



Computing medium term plan - Year 3

Unit overview		National Curriculum Programmes of Study Covered
Term 1  Digital Literacy	<p>Key skills: Using blogs (with touch typing practice)</p> <p>In this unit children will learn what a blog is, how to comment on a blog entry and how to write their own blog entries. E-safety: how to comment appropriately and what to do in the event of an inappropriate comment.</p> <p>Challenge: To create and maintain a class blog.</p>	<ul style="list-style-type: none">● 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, including collecting, analysing, evaluating and presenting data and information● Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact
Term 2  Computer Science	<p>Key skills: Using IF statements to create more interactive programs</p> <p>In this unit, children will learn to use IF statements which will allow their programs to ask simple questions and adapt the code that runs based upon the outcome of that question. This will result in more interactive programs.</p> <p>Challenge: Create a game called 'Sea Life Safety' which uses IF statements extensively</p>	<ul style="list-style-type: none">● Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs● Use sequence, selection and repetition in programs; work with variables and various forms of input and output
Term 3  Computing Technology	<p>Key skills: Understanding how devices connect to create a network</p> <p>In this unit, children will develop their understanding of how devices can be interconnected through the use of networks and how interconnected devices can share resources and offer services to other devices on the network.</p> <p>Challenge: Create a series of network diagrams for some simulated networks</p>	<ul style="list-style-type: none">● recognise common uses of information technology beyond school
Term 4  Digital Literacy	<p>Key skills: Creating basic presentations</p> <p>In this unit children will learn how to create basic presentations in software such as Microsoft Powerpoint or Apple Keynote. They will learn how to combine a range of media, including photos, clipart and word art.</p> <p>Challenge: To deliver a presentation to the class on a given theme.</p>	<ul style="list-style-type: none">● 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, including collecting, analysing, evaluating and presenting data and information
Term 5  Computer Science	<p>Key skills: Using IF ELSE statements to create even more interactive programs</p> <p>In this unit, children will learn how to use IF ELSE statements to create more interactive programs. IF ELSE statements work very much like IF statements, but they allow us to have more than one outcome for a question.</p> <p>Challenge: Create a game called 'Keep Up Challenge' in which a ball is kept bouncing</p>	<ul style="list-style-type: none">● Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs● Use sequence, selection and repetition in programs; work with variables and various forms of input and output
Term 6  Digital Literacy	<p>Key skills: Styling documents to create eye-catching posters and leaflets</p> <p>In this unit children will learn how to create visually attractive posters and leaflets by adding borders, shapes, clipart and images to digital documents.</p> <p>Challenge: Create a leaflet or poster linked to the theme</p>	<ul style="list-style-type: none">● 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, including collecting, analysing, evaluating and presenting data and information



Computing medium term plan - Year 4

Unit overview		National Curriculum Programmes of Study Covered
Term 1  Digital Literacy	<p>Key skills: Using search engines effectively (with touch typing practice)</p> <p>In this unit children will learn how to make more effective use of search engines. They will learn how to select search terms and how to restrict their results so they're more useful. E-safety: Websites can trick search engines / searching for images safely.</p> <p>Challenge: To use the Internet to find answers to questions for a class quiz</p>	<ul style="list-style-type: none">● Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content● Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact
Term 2  Computer Science	<p>Key skills: Using variables to enable programmers to adapt code more easily</p> <p>In this unit, children will learn how to use variables to store and retrieve information within a program.</p> <p>Challenge: To create a racing game which can easily be adapt for different age groups</p>	<ul style="list-style-type: none">● Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs● Use sequence, selection and repetition in programs; work with variables and various forms of input and output
Term 3  Computing Technology	<p>Key skills: Understanding the components of a computer and how they interconnect</p> <p>In this unit, children will learn how computers actually work. They will learn the purpose of a processor, storage, network connections and IO (input / output connectivity).</p> <p>Challenge: To put together a Raspberry Pi and then use it to light an LED</p>	<ul style="list-style-type: none">● 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
Term 4  Digital Literacy	<p>Key skills: To create interactive 'kiosk' presentations</p> <p>In this unit children will learn to create interactive 'kiosk' presentations in software such as Microsoft Powerpoint. They will learn how to use actions attached to buttons to move between slides and access external content, such as web pages.</p> <p>Challenge: To create an interactive presentation linked to a theme</p>	<ul style="list-style-type: none">● 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, including collecting, analysing, evaluating and presenting data and information
Term 5  Computer Science	<p>Key skills: Storing and retrieving values from a variable as a program is running</p> <p>In this unit children will learn the benefit of being able to change the value of a variable as a program runs. This will allow them to create more interactive programs that adapt the way they're running according to the value of the variable.</p> <p>Challenge: To create a racing game with an afterburner lane and grass that slows the car</p>	<ul style="list-style-type: none">● Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs● Use sequence, selection and repetition in programs; work with variables and various forms of input and output
Term 6  Digital Literacy	<p>Key skills: To create stop frame animations that tell a story</p> <p>In this unit children will learn how digital animations are created, either by sequencing a range of individual images or through the use of keyframes and wireframes.</p> <p>Challenge: To create a narrative stop frame animation linked to a story in Literacy</p>	<ul style="list-style-type: none">● 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, including collecting, analysing, evaluating and presenting data and information



Computing medium term plan - Year 5

Unit overview		National Curriculum Programmes of Study Covered
Term 1  Digital Literacy	<p>Key skills: Using email (with touch typing practice)</p> <p>In this unit children will learn how to use email safely. They will learn how to send emails, including those with attachments, and how to manage an inbox to keep it organised. E-safety: How to manage inappropriate messages / how to avoid viruses.</p> <p>Challenge: To use email to work with others to crack a code</p>	<ul style="list-style-type: none">● Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact● Understand computer networks including the Internet; how they can provide multiple services, such as the worldwide web and the opportunities they offer for communication and collaboration.
Term 2  Computer Science	<p>Key skills: Using operators to carry out mathematical functions and logical comparisons</p> <p>In this unit children will learn to use mathematical operators to manipulate numbers and logical operators to compare values. They will also learn how these operators can be combined to help make complicated decisions.</p> <p>Challenge: To create a place value number quiz for a maths teacher</p>	<ul style="list-style-type: none">● Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs● Use sequence, selection and repetition in programs; work with variables and various forms of input and output
Term 3  Computing Technology	<p>Key skills: Controlling external components with a computer.</p> <p>In this unit children will learn how the Raspberry Pi can be used to control multiple components through the use of its IO ports. They will learn how to write programs that allow them to control both components independently.</p> <p>Challenge: To build a motorised buggy controlled by the Raspberry Pi</p>	<ul style="list-style-type: none">● 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
Term 4  Digital Literacy	<p>Key skills: Editing and mixing musical compositions</p> <p>In this unit children will learn the concepts behind multi-track music editing. They will then learn how to create their own musical compositions by combining existing musical elements with those they create themselves.</p> <p>Challenge: Create an original song</p>	<ul style="list-style-type: none">● 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, including collecting, analysing, evaluating and presenting data and information
Term 5  Computer Science	<p>Key skills: Using physical sensors and controllers with virtual programs</p> <p>In this unit children will learn how to create interactions between programs on the computer and physical systems, such as data loggers and robots.</p> <p>Challenge: Create a fairground ride for 10 passengers, with each ride lasting 60 seconds</p>	<ul style="list-style-type: none">● Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs● Use sequence, selection and repetition in programs; work with variables and various forms of input and output
Term 6  Digital Literacy	<p>Key skills: Recording and editing movies</p> <p>In this unit children will learn how to record and edit movies in software such as Windows Movie Maker or iMovie. They will learn how to include sound effects, background music and titles to create more engaging videos for the viewer.</p> <p>Challenge: To create a music video to accompany the track they produced in term 4</p>	<ul style="list-style-type: none">● 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, including collecting, analysing, evaluating and presenting data and information



Computing medium term plan - Year 6

Unit overview		National Curriculum Programmes of Study Covered
Term 1  Digital Literacy	<p>Key skills: Creating a website (with touch typing practice)</p> <p>In this lesson children will learn how to create a website. They will learn the importance of organising information into pages, accessible through an easy to navigate menu. E-Safety: How to stay safe when using social networks; what counts as 'personal' information?</p> <p>Challenge: To create and manage a website on a personal hobby / class theme</p>	<ul style="list-style-type: none">● Use technology safely, respectfully and responsibly...● 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...● Understand computer networks including the Internet; how they can provide multiple services, such as the worldwide web...
Term 2  Computer Science	<p>Key skills: Using a pen and music / sounds within a program</p> <p>In this unit children will learn how to use pen tools and sound tools to create more stimulating programs on the computer</p> <p>Challenge: To create a fun drawing program for young children to see</p>	<ul style="list-style-type: none">● Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs● Use sequence, selection and repetition in programs; work with variables and various forms of input and output
Term 3  Computing Technology	<p>Key skills: Controlling external components with a computer.</p> <p>In this unit children will learn how the Raspberry Pi can be used to control multiple components through the use of its IO ports and how these ports can also sense for an input, for example from a switch.</p> <p>Challenge: To build an automated traffic light system controlled by the Raspberry Pi</p>	<ul style="list-style-type: none">● 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
Term 4  Digital Literacy	<p>Key skills: To use formulae and graphs within a spreadsheet</p> <p>In this unit children will learn how to use formulae within a spreadsheet to carry out calculations for a user. They will also learn how to create simple graphs to present the data.</p> <p>Challenge: Carry out a survey then use the spreadsheet to process the results</p>	<ul style="list-style-type: none">● Understand computer networks including the Internet; how they can provide multiple services, such as the worldwide web and the opportunities they offer for communication and collaboration.● 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, including collecting, analysing, evaluating and presenting data and information
Term 5  Computer Science	<p>Key skills: Using procedures to create reusable code</p> <p>In this unit children will learn what a procedure is and how they can be used to facilitate coding in a group and the creation of reusable code.</p> <p>Challenge: To create a series of reusable procedures that can quickly be deployed</p>	<ul style="list-style-type: none">● Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs● Use sequence, selection and repetition in programs; work with variables and various forms of input and output
Term 6  Digital Literacy	<p>Key skills: To create stimulating presentations that combine a range of media</p> <p>In this unit children will learn to create more stimulating presentations with the online tool prezi.com. They will also learn to combine images and videos to create more engaging presentations.</p> <p>Challenge: To create an interactive presentation all about their time at school</p>	<ul style="list-style-type: none">● 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, including collecting, analysing, evaluating and presenting data and information