Computing Long Term Overview 2023/2024

	Autumn		Spring		Summer	
Year 1	**Technology around us (5,6)** **Creating Media – Digital Writing (4)** **Skills** Recognise a range of digital devices. Select a digital device to fulfil a specific task, e.g. to take a photo. Name a range of digital devices, e.g. laptop, phone, games console. Log on to the school computer / unlock the school tablet with support. Identify the basic parts of a computer, e.g. mouse, keyboard, screen. Use a suitable access device (mouse, keyboard, touchscreen, switch) to access and control an activity on a computer. Open key applications independently. Save and open files with support.	**Technology around us (5,6)** **Creating Media – Digital Writing (4)** **Skills** Recognise a range of digital devices. Select a digital device to fulfil a specific task, e.g. to take a photo. Name a range of digital devices, e.g. laptop, phone, games console. Log on to the school computer / unlock the school tablet with support. Identify the basic parts of a computer, e.g. mouse, keyboard, screen. Use a suitable access device (mouse, keyboard, touchscreen, switch) to access and control an activity on a computer. Open key applications independently.	**Programming A - Moving a robot (1,2,3)** **Skills** Recognise that computers don't have a brain. Explain that we control computers by giving them instructions. Create a simple program e.g. to control a floor robot. Create a simple algorithm. Predict the outcome of a simple algorithm or program. Explain what an algorithm is – a sequence of instructions to make something happen. Recognise that the order of instructions in an algorithm is important. Debug an error in a simple algorithm or program e.g. for a floor robot.	**Data – Grouping data (4)** **Skills** Choose media from a selection (e.g. images, video, sound) to present information on a topic. Recognise different forms of digital content, i.e. text, image, video and audio. Collect simple data (e.g. likes/dislikes) on a topic. Present simple data using images, e.g. number of animals. Recognise charts and pictograms and why we use them. Use a suitable access device (mouse, keyboard, touchscreen, switch) to access and control an activity on a computer.	**Creating media – Digital painting (4)** **Skills** Create digital content, e.g. digital art. Choose media from a selection (e.g. images, video, sound) to present information on a topic. Recognise that you can find out information from a website. Recognise that you can edit digital content to change its appearance. Select basic tools/ options to change the appearance of digital content, e.g. filter on an image / font / size of paintbrush. Combine media with support to present information, e.g. text and images.	**Programming B – Programming a robot (1,2,3)** **Skills** Recognise that computers don't have a brain. Explain that we control computers by giving them instructions. Create a simple program e.g. to control a floor robot. Create a simple algorithm. Predict the outcome of a simple algorithm or program. Explain what an algorithm is – a sequence of instructions to make something happen. Recognise that the order of instructions in an algorithm is important. Debug an error in a simple

	Recognise different forms of digital content, i.e. text, image, video and audio Add an image to a document from a given folder/source with support.	Save and open files with support. Recognise different forms of digital content, i.e. text, image, video and audio Add an image to a document from a given folder/source with support.		Open key applications independently. Save and open files with support. Add an image to a document from a given folder/source with support.	Use a suitable access device (mouse, keyboard, touchscreen, switch) to access and control an activity on a computer. Open key applications independently. Save and open files with support. Add an image to a document from a given folder/source with support.	algorithm or program e.g. for a floor robot.
	Autumn		Spring		Summer	
Year 2	**IT around us (5,6)** **Skills** Create simple digital content for a purpose, e.g. digital art. Recognise that we can use technology to take and view photographs. Select a digital device to fulfil a specific task, e.g. to take a photo. Use a suitable access device (mouse, keyboard, touchscreen, switch) to access and control an activity on a computer. Save and open files with support Add an image to a document from a given folder/source with support. Apply edits to digital content to achieve a particular effect, e.g. emphasise part of a text. Save and open files with support	**Programming A – Moving a robot (1,2,3)** **Skills** Explain that computers have no intelligence and we have to program them to do things. Create a program with multiple steps e.g. to control a floor robot. Predict the outcome of an algorithm or program with multiple steps. Recognise that the instructions in an algorithm need to be clear and unambiguous. Identify and correct errors in a given algorithm or program, and recognise the term debugging.	**Creating media – Making music (4)** **Skills** Create simple digital content for a purpose, e.g. digital art. Recognise that we can use technology to record and playback audio. Recognise different forms of digital content, i.e. text, image, video and audio Collect simple data (e.g. likes/dislikes) on a topic	**Creating media – Digital Photography (4)** **Skills** Use a suitable access device (mouse, keyboard, touchscreen, switch) to access and control an activity on a computer. Recognise that we can use technology to record and playback audio or take and view photographs. Recognise that we can use different types of media to convey information, e.g. text, image, audio, video. Add an image to a document from a given folder/source with support.	**Programming B – Quizzes (1,2,3)** **Skills** Explain that computers have no intelligence and we have to program them to do things. Create a program with multiple steps e.g. to control a floor robot. Predict the outcome of an algorithm or program with multiple steps. Recognise that the instructions in an algorithm need to be clear and unambiguous. Identify and correct errors in a given algorithm or program, and recognise the term debugging. Explain what an algorithm is, and that when inputted on a	**Pictograms – To be taught through Maths (Statistics)**

				computer it is called a program. Plan out a program by creating an algorithm, and evaluate its success.	

KS2 National Curriculum Objectives

1. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
2. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output
3. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
4. 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
5. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
6. 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
7. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

	Autumn		Spring		Summer	
Year 3	**Connecting Computers (4,5,7)** **Skills** Describe what a computer is (input > process > output). Explain the difference between input and output devices on a computer. Know where to save and open files (e.g. in shared folder). Save files with appropriate names. Use a keyboard effectively to type in text. Use left-, right- and double-click on the mouse. Add an image to a document from the internet.	**Creating media – Animation (6)** **Skills** Present ideas and information by combining media independently, e.g. text and images. Design and create simple digital content for a purpose/audience, e.g. poster. Edit digital content to improve it, e.g. resize text. Identify the features of a good piece of digital content.	**Programming A – Sequence in music (1,2,3)** **Skills** Children can Predict the outcome of a block or text-based program. Successfully modify an existing program, e.g. change background, number of times things happen. Identify repeated steps in a program or algorithm. Create examples of algorithms	**Data and Information - Branching databases (6)** **Skills** Recognise charts, pictograms and databases, and why we use them Create a branching database using pre-prepared images and questions Identify the features of a good question in a branching database. Independently plan out and create a Identify	**Creating media – Desktop publishing (6)** **Skills** Present ideas and information by combining media independently, e.g. text and images. Design and create simple digital content for a purpose/audience, e.g. poster. Edit digital content to improve it, e.g. resize text. Identify the features of a good piece of digital content.	**Programming B – Events and actions (1,2,3)** **Skills** **Skills** Children can Predict the outcome of a block or text-based program. Successfully modify an existing program, e.g. change background, number of times things happen. Identify repeated steps in a program or algorithm.

	Resize and move an image in a document.	Explain why we use technology to create digital content. Recognise why we use different types of media to convey information, e.g. text, image, audio, video Know where to save and open files (e.g. in shared folder). Save files with appropriate names. Use a keyboard effectively to type in text. Use left-, right- and double-click on the mouse	Recognise that we can create an algorithm to help plan out a program. Identify errors in a program and debug them Plan a program that involves sequencing and implement it	the type of data that can be presented in a branching database. Evaluate a given branching database and suggest improvements. Name some benefits of using computers to create branching databases	Explain why we use technology to create digital content. Recognise why we use different types of media to convey information, e.g. text, image, audio, video Know where to save and open files (e.g. in shared folder). Save files with appropriate names. Use a keyboard effectively to type in text. Use left-, right- and double-click on the mouse. Add an image to a document from the internet. Resize and move an image in a document.	Create examples of algorithms Recognise that we can create an algorithm to help plan out a program. Identify errors in a program and debug them Plan a program that involves sequencing and implement it
		Autumn		Spring		Summer
Year 4	Computer systems and Networks – Including the Internet (4,5,7) Skills Collect, organise and present information using a range of media. Design and create digital content for a specific purpose, e.g. poster, animation. Edit digital content to improve it according to feedback.	Programming A – Repetition in shapes (1,2,3) Skills Create a program using a range of events/inputs to control what happens. Recognise that we can decompose a problem into smaller parts to help solve it. Explain when to use forever loops and count-controlled	Creating Media – Photo editing (6) Skills Collect, organise and present information using a range of media. Design and create digital content for a specific purpose, e.g. poster, animation. Edit digital content to improve it according to feedback.	Data and information – Data logging (6) Skills Draw conclusions from information stored in a database, chart or table Pose relevant questions and collect a range of data on a theme. Choose appropriate formats to present data to convey information. Appreciate that you need to use specific	Creating media - Audio editing (6) Skills Collect, organise and present information using a range of media. Design and create digital content for a specific purpose, e.g. poster, animation. Edit digital content to improve it according to feedback.	Programming B – repetition in games (1,2,3) Skills Create a program using a range of events/inputs to control what happens. Recognise that we can decompose a problem into smaller parts to help solve it. Explain when to use forever loops and

Identify the features of a good piece of digital content and apply these in own design. Explain the benefits of using technology to present information. Use a search engine to find specific information. Recognise that you can organise files using folders. Use key parts of a keyboard effectively, e.g. shift, arrow keys, delete). Know how to copy and paste text or images in a document. Crop an image and apply simple filters.	loops, and use them in programs. Recognise selection in a program or algorithm. Use selection in algorithms in programs to alter what happens when a condition changes, e.g. if…then… Design a program for a purpose. Decompose into parts and create an algorithm for each one. Recognise common mistakes in programs and how to correct them.	Identify the features of a good piece of digital content and apply these in own design. Explain the benefits of using technology to present information. Use key parts of a keyboard effectively, e.g. shift, arrow keys, delete). .	software to work with video, images, audio etc	Identify the features of a good piece of digital content and apply these in own design. Explain the benefits of using technology to present information. Know where to find copyright-free content, e.g. creative commons images. Use key parts of a keyboard effectively, e.g. shift, arrow keys, delete). Know how to copy and paste text or images in a document. Crop an image and apply simple filters.	count-controlled loops, and use them in programs. Design a program for a purpose. Decompose into parts and create an algorithm for each one. Recognise common mistakes in programs and how to correct them.

	Autumn		Spring		Summer

| **Year 5** | **Computing systems and networks – Sharing information (4,5,7)**

 Skills
 Type using fingers on both hands. Use common keyboard shortcuts, e.g. ctrl C (copy), ctrl V (paste). | **Creating media – Vector drawing (6)**

 Skills
 Remix and edit a range of existing and their own media to create content. Consider the audience when designing and creating digital content. Identify success criteria for creating digital content for a given purpose and audience. | **Programming A – Selection in physical computing (1,2,3)**

 Skills
 Name a range of sensors in physical systems. Recognise that different solutions may exist for the same problem. Predict what will happen in a program or algorithm when the input changes | **Data – Fact files and databases (6)**

 Skills
 Identify and use appropriate hardware and software to fulfil a specific task Identify success criteria for creating digital content for a given purpose and audience. | **Programming B – Selection in quizzes (1,2,3)**

 Skills
 Recognise that different solutions may exist for the same problem. Predict what will happen in a program or algorithm when the input changes (e.g. sensor, data or event). | **Creating media – Video editing (6)**

 Skills
 Identify and use appropriate hardware and software to fulfil a specific task. Remix and edit a range of existing and their own media to create content. Consider the audience when |

		Evaluate their own content against success criteria and make improvements accordingly. Appreciate that different programs work with different types of data, e.g. text, number, video	(e.g. sensor, data or event). Use two-way selection in programs and algorithms, i.e. if…then…else… - Create programs including repeat until loops. Evaluate a program and make improvements to the code or design accordingly. Create an algorithm for a physical system containing a sensor. Identify and use appropriate hardware and software to fulfil a specific task.	Explain the difference between data and information. Appreciate that different programs work with different types of data, e.g. text, number, video. Type using fingers on both hands. Use common keyboard shortcuts, e.g. ctrl C (copy), ctrl V (paste).	Use two-way selection in programs and algorithms, i.e. if…then…else… Create programs including repeat until loops. Evaluate a program and make improvements to the code or design accordingly.	designing and creating digital content. Identify success criteria for creating digital content for a given purpose and audience. Evaluate their own content against success criteria and make improvements accordingly.
	Autumn		Spring		Summer	
Year 6	**Computing systems and networks – Communication (4,5,7)** <u>Skills</u> Type efficiently using both hands. Use a range of keyboard shortcuts. Explain the difference between physical, mobile and wireless networks. Explain the difference between the Internet and the World Wide Web. Know the difference between a search engine and a web browser. Explain the basics of how search engines work, and that different search engines may	**Programming –Sensing (1,2,3)** <u>Skills</u> Design and program a physical computing system that uses sensors. Recognise and use procedures (sub-routines) in programs. Plan out a program in detail, including task, algorithm, code and execution level. Explain common errors in programs and how to fix them. Use nested selection statements in a program or algorithm effectively. Recognise key concepts (sequence,	**Creative design – 3D modelling (6)** <u>Skills</u> Explain the benefits of using technology to collaborate with others. Evaluate existing digital content in terms of effectiveness and design. Type efficiently using both hands. Use a range of keyboard shortcuts. Identify the most effective tools to present information for a specific purpose. Select, combine and remix a range of media to create original content.	**Creating media – Web page design (7,6,4)** <u>Skills</u> Explain the difference between the Internet and the World Wide Web. Know the difference between a search engine and a web browser. Explain the basics of how search engines work, and that different search engines may give different results. Perform complex searches for information using	**Data – Spreadsheets (6)** <u>Skills</u> Explain the benefits of using technology to collaborate with others. Evaluate existing digital content in terms of effectiveness and design. Type efficiently using both hands. Use a range of keyboard shortcuts. Recognise what a spreadsheet is and what it is used for Use simple formulae in a spreadsheet to find	**Programming – Variables (1,2,3)** <u>Skills</u> Recognise and use procedures (sub-routines) in programs. Plan out a program in detail, including task, algorithm, code and execution level. Explain common errors in programs and how to fix them. Use nested selection statements in a program or algorithm effectively. Combine a variable with relational operators (< = >) to determine when a

give different results. Perform complex searches for information using advanced settings in search engines. Explain the benefits of using technology to collaborate with others.	selection, repetition and variables) in a range of languages and contexts. Evaluate existing digital content in terms of effectiveness and design. Use a range of keyboard shortcuts.	Consider all steps of the design process when creating content (e.g. identify problem, plan, create, evaluate, share.)	advanced settings in search engines. Type efficiently using both hands. Identify the most effective tools to present information for a specific purpose. Select, combine and remix a range of media to create original content. Consider all steps of the design process when creating content (e.g. identify problem, plan, create, evaluate, share.)	out information from a set of data. Collect data for a purpose and plan out a spreadsheet to present it effectively, using relevant formulae. Produce graphs from data in a spreadsheet to answer a question. Analyse and evaluate data and information in a spreadsheet, chart or database. Recognise that poor quality data leads to unreliable results.	program changes, e.g. if score > 5, say "well done". Recognise key concepts (sequence, selection, repetition and variables) in a range of languages and contexts.