Computing Overview

Unit 1 (Autumn Term)
Computing Systems

Curriculum Aims:
The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Theme: Computing Systems	**Theme:** Computing Systems	**Theme:** Computing Systems	**Theme:** Computing Systems	**Theme:** Computing Systems	**Theme:** Computing Systems
Unit Title: Technology around us	**Unit Title:** Information technology around us.	**Unit Title:** Connecting computers	**Unit Title:** The internet	**Unit Title:** Systems and searching	**Unit Title:** Communication and collaboration
Subject Content: Pupils should be taught about: • use technology purposefully to create, organise, store, manipulate and retrieve digital content • recognise common uses of information technology beyond school. • 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.	**Subject Content:** Pupils should be taught about: • use technology purposefully to create, organise, store, manipulate and retrieve digital content • recognise common uses of information technology beyond school. • 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.	**Subject Content:** Pupils should be taught about: • use sequence, selection, and repetition in programs; work with variables and various forms of input and output • 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 • 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	**Subject Content:** Pupils should be taught about: • 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 • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • 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.	**Subject Content:** Pupils should be taught about: • 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 • 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.	**Subject Content:** Pupils should be taught about: • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • 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.

			le behaviour; identify a range of ways to report concerns about content and contact.		
Essential Knowledge: (Substantive/Subject) Understand what technology is. Recognise that a computer is an example of technology. How technology can help them in their everyday lives. Become familiar with the different components of a computer. Use technology responsibly.	**Essential Knowledge: (Substantive/Subject)** Understanding of what information technology (IT) is. Discuss where they have seen IT in school and beyond. Identify some IT and uses of information technology. Investigate how IT improves our world and can be used in more than one way. Importance of using IT responsibly and how rules can help keep me safe I	**Essential Knowledge: (Substantive/Subject)** Understand digital devices (inputs, processes, and outputs). Describe a simple process Compare digital and non-digital devices. Computer networks (devices that make up a network's infrastructure) Why we need a network switch Benefits of connecting devices in a network. Different connections and how messages are passed through multiple connections The role of a switch, server, and wireless access point in a network	**Essential Knowledge: (Substantive/Subject)** Understand networks (internet as a network of networks) The World Wide Web is part of the internet and the types of media that can be shared. Who owns content (access, add, and create). Evaluate online content (how honest, accurate, or reliable it is, and understand the consequences of false information. Why a network needs protecting	**Essential Knowledge: (Substantive/Subject)** Understand computer systems. How information is transferred (between systems and devices). Learners consider small-scale systems as well as large-scale systems. The input, output, and process aspects of a variety of different real-world systems. How information is found on the World Wide Web (how search engines work) Influences searching, and through comparing different search engines.	**Essential Knowledge: (Substantive/Subject)** How data is transferred over the internet. Learners initially focus on addressing, before they move on to the makeup and structure of data packets. How the internet facilitates online communication and collaboration. How to communicate responsibly.
Essential Skills: (Disciplinary/Procedural) Identify technology in the classroom To choose a piece of technology to do a job Recognise that some technology can be used in different ways To identify the main parts of a computer To use a mouse in different	**Essential Skills: (Disciplinary/Procedural)** Identify and describe uses of computers To identify information technology in school and beyond Identify that a computer is a part of IT Sort school IT by what it's used for and where it is found. demonstrate how IT devices work together	**Essential Skills: (Disciplinary/Procedural)** Follow a process Classify input and output devices Design a digital device Identify how devices in a network are connected together Identify networked devices around me and how it can be used to share information	**Essential Skills: (Disciplinary/Procedural)** Describe networked devices and how they connect. Explain that the internet is used to provide many services Explain where websites are stored when uploaded to the WWW To be able to access websites on the WWW Describe what media can be	**Essential Skills: (Disciplinary/Procedural)** I can explain that systems are built using a number of parts Describe the input, process, and output of a digital system Explain that computer systems communicate with other devices Identify tasks that are managed by computer systems and the human elements of a computer system.	**Essential Skills: (Disciplinary/Procedural)** Recognise that data is transferred using agreed methods Explain that internet devices have addresses and how they can be used to access websites Identify and explain the main parts of a data packet Explain that data is transferred over networks in packets. Recognise how to access

ways To use a keyboard to type To use the keyboard to edit text To show how to use technology safely Use technology purposefully to store and retrieve digital content	I can list different uses of information technology To show how to use information technology safely and identify the choices that I make when using IT Use IT for different types of activities	Identify the benefits of computer networks Demonstrate how information can be passed between devices Explain the role of a switch, server, and wireless access point in a network	found on websites and that websites and their content are created by people. Recognise that I can add content to the WWW and internet services can be used to create content online Explain that there are rules to protect content Explain that not everything on the World Wide Web is true Explain why some information I find online may not be honest, accurate, or legal and why I need to think carefully before I share or reshare content	Explain the benefits of a given computer system Use and refine a web search to find specific information. Compare and evaluate results from different search engines Demonstrate that different search terms produce different results and a search engine follows rules to rank results. Describe some of the ways that search results can be influenced Explain why we need tools to find things online and the role of web crawlers in creating an index. Relate a search term to the search engine's index Explain how search engines make money Give examples of criteria used by search engines to rank results Recognise some of the limitations of search engines	shared files stored online Send information over the internet in different ways Explain that the internet allows different media to be shared To outline methods of communicating and collaborating using the internet and how this is effective. Recognise that working together on the internet can be public or private Explain the different ways in which people communicate and how there are a variety of ways to communicate over the internet. Choose methods of communication to suit particular purposes Compare and evaluate different methods of communicating on the internet Decide when I should and should not share information online and that communication on the internet may not be private
Links to prior learning: EYFS, - See LTP	**Links to prior learning:** EYFS, - See LTP YI, - Technology around us, parts of a computer.	**Links to prior learning:** EYFS, - See LTP YI, - Technology around us, parts of a computer. Y2, Unit I - Information technology around us., how devices work together	**Links to prior learning:** EYFS, - See LTP YI, - Technology around us, parts of a computer. Y2, Unit I - Information technology around us., how devices work together Y3, Unit I - Connecting Computers, computer networks	**Links to prior learning:** EYFS, - See LTP YI, - Technology around us, parts of a computer. Y2, Unit I - Information technology around us., how devices work together Y3, Unit I - Connecting Computers, computer networks Y4, - The internet, how the world wide web works, online content	**Links to prior learning:** EYFS, - See LTP YI, - Technology around us, parts of a computer. Y2, Unit I - Information technology around us., how devices work together Y3, Unit I - Connecting Computers, computer networks Y4, - The internet, how the world wide web works, online content Y5, - Systems and Searching, how information is transferred,

Links to future learning: Y2, Unit I - Information technology around us., how devices work together Y3, Unit I - Connecting Computers, computer networks Y4, - The internet, how the world wide web works, online content Y5, - Systems and Searching, how information is transferred, Y6, - Communication and collaboration online	**Links to future learning:** Y3, Unit I - Connecting Computers, computer networks Y4, - The internet, how the world wide web works, online content Y5, - Systems and Searching, how information is transferred, Y6, - Communication and collaboration online	**Links to future learning:** Y4, - The internet, how the world wide web works, online content Y5, - Systems and Searching, how information is transferred, Y6, - Communication and collaboration online	**Links to future learning:** Y5, - Systems and Searching, how information is transferred, Y6, - Communication and collaboration online	**Links to future learning:** Y6, - Communication and collaboration online	**Links to future learning:** KS3 - Networks - from semaphores to the internet, networking hardware and components

Computing Overview

Unit 2 (Spring Term)
Digital Media

Curriculum Aims:
The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Theme: Digital Media	**Theme: Digital Media**	**Theme: Digital Media**	**Theme: Digital Media**	**Theme: Digital Media**	**Theme: Digital Media**
Unit Title: Digital Writing	**Unit Title: Digital Photography**	**Unit Title: Stop-frame animation**	**Unit Title: Audio production**	**Unit Title: Video Production**	**Unit Title: webpage creation**
Subject Content: Pupils should be taught about: • Use technology purposely 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	**Subject Content:** Pupils should be taught about: • Use technology purposely to create, organise, store, manipulate, and retrieve digital content • Recognise common uses of information technology beyond school. • Use technology safely and respectfully, keeping personal information	**Subject Content:** Pupils should be taught about: • 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	**Subject Content:** Pupils should be taught about: • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • Select, use and combine a variety of software (including internet services) on a range of digital devices to design	**Subject Content:** Pupils should be taught about: • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • Select, use and combine a variety of software (including internet services) on a range of digital devices to design	**Subject Content:** Pupils should be taught about: • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • Select, use and combine a variety of software (including internet services) on a range of digital devices to design

concerns about content or contact on the internet or other online technologies.	private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	information • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	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	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	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
Essential Knowledge: (Substantive/Subject) To recognise that a keyboard is used to enter text into a computer To recognise that the Shift key changes the output of a key To recognise that text can be changed To recognise that the appearance of text can be changed To recognise that text can be edited To consider the impact of choices made	**Essential Knowledge: (Substantive/Subject)** To recognise that some digital devices can capture images using a camera To talk about how to take a photograph To make choices when composing my photograph To recognise that photographs can be saved and viewed later To recognise features of 'good' photographs To identify how a photograph could be improved To explain the effect of light on a photograph To recognise that photographs can be change after they have been taken To recognise that some images are not accurate	**Essential Knowledge: (Substantive/Subject)** To explain that an animation is made up of a sequence of images To identify that a capturing device needs to be in a fixed position To recognise that smaller movements create smoother animation To explain the need for consistency in working To explain the impact of adding other media to an animation To explain that a project must be exported so it can be shared	**Essential Knowledge: (Substantive/Subject)** To identify that sound can be recorded To identify that an input device is needed to record sound To identify that output devices are needed to play audio To recognise that recorded audio can be stored on a computer To recognise that audio can be edited To recognise that sound can be represented visually as a waveform To recognise that audio can be layered so that multiple sounds can be played at the same time To consider the results of editing choices made	**Essential Knowledge: (Substantive/Subject)** To explain the features of video as a visual media format To recognise which devices can and can't record video To explain the purpose of a storyboard To recognise that filming techniques can be used to create different effects To recognise the need to regularly review and reflect on a video project To explain the limitations of editing video on a recording device To identify that videos can be edited on a recording device or on a computer To identify videos can be improved through and reshooting or editing To recognise projects need to be exported to be shared	**Essential Knowledge: (Substantive/Subject)** To recognise the relationship between HTML and visual display To recognise that web pages can contain different media types To recognise that web pages are written by people To recognise that a website is a set of hyperlinked web pages To recognise components of a web page layout To consider the ownership and use of images (copyright) To recognise the need to preview pages (different screens / devices) To recognise the need for a navigation path To recognise the implications of linking to content owned by others
Essential Skills: (Disciplinary/Procedural) To use letter, number, and Space keys to enter text into a computer To use punctuation and special characters	**Essential Skills: (Disciplinary/Procedural)** To capture a digital image To take photographs in both landscape and portrait format To view photographs on a digital	**Essential Skills: (Disciplinary/Procedural)** To plan an animation using a storyboard To set up the work area with an awareness of what will be captured	**Essential Skills: (Disciplinary/Procedural)** To record sound using a computer To play recorded audio To import audio into a project	**Essential Skills: (Disciplinary/Procedural)** To use different camera angles To use pan, tilt and zoom To identify features of a video recording device or application	**Essential Skills: (Disciplinary/Procedural)** To review an existing website (navigation bars, header) To create a new blank web page

To use the Backspace key to remove text To position the text cursor in a chosen location To select text To choose options to achieve a desired effect To change the appearance of text on a computer To use Undo	device To decide which photographs to keep To hold the camera still to take a clear photograph To use zoom to change the composition of a photograph To consider lighting before taking a photograph To improve a photograph by retaking it To use filters to edit the appearance of a photograph	To capture an image To use the onion skinning tool to review subject position To move a subject between captures To remove frames to improve animation To add media to enhance an animation To review a completed project	To delete a section of audio To change the volume of tracks in a project	To combine filming techniques for a given purpose To determine what scenes will convey your idea To choose to reshoot a scene or improve later through editing To decide what changes I will make when editing To use split, trim and crop to edit a video	To add text to a web page To set the style of text on a web page To change the appearance of text To embed media in a web page To add web pages to a website To preview a web page (different screen sizes) To insert hyperlinks between pages To insert hyperlinks to another site
Links to prior learning: EYFS, - See LTP	**Links to prior learning:** EYFS, - See LTP YI, - Digital Writing, using technology to create and edit content	**Links to prior learning:** EYFS, - See LTP YI, - Digital Writing, using technology to create and edit content Y2, - Digital Photography, capturing images, editing content	**Links to prior learning:** EYFS, - See LTP YI, - Digital Writing, using technology to create and edit content Y2, - Digital Photography, capturing images, editing content Y3, - Stop Frame Animation, creating, editing and enhancing animation	**Links to prior learning:** EYFS, - See LTP YI, - Digital Writing, using technology to create and edit content Y2, - Digital Photography, capturing images, editing content Y3, - Stop Frame Animation, creating, editing and enhancing animation Y4, - Audio Production, film, create and edit audio	**Links to prior learning:** EYFS, - See LTP YI, - Digital Writing, using technology to create and edit content Y2, - Digital Photography, capturing images, editing content Y3, - Stop Frame Animation, creating, editing and enhancing animation Y4, - Audio Production, film, create and edit audio Y5, - Visual Production, creating, editing and evaluating visual media
Links to future learning: Y2, - Digital Photography, capturing images, editing content Y3, - Stop Frame Animation, creating, editing and enhancing animation Y4, - Audio Production, film, create and edit audio Y5, - Visual Production, creating, editing and evaluating visual media Y6, - Webpage creation, using webtools, creating for a purpose	**Links to future learning:** Y3, - Stop Frame Animation, creating, editing and enhancing animation Y4, - Audio Production, film, create and edit audio Y5, - Visual Production, creating, editing and evaluating visual media Y6, - Webpage creation, using webtools, creating for a purpose	**Links to future learning:** Y4, - Audio Production, film, create and edit audio Y5, - Visual Production, creating, editing and evaluating visual media Y6, - Webpage creation, using webtools, creating for a purpose	**Links to future learning:** Y5, - Visual Production, creating, editing and evaluating visual media Y6, - Webpage creation, using webtools, creating for a purpose nit 3 - Sensing movements	**Links to future learning:** Y6, - Webpage creation, using webtools, creating for a purpose	**Links to future learning:** KS3 - Using media - Gaining support for a cause, creating digital products.

Computing Overview

Unit 3 (Summer Term)
Programming

Curriculum Aims:
The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Theme: Programming	**Theme:** Programming	**Theme:** Programming	**Theme:** Programming	**Theme:** Programming	**Theme:** Programming
Unit Title: Moving a robot and programming animations	**Unit Title:** Programming quizzes	**Unit Title:** Events and actions in programs	**Unit Title:** Repetition in games	**Unit Title:** Selection in quizzes	**Unit Title:** Sensing movements
Subject Content: Pupils should be taught about: • understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions • create and debug simple programs • use logical reasoning to predict the behaviour of simple programs	**Subject Content:** Pupils should be taught about: • understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions • create and debug simple programs • use logical reasoning to predict the behaviour of simple programs • Use technology purposefully to create, organise, store, manipulate, and retrieve digital content	**Subject Content:** Pupils should be taught about: • design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • use sequence, selection, and repetition in programs; work with variables and various forms of input and output • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • 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	**Subject Content:** Pupils should be taught about: • ,design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • use sequence, selection, and repetition in programs; work with variables and various forms of input and output • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • 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	**Subject Content:** Pupils should be taught about: • design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • use sequence, selection, and repetition in programs; work with variables and various forms of input and output • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • 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	**Subject Content:** Pupils should be taught about: • design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • use sequence, selection, and repetition in programs; work with variables and various forms of input and output • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • 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	collecting, analysing, evaluating and presenting data and information	collecting, analysing, evaluating and presenting data and information	collecting, analysing, evaluating and presenting data and information
Essential Knowledge: (Substantive/Subject) To enact a given word To recall words that can be enacted To predict the outcome of a command on a device To list that commands can be used on a given device To explain what a given command does To match a command to an outcome To recognise how to run a command (press a button) To choose a command for a given purpose To understand that a program is a set of commands a computer can run To recall that a series of instructions can be issued before they are enacted	**Essential Knowledge: (Substantive/Subject)** To describe a series of instructions as a 'sequence' To recall that a series of instructions can be issued before they are enacted To use logical reasoning to predict the outcome of a program	**Essential Knowledge: (Substantive/Subject)** To explain that programs start because of an input To explain what a sequence is To identify that a program includes sequences of commands To identify that the sequence of a program is a process To explain that the order of commands can affect a program's output To identify that different sequences can achieve the same output To identify that different sequences can achieve different outputs	**Essential Knowledge: (Substantive/Subject)** To relate what 'repeat' means To identify everyday tasks that include repetition as part of a sequence, eg brushing teeth, dance moves To explain that we can use a loop command in a program to repeat instructions To identify patterns in a sequence To identify a loop within a program To explain that in programming there are indefinite loops and count-controlled loops To explain that an indefinite loop will run until the program is stopped To explain that you can program a loop to stop after a specific number of times To identify patterns in a sequence, eg 'step 3 times' means the same as 'step, step, step' To justify when to use a loop and when not to To explain the importance of instruction order in a loop To recognise that not all tools enable more than one process to be run at once	**Essential Knowledge: (Substantive/Subject)** To explain that a condition can only be true or false To relate that a count-controlled loop contains a condition To compare a count controlled loop with a condition-controlled loop To explain that a condition-controlled loop will stop when a condition is met To explain that when a condition is met a loop will complete a cycle before it stops To explain that selection can be used to branch the flow of a program To explain that a loop can be used to repeatedly check whether a condition has been met To explain the importance of instruction order in 'if... then... else...' statements	**Essential Knowledge: (Substantive/Subject)** To define 'variable' as something that is changeable To identify examples of information that is variable, e.g. a football score during a match To explain that a variable can be used in a program, e.g. 'score' To define a program variable as a placeholder in memory for a single value To explain that a variable has a name and a value To recognise that the value of a variable can be used by a program To recognise that the value of a variable can be updated To identify that variables can hold numbers (integers) or letters (strings) To define the way that a variable is changed To recognise that a variable can be set as a constant (fixed value) To explain the importance of setting up a variable at the start of a program (initialisation) To explain that there is only one value for a variable at any one time To explain that if you change the value of a variable, you cannot access the previous value (cannot undo) To explain that if you read a variable, the value remains

					To explain that the name of a variable is meaningless to the computer To explain that the name of a variable needs to be unique
Essential Skills: (Disciplinary/Procedural) To choose a series of words that can be enacted as a program To choose a series of commands that can be run as a program To run a program on a device	**Essential Skills: (Disciplinary/Procedural)** To choose a series of words that can be enacted as a sequence To explain what happens when we change the order of instructions To choose a series of commands that can be run as a program To trace a sequence to make a prediction To test a prediction by running the sequence To create and debug a program that I have written To run a program on a device	**Essential Skills: (Disciplinary/Procedural)** To build a sequence of commands To combine commands in a program To order commands in a program To create a sequence of commands to produce a given outcome	**Essential Skills: (Disciplinary/Procedural)** To list an everyday task as a set of instructions including repetition To use an indefinite loop to produce a given outcome To use a count-controlled loop to produce a given outcome To plan a program that includes appropriate loops to produce a given outcome To recognise tools that enable more than one process to be run at the same time (concurrency) To create two or more sequences that run at the same time	**Essential Skills: (Disciplinary/Procedural)** To choose a condition to use in a program To create a condition-controlled loop To use a condition in an 'if… then…' statement to start an action To use selection to switch program flow To use 'if… then… else…' to switch program flow in one of two ways	**Essential Skills: (Disciplinary/Procedural)** To identify a variable in an existing program To experiment with the value of an existing variable To choose a name that identifies the role of a variable to make it more usable (to humans) To decide where in a program to set a variable To update a variable with a user input To use an event in a program to update a variable To use a variable in a conditional statement to control the flow of a program To use the same variable in more than one location in a program
Links to prior learning: EYFS, - See LTP	**Links to prior learning:** EYFS, - See LTP Y1, - Moving a robot and programming animations, using commands, using a program on a device	**Links to prior learning:** EYFS, - See LTP Y1, - Moving a robot and programming animations, using commands, using a program on a device Y2, - Programming quizzes, creating sequences and commands, debugging	**Links to prior learning:** EYFS, - See LTP Y1, - Moving a robot and programming animations, using commands, using a program on a device Y2, - Programming quizzes, creating sequences and commands, debugging Y3, - Events and actions in programs, sequencing, creating commands, outputs	**Links to prior learning:** EYFS, - See LTP Y1, - Moving a robot and programming animations, using commands, using a program on a device Y2, - Programming quizzes, creating sequences and commands, debugging Y3, - Events and actions in programs, sequencing, creating commands, outputs Y4, - Repetition in games, sequences, looping, commands	**Links to prior learning:** EYFS, - See LTP Y1, - Moving a robot and programming animations, using commands, using a program on a device Y2, - Programming quizzes, creating sequences and commands, debugging Y3, - Events and actions in programs, sequencing, creating commands, outputs Y4, - Repetition in games, sequences, looping, commands Y5, - Selection in quizzes, programme flow, looping
Links to future learning: Y2, - Programming quizzes,	**Links to future learning:** Y3, - Events and actions in	**Links to future learning:** Y4, - Repetition in games,	**Links to future learning:** Y5, - Selection in quizzes,	**Links to future learning:** Y6, - Sensing movements,	KS3 - Programming essentials in Scratch, constructs of

creating sequences and commands, debugging Y3, - Events and actions in programs, sequencing, creating commands, outputs Y4, - Repetition in games, sequences, looping, commands Y5, - Selection in quizzes, programme flow, looping Y6, - Sensing movements, variables and values	programs, sequencing, creating commands, outputs Y4, - Repetition in games, sequences, looping, commands Y5, - Selection in quizzes, programme flow, looping Y6, - Sensing movements, variables and values	sequences, looping, commands Y5, - Selection in quizzes, programme flow, looping Y6, - Sensing movements, variables and values	programme flow, looping Y6, - Sensing movements, variables and values	variables and values	sequence