoft Sway. | **Scratch reminder**To recall the key features of Scratch. | **What is computational thinking?**To understand that computational thinking is made up of four key strands. |
| **Week 2** | **Sending an email**To understand what emails are and how to send one. | **Using loops**To use repetition (a loop) in a program. | **Filming**To take photos or videos that tell a story. | **Book review webpage**To plan content for a collaborative webpage. | **Identifying what code does**To understand how a Scratch game works by using decomposition to identify key features. | **Decomposition**To understand what decomposition is and how to apply it to solve problems. |
| **Week 3** | **Adding attachments**To know how to create an email with an attachment. | **Making an animation**To program an animation. | **Filming**To take photos or videos that tell a story. | **Adding features**To create an engaging webpage. | **Introduction to variables**To recognise what a variable is. | **Abstraction and pattern recognition**To understand what pattern recognition and abstraction mean. |
| **Week 4** | **Be kind online**To understand the importance of being kind online. | **Storytelling**To program a story. | **Transitions and text**To add text and transitions to a video. | **Planning my website**To plan and create a website. | **Making a variable**To understand how to make a variable in Scratch. | **Algorithm design**To understand how to create an algorithm and what it can be used for. |
| **Week 5** | **Fake emails**To recognise when an email is not genuine. | **Programming a game**To program a game. | **Video review**To evaluate video editing. | **Creating my website**To create and evaluate a website. | **Times tables project**To create a quiz using variables. | **Applying computational thinking**To combine computational thinking skills to solve a problem. |

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| **Lewknor Medium Term Plan**  |
| **Computing – Year 3/4 – Cycle B** |
|  | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Theme/Unit** | **Computing systems and networks**Networks and the InternetYr.3 | **Data handling**Comparison cards databasesYr.3 | **Computing systems and networks**Journey inside a computerYr.3 | **Computing systems and networks**Collaborative Learning**Option 1:** Google**Option 2:** MicrosoftOffice 365Yr.4 | **Data handling**Investigating weatherYr.4 | **Skills showcase**HTMLYr.4 |
| **Week 1** | **What is a network?**To recognise what a network is. | **Records, fields and data**To understand the terminology around databases. | **Inputs and outputs**To recognise basic inputs and outputs. | **Teamwork**To understand that software can be used to work online collaboratively. | **What is the weather?**To log data taken from online sources in a spreadsheet. | **What is HTML?**To recognise the role of HTML in a web page. |
| **Week 2** | **A file’s journey**To demonstrate how information moves around a network. | **Race against the computer**To compare paper and computerised databases. | **Building a paper laptop**To identify the components inside a laptop. | **Sharing a document**To understand how to contribute to someone else’s work effectively. | **Weather stations**To design a weather station. | **Remixing HTML**To change HTML code for a specific purpose. |
| **Week 3** | **How a website works**To demonstrate how a website works. | **Sorting and filtering – Microsoft**To sort, filter and interpret data. | **Following instructions**To understand the purpose of computer parts. | **Microsoft Forms 1**To understand how to create a digital survey. | **Extreme weather**To design an automated machine to respond to sensor data. | **HTML unplugged**To recognise the basics of HTML. |
| **Week 4** | **Routers**To explore the role of a router. | **Representing data – Microsoft**To represent data in different ways. | **Computer memory**To understand the purpose of computer parts. | **Microsoft Forms 2**To create and share a Microsoft Form. | **Satellites and forecasts**To understand how weather forecasts are made. | **Website hacking**To alter the HTML on a live web page. |
| **Week 5** | **What is packet data?**To identify the role of packet data. | **Planning a holiday**To sort data for a purpose. | **Dismantling a tablet**To decompose a tablet computer. | **Shared spreadsheets**To analyse data. | **Presenting forecasts**To use tablets or digital cameras to present a weather forecast. | **Replacing images**To alter an image on a web page. |

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| **Lewknor Medium Term Plan**  |
| **Computing – Year 5/6 – Cycle A** |
|  | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Theme/Unit** | **Programming**Micro:bitYr.5 | **Data handling**Mars Rover 1Yr.5 | **Skills showcase**Mars Rover 2Yr.5 | **Computing systems and networks**Bletchley Park and the history of computersYr.6 | **Computing systems and networks**Exploring AIYr.6 | **Skills showcase**Inventing a productYr.6 |
| **Week 1** | **Tinkering with BBC Micro:bit**To tinker with a new piece of software. | **Mars Rover**To identify how and why data is collected from space. | **Pixels**To recognise how bit patterns represent images as pixels. | **Secret codes**To understand there are many different types of secret codes. | **What is AI?**To explore the basics of AI. | **Invention design**To design an electronic product. |
| **Week 2** | **Programming an animation**To program an animation. | **Binary code**To read and calculate numbers using binary code. | **Compressing images**To explain how the data for digital images can be compressed. | **Brute force hacking**To understand the importance of having a secure password. | **AI and text**To recognise how AI processes and responds to text prompts. | **Coding and debugging**To code and debug a program. |
| **Week 3** | **Polling program**To recognise coding structures. | **Computer architecture**To identify the computer architecture of the Mars Rovers. | **Fetch-Decode-Execute cycle**To identify and explain the fetch, decode and execute cycle. | **Computers of the past**To recognise the importance of the history of computers and create a well-researched presentation. | **AI through images**To recognise how AI can be used to explore and generate images. | **Computer Aided Design (CAD)**To use CAD software to design a product. |
| **Week 4** | **Programming a pedometer**To create a program for a specific task. | **Using binary – numbers**To use simple operations to calculate bit patterns. | **Tinkering with CAD**To learn the basics of using Tinkercad through tutorials. | **Future computer**To design a computer of the future. | **Coding AI**To apply AI-generated HTML code to the website Trinket. | **My product’s website**To create a website. |
| **Week 5** | **Programming a scoreboard**To create a program. | **Using binary – text**To represent binary as text. | **Tinkercad design**To design a functional tyre for the Mars rover using Tinkercad. | **Audio adverts**To create an audio advert for a future computer. | **Ethics and AI**To debate the ethical implications of AI. | **Video advert**To create a video advert. |

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| **Lewknor Medium Term Plan**  |
| **Computing – Year 5/6 – Cycle B** |
|  | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer** |
| **Theme/Unit** | **Programming**Programming 1: MusicYr.5 | **Creating media**Stop motion animation**Option 1:** Stop motion studio **Option 2:** Using camerasYr.5 | **Computing systems and networks**Search enginesYr.5 | **Data handling**Big data 1Yr.6 | **Data handling**Big data 2Yr.6 | **Programming**Introduction To PythonYr.6 |
| **Week 1** | **Tinkering with Scratch music elements**To tinker with Scratch music elements. | **Animation explored**To understand what animation is. | **Searching basics**To understand what a search engine is and how to use it. | **Barcodes**To identify how barcodes and QR codes work. | **Transferring data**To explain how data can be safely transferred. | **Tinkering with Logo**To tinker with a new piece of software. |
| **Week 2** | **Scratch soundtracks**To create a program that plays themed music. | **Exploring stop-motion**To understand what stop motion animation is. | **Searching basics**To understand what a search engine is and how to use it. | **Transmitting data**To know how infrared waves transmit data. | **Data usage**To investigate the data usage of different online activities. | **Nested loops**To understand nested loops. |
| **Week 3** | **Planning a soundtrack**To plan a soundtrack program. | **Planning my stop motion project**To plan a stop motion video. | **Web quest**To search effectively. | **RFID**To recognise how RFID is used. | **The Internet of Things**To identify how data collection can improve city life. | **Using Python**To understand basic Python commands. |
| **Week 4** | **Programming a soundtrack**To program a soundtrack. | **Stop-motion creation**To create a stop motion animation. | **Information poster**To create an informative poster. | **Using RFID**To input and analyse real-world data. | **Designing a smart school**To design a system for turning a school into a smart school. | **Using loops in Python**To use loops when programming. |
| **Week 5** | **Battle of the bands**To program music for a specific purpose. | **Editing my stop motion project**To edit my stop motion animation. | **Web crawlers**To understand how search engines work. | **Transport data**To analyse and evaluate data. | **Smart school presentation**To present ideas for turning a school into a smart school. | **Coding Mondrian**To understand the use of random numbers. |

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| **Lewknor Medium-Term Plan**  |
| **Computing – Whole school -** Internet Safety Week:Online Safety |
|  | **Year 1/2****Cycle A** | **Year 1/2****Cycle B** | **Year 3/4****Cycle A** | **Year 3/4****Cycle B** | **Year 5/6****Cycle A** | **Year 5/6****Cycle B** |
| **Week 1** | **Using the internet safely**To recognise what the internet is and how to use it safely. | **What happens when I post online?**To decide which information is safe to share online. | **Beliefs, opinions and facts on the internet**To understand how the internet can be used to share beliefs, opinions and facts. | **What happens when I search online?**To describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy. | **Online protection**To understand how apps can access personal information and how to alter the permissions. | **Life online**To describe online issues that give us negative feelings and know how to get help. |
| **Week 2** | **Online emotions**To identify how people’s feelings and emotions can be affected by online content. | **How do I keep my things safe online?**To practise keeping information safe and private online. | **Who should I ask?**To explain what should be done before sharing information online. | **How do companies encourage us to buy online?**To describe some of the methods used to encourage people to buy things online. | **Online communication**To be aware of the positive and negative aspects of online communication. | **Sharing online**To explore the impact and consequences of sharing online. |
| **Week 3** | **Always be kind and considerate**To recognise how to treat others, both online and in person. | **It’s my choice**To recognise when to deny permission online. | **When being online makes me upset**To identify the effects that the internet can have on people’s feelings. | **Fact, opinion or belief?**To explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true. | **Online reputation**To understand how online information can be used to form judgements.  | **Creating a positive online reputation**To know how to create a positive online reputation. |
| **Week 4** | **Posting and sharing online**To recognise the importance of being careful when posting and sharing online. | **Is it true?**To recognise that not everything online is true. | **Sharing of information**To understand the ways personal information can be shared on the internet. | **What is a bot?**To explain that technology can be designed to act like or impersonate living things. | **Online bullying**To discover ways to overcome bullying. | **Capturing evidence**To describe how to capture bullying content as evidence. |
| **Week 5** | **How much time should we spend on technology?**To discuss ways to balance time spent online and offline. |  | **Rules of social media platforms**To understand the rules for social media platforms. | **What is my #TechTimetable like?**To explain how technology can be a distraction and identify when I might need to limit the amount of time spent using technology. | **Online health**To understand how technology can affect health and wellbeing. | **Password protection**To manage personal passwords effectively.**Think before you click**To be aware of strategies that help protect people online. |