Ecclesfield Primary School

Subject Overview Computing 2025-2026

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Foundation Stage	**We Control technology** 1a - What is a Computer? 1b - We Control Technology 1c - Tinkering: Bee-Bots This strand supports the EYFS educational programme for Understanding the World by helping children to foster their understanding of a technological diverse world. In addition it prepares the children for learning Computational Thinking skills in KS1. **Online Safety Links:** Online Safety & Digital Literacy Sleep (L1) - understand that screen time can affect sleep. Choosing what to do online (L2) - deciding on what is appropriate to watch and play online. Communicating online (S1) - how do they use technology to communicate?		**Communication Multimedia** 2a - Digital Art 2b - Sound & Music 2c - Photographs 2d - Films & Animation 2e - eBooks This strand encourages the use of technology to support literacy and in other subject areas such as music and art. **Online Safety Links:** Online Safety & Digital Literacy Feeling Safe (S2) - what to do if they see something they don't like. Personal Information (S3) - understand that some information is private, and shouldn't be shared Choosing what to do online (L2) - deciding on what is appropriate to watch, listen to and play online. Sleep (L1) - understand that screen time can affect sleep.		**Communication Data** 3a - Counting 3b - Sorting This strand demonstrates how technology can be used to support numeracy, and prepares pupils for working with data in Computing in KS1. **Online Safety Links:** Online Safety & Digital Literacy Feeling Safe (S2) - what to do if they see something they don't like. Personal Information (S3) - understand that some information is private, and shouldn't be shared.	

	Feeling Safe (S2) – what to do if they see something they don't like. Personal Information (S3) – understand that some information is private, and shouldn't be shared.		Choosing what to do online (L2) – deciding on what is appropriate to watch and play online.			
Year 1	**Vocabulary** Computer Technology Hardware Software Avatar Password Save Open Document File Folder Font Apps Personal Information Sound Text Image Video File Record Play stop Pause Media Photograph Digital Camera Focus Close up Information Data Pictogram Chart Personal Information Private/ Public More/ less/ fewer/ least/ most Program Instruction Computer Forwards Backwards Left Turn Right turn Robot Command Order Sequence					
	0.1 What is a computer	1.1 How do I use computer independently	2.1 How do I use pictures and sounds?	4.1 Simple BeeBot Programs	3.1 How do I present data using pictures?	5.1 What is an algorithm?
	Online Safety					
	Entering: Pupils use a range of digital devices and understand	Understand that a computer is a type of machine and we use computers to help us find out	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Recognise that program is a sequence of instructions that a computer can follow. Predict	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Recognise that an algorithm is a sequence of instructions that a human or computer can

	that you can access content on a digital device. They use a mouse, touchscreen or appropriate access device to target and select options on screen. **Developing**: Pupils recognise a range of digital devices, and the basic parts of a computer or tablet, e.g. mouse, keyboard, screen. They understand that you can access the same content on different devices and that	and present information CONCEPTS: What is a computer; hardware; software; creating content; personal information KNOWLEDGE: Why we use a computer to write; basic icons and where to find options in menus in word-processing software; where to open and save work at school; how to edit text and why we use particular effects (e.g. bold, underline); why we need to keep	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies CONCEPTS: Computer; software/application; creating & editing content; multimedia – text, image, audio, video; copyright; personal information KNOWLEDGE: A range of devices that can take digital	the outcome of simple programs, and start to plan out simple programs to move a floor robot. CONCEPTS: Computer; program; debugging DECLARATIVE KNOWLEDGE : Humans control computers by giving them instructions; what each button does o Bee Bot; the instructions we give to a Bee Bot is called a program. PROCEDURAL KNOWLEDGE:	Use technology safely and respectfully, keeping personal information private CONCEPTS: Computer; software/application; personal information; information & data; chart/pictogram KNOWLEDGE: We can present data in charts; different kinds of charts and pictograms; key features of a chart/pictogram; why we use computers; who to share personal information with SKILLS: Mouse & keyboard skills; collecting data; open and save	follow to complete a task. Create simple programs using floor robots by planning out an algorithm first. Debug and predict the outcome of simple programs and algorithms. CONCEPTS Computer; algorithm ; program; debugging DECLARATIVE KNOWLEDGE An algorithm is a set of instructions that can be followed by a human or a computer to achieve a task; an algorithm

	information can be stored on a computer. They can add text to a document using the keyboard (where appropriate). Pupils understand that information and media can be stored on a digital device, e.g. they ask to view a photo that has been taken on a tablet **Secure**: Pupils can name a range of digital devices in the home and at school. They can	personal information private. SKILLS: Logging on; Mouse skills – left, right, double click, targeting; keyboard skills – simple typing, basic keys; open and save documents highlight text and change appearance; insert an image **Entering**: Pupils use technology to explore and access digital content. They create simple digital content, e.g. add basic text to a document that is already open. Pupils choose	photos/record audio or create art; (photos can be edited to alter them); why we use computers; where to open and save work at school; what makes a good photo/piece of art; digital content is owned by the person who created it; what to do if they see an upsetting image online SKILLS: Use a camera/microphone/tablet to record audio and take photos OR use basic features of a digital art program to create art **Entering**: Pupils use technology to explore and	Create a simple program to control a floor robot; predict the outcome of simple programs. **Entering**: Pupils explore technology and try alternative approaches to achieve a goal. They understand that we control computers and can follow instructions to control a digital device. They can order the steps of a known task, and recognise patterns in groups of objects. **Developing**: Pupils	documents; create a simple pictogram; answer questions about data shown in a pictogram or chart **Entering**: Pupils sort familiar objects into one or more categories. They collect simple data (e.g. likes/dislikes) on a topic and answer basic questions about information displayed in images, e.g. more or less. They can present simple data using images. Pupils are aware that information can be public or private.*	inputted on a computer is called a program; identifying and correcting errors is called debugging. The order of instructions in a program/algorithm is important. PROCEDURAL KNOWLEDGE: Create a simple program to control a floor robot ;plan an algorithm away from the computer then test out; predict the outcome of simple programs. **Entering**: Pupils understand that we control computers.

	explain what the basic parts of a computer are used for, e.g. mouse, screen, and keyboard. Pupils understand that you can find information on a website, and use a simple password when logging on. They understand that you can share digital content.	media to convey information from a selection. Pupils are aware that information can be public or private.* **Developing**: Pupils understand that you can edit and change digital content, e.g. the appearance of text. They select media (e.g. images) to present information on a topic. They select basic options to change the appearance of digital content, e.g. making text bold. Pupils recognise what is personal information.*	access digital content. They operate a digital device with support to fulfil a task, e.g. taking a photograph, and create simple digital content. Pupils choose photos and sounds from a limited selection to convey information. They are aware that information can be public or private, and that some online content is inappropriate.* **Developing**: Pupils choose a digital device from a selection to complete a specific task, e.g. to take a photograph. They	understand that we control computers by giving them instructions. They can identify and list steps of a known task in order, and understand that this is called an algorithm. They can input a short sequence of instructions to control a digital device. **Secure**: Pupils can create a simple algorithm, and understand that the order of instructions is important. Pupils understand that computers have no intelligence and we have to	**Developing**: Pupils can recognise charts and tables, and understand why we use them. They collect simple data on a topic (eye colour, pets etc.) and use specific software to create simple charts. Pupils can explain information shown in a simple pictogram. They understand what personal information is and the need to keep it private* **Secure**: Pupils can collect data and present it in a pictogram independently. They explain information	They can follow simple instructions to control a digital device, and recognise the success or failure of an action. **Developing**: Pupils understand that we control computers by giving them instructions. They can input a short sequence of instructions to control a digital device. They try alternative approaches to achieve a goal. **Secure**: Pupils understand what an algorithm is and they understand that

		Secure: Pupils can apply simple edits to digital content to achieve a particular effect, e.g. change the font of text for a reason. They combine media with support to present information, e.g. they choose images to accompany text from a selection. They understand that digital images belong to the person that created them, and save and reuse content found online.* Pupils recognise what is personal information and	select media (e.g. images, video, sound) to present information on a topic and understand that you can edit and change digital content. They recognise inappropriate content and know to tell an appropriate adult* **Secure**: Pupils combine media with support to present information, e.g. text and images, and select basic options to change the appearance of digital content. They understand that you can share digital content online.*	program them to do things. Pupils can create a simple program.	shown in a simple chart, pictogram or infographic.	the order of instructions is important. They understand that computers have no intelligence and we have to program them to do things. Pupils can create a simple program e.g. to control a floor robot. They can debug an error in and predict the outcome of a simple program. **Concept**: Logic Algorithm Data Program

		understand the need to keep it private.* **Online Safety Links:** C2: What is the internet **Online Safety Links** s1: Personal Information	They understand that digital images belong to the person that first created them.* Pupils understand what personal information is and the need to keep it private.* They know who to tell if concerned about content or contact online.* **Online Safety Links** P1: Online Strangers P2: Feeling uncomfortable online			
Year 2	Vocabulary Computer Technology Hardware Software Password Input/ output Save/open Document File Folder Font Edit Apps Personal information Acceptable Use Screen Mouse Microphone Keyboard Sound Text Image Video File Record Play Stop Pause					

	Data Information Branching Database Chart Personal information Debug Private Public Algorithm Program Instruction Computer Forwards Backwards Left Turn Right turn Robot Command Sequence Order					
	AUT 1 0.2 What is a computer?	1.2 How do I use a computer as a writer?	4.2 Extending programs with Bee Bot	2.2 How do I create a multimedia story?	3.2 What is a branching data base?	5.2 Extending Simple Drawing programs
	Online safety					
	0.2 **What is a computer?** **Entering**: Pupils recognise a range of digital devices, and the basic parts of a computer, e.g. mouse, keyboard, screen. They understand	*Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about*	*Understand what algorithms are; how they are implemented as programs on digital devices; create and debug simple programs; use logical reasoning to predict the behaviour of simple programs.* *CONCEPTS*	*Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about*	Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Use technology safely and respectfully, keeping personal information private. CONCEPTS: Computer; software/application; personal	**Simple drawing programs** *Recognise that an algorithm is a sequence of precise instructions that a human or computer can follow to complete a task. Create simple programs using online programming*

	that you can access the same content on different devices and that information can be stored on a computer. They can add text to a document using the keyboard (where appropriate). Pupils understand that information and media can be stored on a digital device, e.g. they ask to view a photo that has been taken on a tablet. **Developing**:	*content or contact on the internet or other online technologies.* **CONCEPTS:** What is a computer; hardware; software; input and output devices; creating content. **KNOWLEDGE:** A range of input and output devices; why we use a computer to write; basic icons and where to find options in menus in word-processing software; where to open and save work at school; how to edit text and why we use particular effects	*Computer; algorithm ; program; sequence; debugging* *DECLARATIVE KNOWLEDGE* *An algorithm is a sequence of instructions that can be followed by a human or a computer to achieve a task; an algorithm inputted on a computer is called a program the order of instructions is important; there may be more than one solution to a problem.* *PROCEDURAL KNOWLEDGE:* *Create a program to control a floor*	*content or contact on the internet or other online technologies* *CONCEPTS:* *Computer; software/application; creating & editing content; animation; multimedia - text, image, audio, video; copyright; personal information* *KNOWLEDGE: What makes a good animation/photostory; why we use computers; where to open and save work at school; digital content is owned by the person who created it* *SKILLS: Use a camera/microphone/tablet to take*	information; information & data; chart/pictogram; branching database; debugging KNOWLEDGE: We can present data in different ways; why we use branching databases; key features of a branching database; what makes a good question; why we use computers; why we should be careful who we share personal information with SKILLS: Mouse & keyboard skills; open and save documents; create a simple branching database;	*applications by planning out an algorithm first. Debug and predict the outcome of programs in more than one application.* *CONCEPTS* *: Computer; algorithm ; program; debugging; sequence* *DECLARATIVE KNOWLEDGE* *: An algorithm is a set of instructions that can be followed by a human or a computer to achieve a task we use algorithms to help us plan programs ; the*

	Pupils can name a range of digital devices in the home and at school. They can explain what the basic parts of a computer are used for, e.g. mouse, screen, and keyboard. Pupils understand that you can find information on a familiar website, and use a simple password when logging on.* They understand that you can share digital content. **Secure**: Pupils recognise and	(e.g. bold, underline); why we need rules when using technology. **SKILLS:** Logging on; mouse skills – left, right, double click, targeting; keyboard skills – simple typing, basic keys; open and save documents highlight text and change appearance; insert an image **Entering**: Pupils understand that you can edit and change digital content, e.g. the appearance of text.	*robot; plan an algorithm away from the computer then test out; predict the outcome of and debug programs.* **Entering**: Pupils understand that we control computers by giving them instructions. They can identify and list steps of a known task in order, and understand that this is called an algorithm. They can create a short sequence of instructions to control a device. **Developing**: Pupils can create a simple algorithm, and understand that	*photos or create an animation; mouse skills* **Entering**: Pupils select media (e.g. images, video, sound) to present information on a topic and understand that you can edit and change digital content. They recognise inappropriate content and know to tell an appropriate adult.* They understand that you can share digital content online.* **Developing**: Pupils combine media with support to present	identify an object using a branching database; identify errors in a branching database **Entering**: Pupils can identify an object by asking yes/no questions. They can recognise a branching database, and understand why we use them. They can distinguish between text, image, video and audio content. They understand what personal information is and the need to keep it private* **Developing**: Pupils can create a branching database using	*order of instructions in a program/algorithm is important and they should be clear and precise. Basic commands in Logo (fd , bk , lt , rt , cs , pu , pd* *PROCEDURAL KNOWLEDGE:* *Create a simple program to control a sprite; plan an algorithm away from the computer then test out; predict the outcome of and debug longer programs.* **Entering**: Pupils understand that we control computers by giving them

	use a range of input and output devices, e.g. mouse, keyboard, microphone / printer, speakers, monitor. They recognise that a range of devices contain computers, e.g. washing machine, car, laptop. They know where to save and open work and understand that work saved on a computer at school can be opened on a different computer or device. Pupils understand	They select basic options to change the appearance of digital content, e.g. making text bold. They select media (e.g. images) to present information on a topic. Pupils recognise what is personal information and can describe what makes a good friend.* They recognise inappropriate content and know to tell an appropriate adult.* **Developing**: Pupils can apply simple edits to digital content to achieve a particular effect,	the order of instructions is important. They can debug an error in a simple algorithm or program, and predict the outcome of an algorithm or program. Pupils understand that computers have no intelligence and we have to program them to do things. Pupils can create a simple program e.g. to control a floor robot. **Secure**: Pupils understand that instructions need to be clear and unambiguous in an algorithm. They can evaluate the	information, e.g. images and sound, and select basic options to change the appearance of digital content. They understand that digital images belong to the person that first created them.* Pupils understand what personal information is and the need to keep it private.* They know who to tell if concerned about content or contact online.* **Secure**: Pupils plan out digital content and present	pre-prepared images and questions. They can identify an object using a branching database. They can recognise an error in a branching database. Pupils understand that you can find out information in different formats, e.g. text, video, audio. **Secure**: Pupils independently plan out and create a simple branching database to identify a set of objects. They understand that the questions you ask when	instructions – an algorithm. The y can identify and list steps of a known task in order, and create a short sequence of instructions to control a device. They can recognise if a program is successful. **Developing**: Pupils understand what an algorithm is and they understand that the order of instructions is important. They understand that computers have no intelligence and we have to

	that you can use a search engine to find information using keyword searches. They remember a username and password for logging on, and understand that all devices, programs, websites, apps and games are designed and manufactured by real people to fulfil specific tasks.* Concepts: Machine Program Data	e.g. change the font of text for a reason. They combine media with support to present information, e.g. they choose images to accompany text from a selection. They save and reuse digital content found online, and understand that digital images belong to the person that created them* Pupils recognise what personal information is. and understand the need to keep it private* They know who to tell if concerned about	success of an algorithm **Online Safety Links:** L2: Choosing what to do online	ideas and information by combining media independently. They apply edits to digital content to achieve a particular effect. They talk about what makes digital content good or bad and edit it to improve it. They understand that the digital content we make belongs to us and others need to ask permission to use it* **Online Safety Links:** S3: Communicating Online	collecting data are important. They can evaluate a given branching database and suggest improvements. Pupils explain how different formats e.g. text, images, audio, communicate information and their benefits. They understand that our personal information belongs to us and why we shouldn't share it with everybody* They know who to tell if concerned about content or contact online*	program them to do things. Pupils can create a simple program e.g. to control a floor robot. They can debug an error in and predict the outcome of a simple program. **Secure:** Pupils evaluate the success of an algorithm or program. They identify and correct errors in a given algorithm or program. They understand that we can decompose a problem into smaller steps to make it simpler.

		content or contact online.* **Secure**: Pupils plan out digital content, and present ideas and information by combining media independently. They edit digital content to improve it. They understand what makes a good online friend and the need to be kind and thoughtful online as in the real world.* Pupils can identify rules to add to an acceptable use policy for the class.* Pupils understand that the digital content we make belongs to us				

		and others need to ask permission to use it.* **Online Safety Links:** S2: Being Kind Online P3: Searching Safely				
Year 3	**Vocabulary** Font Image Graphic Copyright Design Save Open Document File Folder Apps Copyright Record Play Stop Pause Media Audio Tempo Pitch Loop Export Track Edit Algorithm Program Sequence Sprite Debugging Input Code Event Command Repetition Loop Count controlled loop					
	0.3 Using school computers	1.3 What makes a good poster?	4.3 Sequence events in scratch	2.3 How do I use a computer as a musician?	3.3 How do we use databases to find information?	5.3 How do I use forever loops in programs?
	Online Safety					

	Review: **Save and Open files (y2)** **Capture media independently (y2)** **Explain that you can search for information on the internet (Y2)** **0.3 Key Skills: Using school computers** SSW **Entering**: Pupils can name a range of digital devices in the home and at school. They can explain what the basic parts of a computer are used for, e.g. mouse, screen, keyboard.	**1.3 What makes a good poster?** Understand that information can be presented in different formats for different purposes, and that images can provide a lot of information quickly. CONCEPTS: Why we use computers; creating content; editing content; multimedia - text, image, audio, video; copyright. KNOWLEDGE: Key features of a poster; why we use a computer to create content; basic icons and where	**4.3 How do I use repetition in programs to make them more efficient?** SSW Design, write and debug programs that accomplish specific goals; use sequence in programs. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. CONCEPTS Algorithm; program; sequence; debugging; input DECLARATIVE KNOWLEDGE: An algorithm is a precise set of	**2.3 How do I use a computer as a musician?** SSW Understand that music can be used to affect the mood of digital content. Digital music is owned by the person that created it. CONCEPTS: Computer; software/application; creating & editing content; multimedia - text, image, audio, video; copyright; personal information KNOWLEDGE: How music affects mood of a digital artefact; why we	**3.3 How do we use databases to find out information?** SSW Understand that computers are used to store and make sense of large amounts of data CONCEPTS: Computer; software/application; personal information; information & data; chart/pictogram/branching database; flat-file database **KNOWLEDGE:** We can present data in different ways; why we use flat-file databases; key features of a flat-file database	**5.3 How do I use forever loops in programs?** SSW Design, write and debug programs that accomplish specific goals; use sequence and repetition in programs. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. **CONCEPTS:** Algorithm; program; sequence; debugging; input; repetition

	Pupils understand that you find information on a familiar website, and use a simple password when logging on. They understand that you can share digital content. **Developing**: Pupils recognise and use a range of input and output devices, e.g. mouse, keyboard, microphone / printer, speakers, monitor. They recognise that a range of devices contain computers, e.g. washing	to find options in menus in desktop publishing/presentation software; where to open and save work at school; how to add different elements to a poster; who owns an image. SKILLS: Logging on; Mouse skills – left, right, double click, highlighting; Keyboard skills – simple typing, basic keys; Open and save documents Highlight text and change appearance; Insert an image, shape or WordArt; Evaluate a piece of work	instructions that can be followed by a human or a computer to achieve a task; the order of instructions in an algorithm or program is important (sequence); recognise basic commands in Scratch and their function; recognise that we can use a range of inputs to control what happens in a program. PROCEDURAL KNOWLEDGE: Create a simple program to control a sprite; plan an algorithm away from the computer then test out; debug simple programs ; predict	use computers to make music; where to open and save work at school; digital content is owned by the person who created it SKILLS: Mouse skills; adding music loops to software; simple editing of music clips; record audio in software **Entering**: Pupils combine media with support to present information, e.g. images and music, and select basic options to change how a piece of music or audio	and how to search one; why we use computers; why we should be careful who we share personal information with **SKILLS:** Mouse & keyboard skills; answer questions using charts; search for information using a database; identify the kind of data that can be stored in a database **Entering**: Pupils collect data on a topic (e.g. eye colour, pets etc.) They can answer basic questions about the information stored in a record card	DECLARATIVE KNOWLEDGE : An algorithm is a precise set of instructions that can be followed by a human or a computer to achieve a task; recognise basic commands in Scratch including drawing tools; recognise that we can use a range of inputs to control what happens in a program; we use count controlled loops to make things happen a certain number of times in a program or algorithm.

	machine, car, laptop. They know where to save and open work and understand that work saved on a computer at school can be opened on a different computer. Pupils understand that you can use a search engine to find information using keyword searches. They remember a username and password for logging on, and understand that all devices, programs, websites, apps	according to criteria. **Entering**: Pupils can apply simple edits to digital content to achieve a particular effect, e.g. change the size of text. They combine media with support to present information. They save and reuse digital content found online and understand that digital images belong to the person that created them* Pupils recognise what is personal information and understand the need to keep it private.* They know who	the outcome of simple programs; use a range of inputs (events) to control a program. **Entering**: Pupils can create a simple algorithm, and understand that the order of instructions is important. They can debug an error in a simple algorithm or program, and predict the outcome of an algorithm or program. Pupils understand that computers have no intelligence and we have to program them to do things.	sounds. They understand that music belongs to the person that first created it.* **Developing**: Pupils plan out digital content and present ideas by combining media independently They apply edits to digital content to achieve a particular effect. They talk about what makes digital content good or bad and edit it to improve it. They understand that the digital content we make belongs to us and others need to ask	database. Pupils understand that you can find out information in different formats, e.g. text, video, audio. **Developing**: Pupils appreciate that different programs work with different types of data, e.g. text, number. Pupils explore a record database to find out information. They use filters in a database to find out specific information. They understand that the questions you ask are important, when collecting data. They know that there is a difference between data	**PROCEDURAL KNOWLEDGE:** Create a simple program to control a sprite; plan an algorithm away from the computer then test out; debug simple programs ; predict the outcome of simple programs; use a range of inputs (events) to control a program; use count controlled loops to draw shapes/make music. **Entering**: Pupils understand what an algorithm is and they understand that the order of

	and games are designed and manufactured by real people to fulfil specific tasks. **Secure**: Pupils can open and save a file to a suitable folder, and use suitable file names when saving work. They understand that school computers can be connected and they may use a shared area for saving work. They type using all fingers. Pupils use a search engine to find information using keyword searches.	to tell if concerned about content or contact online.* **Developing**: Pupils plan out digital content, and present ideas and information by combining media independently. They save and reuse digital content found online.* They talk about what makes digital content good or bad and edit digital content to improve it. Pupils understand that the digital content we make belongs to us and others need to ask permission to use it.*	**Developing**: Pupils understand that instructions need to be clear and unambiguous in an algorithm. They can evaluate the success of an algorithm or program, and identify and correct errors (debugging). **Secure**: Pupils use repetition to make programs more efficient. They plan out their programs and algorithms, and test the effectiveness of their algorithm. Pupils use the language if... then... to describe the relationship between two actions.	permission to use it.* **Secure**: Pupils edit existing digital content to make a new version with an awareness of copyright. They evaluate existing and their own digital content, and edit it to improve it according to feedback. They design and create digital content for a specific purpose. Pupils understand that people can give permission for others to use their content e.g. using Creative Commons.*	and information. They understand that our personal information belongs to us and why we shouldn't share it with everybody.* **Secure**: Pupils understand the benefits of using a computer to create charts and databases. They can design a questionnaire and collect a range of data, enter data into a database package and test. Pupils draw conclusions from information stored in a database. They understand when to share personal	instructions is important. They understand that computers have no intelligence and we have to program them to do things. Pupils can create a simple program e.g. to control a floor robot. They can debug an error in and predict the outcome of a simple program. **Developing**: Pupils evaluate the success of an algorithm or program. They identify and correct errors in a given algorithm or program. They understand that

	Online Safety Links L1: Screen Time **Review:** **Create digital content (e.g. art) (y2)** **Combine media to present ideas (Y2)**	**Secure**: Pupils use a variety of software to combine media in order to present information. They evaluate existing and their own digital content and edit their own content to improve it according to feedback. Pupils understand that people can give permission for others to use their pictures e.g. using Creative They know different ways of reporting unacceptable content and contact online.*			information and when not to.* **Online Safety Links:** C2: Personal Information	we can decompose a problem into smaller steps to make it simpler. Pupils use the language if... then to describe the relationship between two actions. They recognise loops in a program and can make simple changes to a block-based program to change it. **Secure**: Pupils use repetition to make programs more efficient. They predict the outcome of a block-based program, and can remix and change an existing

						program. They plan out programs by writing algorithms. They use forever loops in a program
Year 4	**Vocabulary** Algorithm Co-ordinates Sprite Infinite loop Code Decomposition Program Property Debugging Condition Event Count-controlled loop Input Command					
	0.4 Key skills - using school computers and networks effectively	1.4 How do I use a computer as an artist?	3.4 How is data shared online?	4.4 Decomposition and infinite loops	2.4 What makes an excellent mulitmedia story?	5.4 Simple Selection
	Online Safety					

	Review: **Know where to save and open files (Y3)** **Save files (y3)** **Resize and move an image (Y3)** **0.4 – Key Skills Using School Computers and Networks Effectively** **Entering**: Pupils recognise and use a range of input and output devices, e.g. mouse, keyboard, microphone / printer, speakers, monitor. They recognise that a range of devices	**1.4 How do I use a computer as an artist or photographer?** Use a range of tools to create digital art. I understand that a digital image is owned by the person that created it. CONCEPTS: Why we use computers; creating content; editing content; multimedia – text, image, audio, video; copyright; KNOWLEDGE: Different ways to create digital art; why we use a computer to create content;	**3.4 How is data shared online?** Understand that computers and digital devices all around the world are connected via the internet, and we can use this to share data and information CONCEPTS: Computer; software/hardware; personal information; information & data; network; Internet; web browser; charts & databases KNOWLEDGE: Different ways to present data; why we use computers; why we should be careful who we share personal information with;	**4.4 How do I use decomposition to help me write programs?** Recognise that we can decompose programs into smaller parts to make them easier to solve and debug; use infinite (forever) loops in programs to keep something happening. CONCEPTS: Algorithm; program ; input; decomposition; repetition DECLARATIVE KNOWLEDGE: We decompose problems into smaller parts to	**2.4 What makes an excellent multimedia story?** To enhance a digital story with relevant effects, sounds and titles CONCEPTS: Computer; software/application; creating & editing content; animation – onion skinning/frames; photostory – transitions/animations; copyright; personal information KNOWLEDGE: Features of a good animation/photostory; what is stop-motion animation; why we use computers; digital	**5.4 How do I use selection to change what happens in programs?** Recognise that programs flow differently depending on whether events, loops and selection statements are used; use selection to change what happens in a program depending on if a condition is met. CONCEPTS Algorithm, sequence, repetition, selection DECLARATIVE KNOWLEDGE: Programs flow

	contain computers, e.g. washing machine, car, laptop. They know where to save and open work and understand that work saved on a computer at school can be opened on a different computer. Pupils understand you can use a search engine to find information using keyword searches. They remember a username and password for logging on, and understand	basic icons and where to find options in menus in software; where to open and save work at school; key tools to create digital art; who owns digital content. SKILLS: Logging on; mouse skills – left, right, double click, highlighting; take a photo using a device; open and save documents; change tools or add filters; evaluate a piece of work according to criteria. **Entering**: Pupils plan out digital content, and present	positive examples of sharing data online; how computers are connected together at school on a network; how the Internet works; not all information on the Internet is reliable SKILLS: Mouse & keyboard skills; collect and present information effectively; use technology safely and responsibly **Entering**: Pupils appreciate that different programs work with different types of data, e.g. text, number. They use specific software to create	make them easier to solve and debug; a program may be made up of a number of algorithms; we use infinite (forever) loops in a program to keep something happening; co ordinates are used to show where a sprite is on the stage in Scratch this is one property of the sprite. PROCEDURAL KNOWLEDGE: Plan out and create more complex programs including more than one sprite/algorithm; test a program and debug if required; predict	content is owned by the person who created it; simple editing tools to improve content; importance of planning out content; how films and animations are rated; SKILLS: Use a camera/microphone/tablet to take photos or create an animation; mouse skills; planning using a storyboard; identifying and correcting errors in an animation (e.g. hand in frame) **Entering**: Pupils plan out digital content and present ideas by	differently depending on what events, loops and selection statements are used; we use selection to change what happens in a program depending on if a condition is met. PROCEDURAL KNOWLEDGE:Create a program with different outcomes depending on what happens; plan an algorithm away from the computer then test out; debug more complex programs; include user

	that all devices, programs, websites, apps and games are designed and manufactured by real people to fulfil specific tasks. **Developing**: Pupils can open and save a file to a suitable folder, and use suitable file names when saving work. They understand that school computers can be connected and they may use a shared area for saving work. They type using all fingers. Pupils use a	ideas and information by combining media independently. They save and reuse digital content found online.* They talk about what makes digital content good or bad and edit digital content to improve it. They know who to tell if concerned about content or contact online.* Pupils understand that the digital content we make belongs to us and others need to ask permission to use it.* **Developing**: Pupils use a	charts. They know that there is a difference between data and information. Pupils understand that the Internet is made up of computers from all around the world connected together, and that not all information found online is true.* **Developing**: Pupils understand the benefits of using a computer to create charts and databases. They can design a questionnaire and collect a range of data. They can present data effectively in a chart or database. Pupils draw	the outcome of more complex programs; use a range of inputs (events) and infinite loops to control a program. ***Entering:*** *Pupils recognise what an algorithm is -a sequence of instructions to fulfil a task. They can modify an existing program to change what happens and debug an error in a simple algorithm or program. They can identify events and loops in a program or algorithm.* ***Developing:*** *Pupils recognise that we can create an*	combining media independently They apply edits to digital content to achieve a particular effect. They talk about what makes digital content good or bad and edit it to improve it. They understand that the digital content we make belongs to us and others need to ask permission to use it.* **Developing**: Pupils evaluate existing and their own digital content, and edit it to improve it according to feedback. They design and create	input in a program. ***Entering:*** *Pupils can create a simple program in a suitable application, and debug an error in a simple algorithm or program. They can explain that the order of instructions in an algorithm or program is important. They recognise different events and loops in a program.* ***Developing:*** *Pupils recognise that we can create an algorithm to help plan out a program. Pupils plan out and create a*

	search engine to find information using keyword searches. **Secure**: Pupils understand that you can organise files using folders, and can delete, move and copy files. They use right-click, left-click and double-click appropriately on a mouse. Pupils use a search engine to find specific information, and know how to copy text and images from a web page or document into another	variety of software to combine media in order to present information. They evaluate existing and their own digital content and edit their own content to improve it according to feedback. They edit existing digital content to make a new version with an awareness of copyright. Pupils understand that people can give permission for others to use their pictures e.g. using Creative Commons.* **Secure**: Pupils collect,	conclusions from information presents in charts, tables and databases. They know different ways of reporting unacceptable content and contact online.* They understand when to share personal information and when not to.* **Secure**: Pupils understand that school computers are connected together in a network. They understand that we use a web browser to access information stored on the Internet and can explain simply how the	*algorithm to help plan out a program. Pupils plan out and create a program using infinite loops to control what happens. Pupils identify errors in a block-based program and correct them.* ***Secure:*** *Pupils recognise that we can decompose projects to make them easier to plan and debug. Pupils can explain the difference between count-controlled and infinite loops and use them effectively in programs to control what happens.*	digital content for a specific purpose. Pupils understand that people can give permission for others to use their content e.g. using Creative Commons.* They understand that games and films have age ratings, and what that means.* **Secure**: Pupils collect, organise and present information effectively using a range of media. They use more complex tools to edit and enhance media for a particular effect.	*program using infinite loops to control what happens. They recognise selection statements and can use them in simple programs.* ***Secure:*** *Pupils recognise that we can decompose projects to make them easier to plan and debug. Pupils can explain the difference between count-controlled and infinite loops and use them effectively in programs to control what happens. They use selection in programs to change what happens*

	document. Pupils remember an individual password. Concepts: Machine Data **Review:** **Design and create digital content, edit digital content (Y3)**	organise and present information effectively using a range of media. They design and create digital content for a specific purpose. They use a range of tools to edit and enhance media for a particular effect. Pupils collaborate with peers using online tools, e.g. blogs, Google Drive, Office 365. They understand that the media can portray groups of people differently.* **Online Safety Links:** C3: Copyright	Internet works. Pupils can present data in a number of different ways to convey information. They are aware that some people lie about who they are online, and recognise the benefits and risks of different apps and websites.* Pupils understand that when we share content online, we might not be able to delete it.* **Online Safety Links:** L3: Deciding what is appropriate P2: Sharing Online		They can rate a game or film they have made and explain their rating.* **Online Safety Links** C2: Personal Information	*depending on if a condition is met, e.g. if...then...*

		N1: Digital Media				
Year 5	Vocabulary Algorithm Evaluation Count controlled loop Selection Operator Random		Program Repetition Input Sensing Physical System Flow		Sequence Infinite loop Variable co-ordinate Decomposition	
	0.5 Key skills Becoming an efficient computer user	4.5 Selection and variables in scratch	1.5 How do I collaborate online?	3.5 How do I find and share data safely and responsibly?	5.5 Simulating physical systems	2.5 How do I communicate information using audio effectively?
	Online Safety					
	0.5 – Key Skills Becoming an Efficient Computer User These are the key skills that will help pupils	4.5 How do I program a physical system? (Link to DT Computer Control Unit)	1.5 How do we collaborate online? Understand that the World Wide Web is the collection of	Review: Design a questionnaire and collect data (Y4) Choose appropriate formats to	5.5 How do I use variables to score in program? (Link to DT Computer Control Unit)	2.5 How do I communicate using audio effectively? To combine audio and other media to

	to use technology appropriately and effectively. This will enable pupils to use computers more independently in order to enhance learning in the wider primary curriculum, which will ultimately save time and effort for both pupil and teacher. **Entering**: Pupils can open and save a file to a suitable folder, and use suitable file names when saving work. They understand that school	Recognise that we use selection to change what happens in a program, depending on whether a condition is met; design and create programs using selection and infinite loops; recognise and use simple variables to keep score. CONCEPTS: Input, repetition, selection, variable **DECLARATIVE KNOWLEDGE:** We use selection to change what happens in a program depending on if a condition is met; we need to use an infinite loop to keep	information on the network of computers around the world called the Internet. I can use Internet services to share information with others. CONCEPTS: Why we use computers; creating content; editing content; multimedia - text, image, audio, video; copyright; Internet; World Wide Web; personal information; digital footprint. KNOWLEDGE: Different ways to collaborate online; range of web browsers; what a URL is; history of the WWW; safe use of	**present and convey information (y4)** **3.5 How do I find and share data safely and responsibly?** CONCEPTS: Computer; software/hardware; personal information; information/data; Internet; World Wide Web; search engine; database; terms & conditions; digital footprint KNOWLEDGE: Why we use computers; awareness of what data we share online; difference between the Internet & World Wide Web;	Recognise examples of physical systems controlled by computers; name a range of inputs and outputs of physical systems; use repetition, selection and variables to build or simulate a physical system in a suitable application. CONCEPTS: Input, output, repetition, selection, variable, physical systems **DECLARATIVE KNOWLEDGE:** Physical systems have a range of inputs and outputs, including sensors; common sensors; we can use a flowchart	communicate information effectively. CONCEPTS: Computer; software/application; creating & editing content; podcast/audio; copyright; personal information; analogue/digital KNOWLEDGE: Features of a good podcast; why we use computers; digital content is owned by the person who created it; simple editing tools to improve content; importance of planning out content; where to find copyright free content

	computers can be connected and they may use a shared area for saving work. They type using all fingers. Pupils use a search engine to find information using keyword searches. **Developing**: Pupils understand that you can organise files using folders, and can delete, move and copy files. They use right-click, left-click and double-click appropriately on a mouse. Pupils use a	checking if a condition is met throughout a program. Variables are bits of data stored in program that can change according to what happens. **PROCEDURAL KNOWLEDGE:** Create a program with different outcomes depending on what happens as it runs; plan an algorithm away from the computer then test out; debug more complex programs. Create a variable in Scratch and name it meaningfully.	online technologies; who owns digital content; key features of a blog/wiki/webpage. SKILLS: Keyboard and mouse skills; evaluate reliability of a webpage; use key tools in given software; evaluate and improve a piece of work according to criteria. **Entering:** Pupils evaluate existing and their own digital content and edit their own content to improve it according to feedback. They edit existing digital content to make a new version with an	how search engines work; not all information on the Internet is reliable SKILLS: Mouse & keyboard skills; use technology safely and responsibly; search for information effectively online **Entering**: Pupils understand that the Internet is made up of computers from all around the world connected together, and we can use it to share information. They understand that we use a web browser to access	to represent a physical system; how to combine loops, selection statements and variables to simulate simple physical systems. **PROCEDURAL KNOWLEDGE:** Create a program including different inputs and outputs; decompose a program and write an algorithm for each part; test, evaluate and debug more complex programs. **Entering**: Pupils use repetition to make programs more efficient. They predict the outcome of a block-based	SKILLS: Use a microphone/tablet to record audio; mouse skills; editing audio clips; layering audio clips for effect **Entering:** Pupils evaluate existing and their own digital content, and edit it to improve it according to feedback. They design and create digital content for a specific purpose. They edit existing digital content to make a new version with an awareness of copyright. Pupils

	search engine to find specific information, and know how to copy text and images from a web page or document into another document. **Secure**: Pupils use the keyboard confidently to type at a suitable pace, and can use common keyboard shortcuts, e.g. Ctrl + C (copy); Ctrl + V (paste). They create and use a strong password where appropriate. They organise their files	**Developing**: Pupils use forever loops and selection (if...then...) in a program. They decompose a problem and create a solution (sub-routine) for each step. They use procedures in programs to create a sub-routine. Pupils create a program using a range of events/inputs to control what happens. **Secure**: Pupils predict what will happen in a program or algorithm (e.g. change of output) when the input changes	awareness of copyright. They understand that the Internet is made up of computers from all around the world connected together and that not all information found online is true.* Pupils understand that people can give permission for others to use their pictures.* Pupils understand that when we share content online, we might not be able to delete it.* **Developing**: Pupils collect, organise and present information effectively using a range of media.	information stored on the Internet. They know different ways of reporting unacceptable content and contact online.* They understand when to share personal information and when not to.* Pupils recognise what kind of websites are trustworthy sources of information.* **Developing**: Pupils understand that school computers are connected together in a network. They understand the difference between the Internet and	program, and can remix and change an existing program. They plan out programs using by writing algorithms. They use forever loops in a program **Developing**: Pupils create a program using a range of events/inputs to control what happens. They use selection in algorithms and programs, i.e. if... then... They can decompose a problem and create a solution (sub-routine) for each part. Pupils recognise	understand that people can give permission for others to use their content e.g. using Creative Commons.* **Developing**: Pupils collect, organise and present information effectively using a range of media. They use more complex tools to edit and enhance media for a particular effect. **Secure**: Pupils identify and use appropriate hardware and software to fulfil a specific task. They remix and

	using folders and appropriate file names. **Concept**: Machine Logic **Online Safety Links:** C3 Passwords **Review:** **Explain when to use forever loops (Y4)** **Recognise selection in algorithms to alter what happens (Y4)** **Recognise common mistakes in programs and how to correct them (Y4)**	(e.g. sensor, data or event). They create programs including repeat until loops and recognise variables in a program.	They design and create digital content for a specific purpose. Pupils collaborate with peers using online tools, e.g. blogs, Google Drive, Office 365. They understand that we use a web browser to access information stored on the Internet. They recognise what kind of websites are trustworthy sources of information and the benefits and risks of different apps and websites.* **Secure:** Pupils select, combine and use Internet services to fulfil a purpose.	the World Wide Web, and between a search engine and a web browser. They are aware that some people lie about who they are online, and recognise the benefits and risks of different apps and websites.* Pupils demonstrate responsible use of online services and technologies, and know a range of ways to report concerns.* **Secure:** Pupils understand the difference between physical, mobile and wireless	variables in a program. **Secure:** Pupils predict what will happen in a program or algorithm (e.g. change of output) when the input changes (e.g. via sensor, data or event). They create programs including repeat until loops. They create simple variables, e.g. to keep score or remove lives in a game and understand the difference and use if... then... and if... then... else... statements.	edit a range of existing and their own media to create content. They recognise the audience when designing and creating digital content. Pupils know where to find copyright free images and audio, and why this is important.* **Online Safety Links:** C4: Copyright

			They recognise the audience when designing and creating digital content. They understand the difference between the Internet and the World Wide Web and the benefits of using technology to collaborate with others. They are aware of a range of Internet services, e.g. email, VOIP (Voice Over Internet Protocol e.g. Skype, FaceTime), World Wide Web, and what they do. They recognise the audience when designing and creating digital content. Pupils	networks. They can explain the difference between the World Wide Web and the Internet. They understand the basics of how search engines work, and that different search engines may give different results. Pupils perform complex searches for information using advanced settings in search engines. They critically evaluate websites for reliability of information and authenticity.* They become increasingly		

			demonstrate responsible use of online services and technologies, and know a range of ways to report concerns.* They critically evaluate websites for reliability of information and authenticity.* **Online Safety Link:** N2: Fake News P1: Protecting your identity P2 Protecting images of us online	savvy online consumers: know that algorithms are used to track online activities with a view to targeting advertising and information.* **Online Safety Link** S1: Control and Consent C2: Personal Information, Terms and Conditions N3: Verifying Information online		
Year 6	Vocabulary Algorithm Repetition Input		Program Infinite loop Variable	Sequence Count controlled loop Flow		Evaluation

	Selection Physical System		Sensing Decomposition	co-ordinate Random		Operator
	0.6 Understanding the computer 1.6 How do I use a computer to present information effectively	3.6 Why do we use spreadsheets ?	4.6 Complex programs in scratch	2.6 What makes an excellent film?		5.6 Real world applications
	Online Safety					
	KNOWLEDGE: Different ways to present information digitally; who owns digital content; key features of a piece of digital content; difference between vector and bitmap images; different file types and what these mean.	Review: Explain difference between the internet and World Wide Web (Y5) Know the difference between a search engine and a web browser (Y5) 3.6 Why do we use spreadsheets?	4.6 How do I build complex physical systems? (Link to DT Computer control Unit) Recognise and use sequence, repetition, selection and variables to create complex programs. Combine variables with operators to determine when a program changes. Concepts	Review Remix and edit media to create content (Y5) 2.6 What makes an excellent film? CONCEPTS: Computer; software/application; creating & editing content; film/video; copyright; personal information; design process		5.6 How do I design more complex programs? (Link to DT Computer control Unit) CONCEPTS Input, output, repetition, selection, variable, physical systems DECLARATIVE KNOWLEDGE: We can use

	SKILLS: Keyboard and mouse skills; use key tools in given software; evaluate and improve a piece of work according to criteria; how to combine media effectively. **Entering**: Pupils can open and save a file to a suitable folder, and use suitable file names when saving work. They understand that school computers can be connected and they may use a shared area for saving work.	Understand that we can use spreadsheets to do complex calculations and sort data CONCEPTS: Computer; software/hardware; personal information; information/data; spreadsheet KNOWLEDGE: Why we use computers; different ways we can present information; examples of how spreadsheets can be used; simple formulae in spreadsheets and what they do; not all data is reliable; how information is presented can be misleading	Input, repetition, selection, variable **DECLARATIVE KNOWLEDGE:** The flow of a program depends on the constructs used, e.g. sequence, repetition, selection. Variables are bits of data stored in program that can change according to what happens. **PROCEDURAL KNOWLEDGE:** Create a program with different outcomes depending on what happens, including selection, repetition and variables; plan an algorithm away from the computer then test out and evaluate it;	KNOWLEDGE: Features of a good film; why we use computers; digital content is owned by the person who created it; simple editing tools to improve content; how to storyboard a film; where to find copyright free content; how to enhance content with titles, audio and effects; types of shots and camera angles; film-ratings & why we use them SKILLS: Use a camera/tablet to record video effectively;		computers in a wide range of ways, e.g. to help us translate languages, control physical systems, create art and music. How to combine loops, selection statements and variables to simulate simple physical systems and other applications. **PROCEDURAL KNOWLEDGE:** Identify the key parts of a program; decompose a program and write an algorithm for each part; test, evaluate and debug more complex programs.

	They type using all fingers. Pupils use a search engine to find information using keyword searches. **Developing**: Pupils understand that you can organise files using folders, and can delete, move and copy files. They use right-click, left-click and double-click appropriately on a mouse. Pupils use a search engine to find specific information, and know how to copy text	SKILLS: Mouse & keyboard skills; use technology safely and responsibly; use formulae in a spreadsheet to find out information; enter data into a spreadsheet and create graphs to present information **Entering:** Pupils know that there is a difference between data and information. They can design a questionnaire and collect a range of data on a theme. They can enter	recognise common errors in programs and how to debug them. ***Entering:*** *Pupils recognise that we can decompose projects to make them easier to plan and debug.* *Pupils can use infinite loops effectively in programs to control what happens, and combine them with selection to change what happens depending on if a condition is met, e.g. if...then...* ***Developing:*** *Pupils decompose projects and plan out an algorithm for each part.* *Pupils can explain why we use selection in*	editing video clips; adding titles, audio, effects to software; exporting a video **Entering:** Pupils collect, organise and present information effectively using a range of media. They use more complex tools to edit and enhance media for a particular effect. They can rate a game or film they have made and explain their rating.* **Developing**: Pupils identify and use appropriate hardware and software to fulfil		**Entering:** Pupils create a program using a range of events/inputs to control what happens. They use selection in algorithms and programs, i.e. if... then... They can decompose a problem and create a solution (sub-routine) for each step. Pupils recognise variables in a program. **Developing**: Pupils predict what will happen in a program or algorithm (e.g. change of output) when the input

	and images from a web page or document into another document. **Secure**: Pupils use the keyboard confidently to type at a suitable pace, and can use common keyboard shortcuts, e.g. Ctrl + C (copy); Ctrl + V (paste). They create and use a strong password where appropriate. They organise their files using folders and appropriate file names.	data in a spreadsheet and answer simple questions about information stored in a spreadsheet. **Developing**: Pupils understand what a spreadsheet is and what it is used for. They use simple formulae in a spreadsheet to find out information from a set of data. They produce graphs from data in a spreadsheet and evaluate data and information shown. **Secure**: Pupils understand that there are different tools for analysing	*programs, and combine it with a variable to control game play.* ***Secure:*** *Pupils can design their own programs and recognise the role sequence, selection and repetition have in determining the flow. Pupils can explain why we use variables in programs, and combine them with operators to make more complex games. The can explain common errors in programs and how to fix them.*	a specific task. They remix and edit a range of existing and their own media to create content. They recognise the audience when designing and creating digital content. Pupils know where to find copyright free images and audio, and why this is important.* **Secure**: Pupils identify success criteria for creating digital content for a given purpose and audience. They evaluate their own content against		changes (e.g. via sensor, data or event). They create programs including repeat until loops. They create simple variables, e.g. to keep score or remove lives in a game and understand the difference and use if... then... and if... then... else... statements. **Secure**: Pupils understand the difference between and use if... then... and if... then... else... statements. They combine a variable with

	Concept: Machine Logic **Online Safety Links:** C3 Passwords **Review:** **Explain when to use forever loops (Y4)** **Recognise selection in algorithms to alter what happens (Y4)** **Recognise common mistakes in programs and how to correct them (Y4)**	data. They can collect, organise and present data independently in a spreadsheet. They recognise that poor quality data leads to unreliable results		success criteria and make improvements accordingly. They can explain why films have certain ratings.* **Online Safety Link:** L6: Game ratings NI: Digital Media		relational operators (< = >) to determine when a program changes. They recognise the audience when designing and creating digital content. Pupils evaluate their own content against success criteria and make improvements accordingly. **Concepts** Program Algorithm Logic