An Daras Trust
Igniting Curiosity Growing Capabilities

Princetown Primary School

Knowledge and Skills Organiser

Knowledge Organisers for the priority subject for each concept to be issued 2-3 weeks before the learning block is taught.

Metacognition: Metacognition can take many forms; it includes knowledge about when and how to use particular strategies for learning or problem-solving. *These will vary depending on the needs of each class.*

Year A Owls	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Concept	**Civilisation and Democracy**	**Culture**	**All Around the World**	**Exploration and Discoveries**	**Natural Wonder**	**Community**
NC Objectives	▪ 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.	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content	▪ 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 content or contact on the internet or other online technologies.	▪ 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 content or contact on the internet or other online technologies.	• 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 • recognise common uses of information technology beyond school	• 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

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						retrieve digital content
Knowledge	To identify technology To identify a computer and its main parts To use a mouse in different ways To use a keyboard to type on a computer To use the keyboard to edit text To create rules for using technology responsibly	To describe what different freehand tools do To use the shape tool and the line tools To make careful choices when painting a digital picture To explain why I chose the tools I used To use a computer on my own to paint a picture To compare painting a picture on a computer and on paper	To use a computer to write To add and remove text on a computer To identify that the look of text can be changed on a computer To make careful choices when changing text To explain why I used the tools that I chose To compare typing on a computer to writing on paper	To label objects To identify that objects can be counted To describe objects in different ways To count objects with the same properties To compare groups of objects To answer questions about groups of objects	To explain what a given command will do To act out a given word To combine forwards and backwards commands to make a sequence To combine four direction commands to make sequences To plan a simple program To find more than one solution to a problem	To choose a command for a given purpose To show that a series of commands can be joined together To identify the effect of changing a value To explain that each sprite has its own instructions To design the parts of a project To use my algorithm to create a program

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To use Undo

Skill Progression	Choose a piece of technology to do a job Recognise that some technology can be used in different ways Identify main parts of a computer To use a mouse in different ways To use a keyboard to type To use the keyboard to edit text To show how to use technology safely	To create a picture using freehand tools To use shape and line tools when precision is needed To use a range of paint colours To use the fill tool to colour an enclosed area To use the undo button to correct a mistake To combine a range of tools to create a piece of artwork	To use punctuation and special characters To use letter, number, and Space keys to enter text into a computer To select text To change the appearance of text on a computer To choose options to achieve a desired effect To position the text cursor in a chosen location To use the Backspace key to remove text To use Undo	To identify some attributes of an object To collect simple data To show that collected data can be counted To describe the properties of an object To choose an attribute to group objects by To explain that objects can be grouped by similarities (attribute) To describe a group of objects (based on commonality) To group objects to answer questions	To enact a given word To predict the outcome of a command on a device To list which commands can be used on a given device To run a command on a floor robot To choose a command for a given purpose 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 build a sequence of commands in step To combine commands in a program To run a program on a device	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
Meta Cognition	**LKS2** **Pose questions** pose questions to expand their knowledge about the world **Identify and clarify information and ideas** identify main ideas and select and clarify	**LKS2** **Organise and process information** collect, compare, and categorise facts and opinions found in a wide range of sources **Imagine possibilities and connect ideas**	**LKS2** **Consider alternatives** explore situations using creative thinking strategies to propose a range of alternatives **Seek solutions and put ideas into action** experiment with a range of options when seeking	LKS2 **Think about thinking (metacognition)** reflect on, explain and check the processes used to come to conclusions **Reflect on processes** identify pertinent information in an	LKS2 **Transfer knowledge into new contexts** transfer and apply information in one setting to enrich another **Apply logic and reasoning** - identify and apply appropriate reasoning and	LKS2 **Draw conclusions and design a course of action** draw on prior knowledge and use evidence when choosing a course of action or drawing a conclusion

	information from a range of sources **UKS2** **Pose questions** pose questions to clarify and interpret information and probe further to discover causes and consequences **Identify and clarify information and ideas** identify and clarify relevant information and prioritise ideas	expand on known ideas to create new and imaginative combinations **UKS2** **Organise and process information** analyse, condense, and combine relevant information from multiple sources **Imagine possibilities and connect ideas** combine ideas in a variety of ways and from a range of sources to create new possibilities	solutions and putting ideas into action **UKS2** **Consider alternatives** identify situations where current approaches do not work, challenge existing ideas, and generate alternative solutions **Seek solutions and put ideas into action** assess and test options to identify the most effective solution and put ideas into action	investigation and separate into smaller parts or ideas UKS2 **Think about thinking (metacognition)** reflect on assumptions made, consider reasonable criticism, and adjust their thinking if necessary **Reflect on processes** identify and justify the thinking behind choices they have made	thinking strategies for outcomes UKS2 **Transfer knowledge into new contexts** apply knowledge gained from one context to another unrelated context and identify new meaning **Apply logic and reasoning** - assess whether there is adequate reasoning and evidence to justify a claim, conclusion, or outcome	**Evaluate procedures and outcomes** explain and justify ideas and outcomes UKS2 **Draw conclusions and design a course of action** scrutinise ideas or concepts, test conclusions and modify actions when designing a course of action **Evaluate procedures and outcomes** evaluate the effectiveness of ideas, products, performances, methods, and courses of action against given criteria
Year B Owls	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Concept	**Civilisation and Democracy**	**Culture**	**All Around the World**	**Exploration and Discoveries**	**Natural Wonder**	**Community**
NC Objectives	• use technology purposefully to create, organise, store, manipulate and retrieve digital content	• use technology purposefully to create, organise, store, manipulate and retrieve digital content	• use technology purposefully to create, organise, store, manipulate and retrieve digital content	• use technology purposefully to create, organise, store, manipulate and retrieve digital content	• understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and	• understand what algorithms are; how they are implemented as programs on digital devices; and that

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	▪ 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.	▪ 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.		• 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.	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	programs execute by following precise and unambiguous instructions • create and debug simple programs • use logical reasoning to predict the behaviour of simple programs
Knowledge	To recognise the uses and features of information technology To identify the uses of information technology in the school To identify information technology beyond school To explain how information technology helps us To explain how to use information technology safely To recognise that choices are made when using information technology	To use a digital device to take a photograph To make choices when taking a photograph To describe what makes a good photograph To decide how photographs can be improved To use tools to change an image To recognise that photos can be changed To say how music can make us feel	To say how music can make us feel To identify that there are patterns in music To show how music is made from a series of notes To show how music is made from a series of notes To create music for a purpose To review and refine our computer work	To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes To explain that we can present information using a computer	To describe a series of instructions as a sequence To explain what happens when we change the order of instructions To use logical reasoning to predict the outcome of a program (series of commands) To explain that programming projects can have code and artwork To design an algorithm To create and debug a program that I have written	To explain that a sequence of commands has a start To explain that a sequence of commands has an outcome To create a program using a given design To change a given design To create a program using my own design To decide how my project can be improved

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Skills Progression	To describe some uses of computers To identify information technology in school To identify information technology beyond school To show how to use information technology safely	To capture a digital image To take photographs in both landscape and portrait format To view photographs on a digital device To decide which photographs to keep To use zoom to change the composition of a photograph To hold the camera still to take a clear photograph To consider lighting before taking a photograph To use filters to edit the appearance of a photograph To improve a photograph by retaking it	To experiment with different sounds on a computer To experiment with musical patterns on a computer To use a computer to create a musical pattern To use a computer to compose a rhythm and a melody on a given theme To use a computer to play the same music in different ways (e.g. tempo) To evaluate a musical composition created on a computer To improve a musical composition created on a computer	To show I can enter data onto a computer To recognise that people, animals and objects can be described by attributes To use a computer to view data in different formats To use a computer to answer comparison questions (graphs, tables)	To choose a series of words that can be enacted as a sequence To choose a series of instructions that can be run as a program To create a program To trace a sequence to make a prediction To run a program on a device To debug a program that I have written	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
Metacognition	**LKS2** **Pose questions** pose questions to expand their knowledge about the world **Identify and clarify information and ideas** identify main ideas and	**LKS2** **Organise and process information** collect, compare, and categorise facts and opinions found in a wide range of sources	**LKS2** **Consider alternatives** explore situations using creative thinking strategies to propose a range of alternatives **Seek solutions and put ideas into action** experiment with a range of	LKS2 **Think about thinking (metacognition)** reflect on, explain and check the processes used to come to conclusions **Reflect on processes** identify pertinent	LKS2 **Transfer knowledge into new contexts** transfer and apply information in one setting to enrich another **Apply logic and reasoning** - identify and apply appropriate reasoning and	LKS2 **Draw conclusions and design a course of action** draw on prior knowledge and use evidence when choosing a course of action or drawing a conclusion

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	select and clarify information from a range of sources **UKS2** **Pose questions** pose questions to clarify and interpret information and probe further to discover causes and consequences **Identify and clarify information and ideas** identify and clarify relevant information and prioritise ideas	**Imagine possibilities and connect ideas** expand on known ideas to create new and imaginative combinations **UKS2** **Organise and process information** analyse, condense, and combine relevant information from multiple sources **Imagine possibilities and connect ideas** combine ideas in a variety of ways and from a range of sources to create new possibilities	options when seeking solutions and putting ideas into action **UKS2** **Consider alternatives** identify situations where current approaches do not work, challenge existing ideas, and generate alternative solutions **Seek solutions and put ideas into action** assess and test options to identify the most effective solution and put ideas into action	information in an investigation and separate into smaller parts or ideas UKS2 **Think about thinking (metacognition)** reflect on assumptions made, consider reasonable criticism, and adjust their thinking if necessary **Reflect on processes** identify and justify the thinking behind choices they have made	thinking strategies for outcomes UKS2 **Transfer knowledge into new contexts** apply knowledge gained from one context to another unrelated context and identify new meaning **Apply logic and reasoning** - assess whether there is adequate reasoning and evidence to justify a claim, conclusion, or outcome	**Evaluate procedures and outcomes** explain and justify ideas and outcomes UKS2 **Draw conclusions and design a course of action** scrutinise ideas or concepts, test conclusions and modify actions when designing a course of action **Evaluate procedures and outcomes** evaluate the effectiveness of ideas, products, performances, methods, and courses of action against given criteria
Year A Buzzards	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Concept	**Civilisation and Democracy**	**Culture**	**All Around the World**	**Exploration and Discoveries**	**Natural Wonder**	**Community**
NC objectives	▪ use sequence, selection, and repetition in programs; work with variables and various	▪ select, use and combine a variety of software (including internet services) on a	▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical	▪ select, use and combine a variety of software (including internet services) on a range of digital devices to design	▪ use search technologies effectively, appreciate how results are selected and ranked, and be	▪ design, write and debug programs that accomplish specific goals, including

	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	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. ▪ use search technologies effectively, appreciate how	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	and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ▪ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	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	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

	▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	results are selected and ranked, and be discerning in evaluating digital content	presenting data and information			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
Knowledge	Y3/4 To know how digital devices function To identify input and output devices To recognise how digital devices can change the way we work To explain how a computer network can be used to share information To explore how digital devices can be connected To recognise the physical components of a network	Y3/4 To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To plan an animation To identify the need to work consistently and carefully To review and improve an animation	Y3/4 To explore a new programming environment To identify that commands have an outcome To explain that a program has a start To recognise that a sequence of commands can have an order To change the appearance of my project To create a project from a task description	Y3/4 To create questions with yes/no answers To identify the object attributes needed to collect relevant data To create a branching database To explain why it is helpful for a database to be well structured To identify objects using a branching database To compare the information shown in a	Y3/4 To recognise how text and images convey information To recognise that text and layout can be edited To choose appropriate page settings To add content to a desktop publishing publication To consider how different layouts can suit different purposes	Y3/4 To explain how a sprite moves in an existing project To create a program to move a sprite in four directions To adapt a program to a new context To develop my program by adding features To identify and fix bugs in a program To design and create a maze-based challenge

	Y5/6 To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To recognise how information is transferred over the internet To explain how sharing information online lets people in different places work together To contribute to a shared project online To evaluate different ways of working together online	To evaluate the impact of adding other media to an animation Y5/6 To review an existing website and consider its structure To plan the features of a web page To consider the ownership and use of images (copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people	Y5/6 To control a simple circuit connected to a computer To write a program that includes count-controlled loops To explain that a loop can stop when a condition is met To explain that a loop can be used to repeatedly check whether a condition has been met To design a physical project that includes selection To create a program that controls a physical computing project	pictogram with a branching database Y5/6 To use a form to record information To compare paper and computer-based databases To outline how grouping and then sorting data allows us to answer questions To explain that tools can be used to select specific data To explain that computer programs can be used to compare data visually To apply my knowledge of a database to ask and answer real-world questions	To consider the benefits of desktop publishing Y5/6 To identify that drawing tools can be used to produce different outcomes To create a vector drawing by combining shapes To use tools to achieve a desired effect To recognise that vector drawings consist of layers To group objects to make them easier to work with To evaluate my vector drawing	Y5/6 To explain how selection is used in computer programs To relate that a conditional statement connects a condition to an outcome To explain how selection directs the flow of a program To design a program which uses selection To create a program which uses selection To evaluate my program

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Skills Progression	Y3/4 To identify input and output devices To explain that a computer system accepts an input and processes it to produce an output To explain how a computer network can be used to share information To explain the role of a switch, server and wireless access point in a network To identify network devices around me To explain how networks can be connected to other networks Y5/6 To describe the input and output of a search engine To demonstrate that different search terms produce different results To evaluate the results of search terms	Y3/4 To plan an animation using a storyboard To set up the work area with an awareness of what will be captured To capture an image To use the onion skinning tool to review subject position To move a subject between captures To review a captured sequence of frames as an animation To remove frames to improve an animation To add media to enhance an animation To review a completed project Y5/6 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	Y3/4 To show that page orientation can be changed To add text to a placeholder To organise text and image placeholders in a page layout To add and remove images to and from placeholders To edit text in a placeholder To move, resize and rotate images To choose fonts and apply effects to text To review a document Y5/6 To use different camera angles To use pan, tilt and zoom To identify features of a video recording device or application 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	Y3/4 To create questions with yes/no answers To choose questions that will divide objects into evenly sized subgroups To repeatedly create subgroups of objects To identify an object using a branching database To retrieve information from different levels of the branching database Y5/6 To choose different ways to view data To choose which attribute and value to search by to answer a given question (operands) To ask questions that need more than one attribute to answer To choose which attribute to sort data by to answer a given question To choose multiple criteria to search data to answer a given question (AND and OR) To select an appropriate graph to visually compare data	Y3/4 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 Y5/6 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 way	Y3/4 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 Y5/6 To create a condition-controlled loop To use a condition in an 'if...then...' statement to start an action To use selection to switch the program flow in one of two ways To use a condition in an 'if...then...else...' statement to produce given outcomes

		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 use split, trim and crop to edit a video	To choose suitable ways to present information to other people		
Metacognition	**LKS2** **Pose questions** pose questions to expand their knowledge about the world **Identify and clarify information and ideas** identify main ideas and select and clarify information from a range of sources	**LKS2** **Organise and process information** collect, compare, and categorise facts and opinions found in a wide range of sources **Imagine possibilities and connect ideas** expand on known ideas to create new and imaginative combinations	**LKS2** **Consider alternatives** explore situations using creative thinking strategies to propose a range of alternatives **Seek solutions and put ideas into action** experiment with a range of options when seeking solutions and putting ideas into action **UKS2**	LKS2 **Think about thinking (metacognition)** reflect on, explain and check the processes used to come to conclusions **Reflect on processes** identify pertinent information in an investigation and separate into smaller parts or ideas UKS2	LKS2 **Transfer knowledge into new contexts** transfer and apply information in one setting to enrich another **Apply logic and reasoning** - identify and apply appropriate reasoning and thinking strategies for outcomes UKS2	LKS2 **Draw conclusions and design a course of action** draw on prior knowledge and use evidence when choosing a course of action or drawing a conclusion **Evaluate procedures and outcomes** explain and justify ideas and outcomes

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	UKS2 **Pose questions** pose questions to clarify and interpret information and probe further to discover causes and consequences **Identify and clarify information and ideas** identify and clarify relevant information and prioritise ideas	**UKS2** **Organise and process information** analyse, condense, and combine relevant information from multiple sources **Imagine possibilities and connect ideas** combine ideas in a variety of ways and from a range of sources to create new possibilities	**Consider alternatives** identify situations where current approaches do not work, challenge existing ideas, and generate alternative solutions **Seek solutions and put ideas into action** assess and test options to identify the most effective solution and put ideas into action	**Think about thinking (metacognition)** reflect on assumptions made, consider reasonable criticism, and adjust their thinking if necessary **Reflect on processes** identify and justify the thinking behind choices they have made	**Transfer knowledge into new contexts** apply knowledge gained from one context to another unrelated context and identify new meaning **Apply logic and reasoning** - assess whether there is adequate reasoning and evidence to justify a claim, conclusion, or outcome	UKS2 **Draw conclusions and design a course of action** scrutinise ideas or concepts, test conclusions and modify actions when designing a course of action **Evaluate procedures and outcomes** evaluate the effectiveness of ideas, products, performances, methods, and courses of action against given criteria
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Year B Buzzards	**Civilisation and democracy**	**Culture**	**All around the world**	**Exploration and discoveries**	**Natural Wonder**	**Community**
NC Objectives	▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ▪ understand computer networks including the internet; how	▪ 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	▪ 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;	▪ 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	▪ 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	▪ 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

	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/unacceptа	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.	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	presenting data and information ▪ use sequence, selection, and repetition in programs; work with variables and various forms of input and output	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.	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

	ble behaviour; identify a range of ways to report concerns about content and contact.					
Knowledge	**Y3/4** To describe how networks physically connect to other networks To recognise how networked devices make up the internet To outline how websites can be shared via the World Wide Web (WWW) To describe how content can be added and accessed on the World Wide Web (WWW) To recognise how the content of the WWW is created by people To evaluate the consequences of unreliable content **Y5/6** To identify how to use a search engine To describe how search engines select results To explain how search results are ranked	**Y3/4** To identify that sound can be digitally recorded To use a digital device to record sound To explain that a digital recording is stored as a file To explain that audio can be changed through editing To show that different types of audio can be combined and played together To evaluate editing choices made **Y5/6** To explain what makes a video effective To identify digital devices that can record video To capture video using a range of techniques To create a storyboard To identify that video can be improved	**Y3/4** To identify that accuracy in programming is important To create a program in a text-based language To explain what 'repeat' means To modify a count-controlled loop to produce a given outcome To decompose a task into small steps To create a program that uses count-controlled loops to produce a given outcome **Y5/6** To define a 'variable' as something that is changeable To explain why a variable is used in a program To choose how to improve a game by using variables To design a project that builds on a given example To use my design to create a project To evaluate my project	**Y3/4** To explain that data gathered over time can be used to answer questions To use a digital device to collect data automatically To explain that a data logger collects 'data points' from sensors over time To use data collected over a long duration to find information To identify the data needed to answer questions To use collected data to answer questions **Y5/6** To identify questions which can be answered using data To explain that objects can be described using data To explain that formulas can be used to produce calculated data To apply formulas to data, including duplicating To create a spreadsheet to plan an event	**Y3/4** To explain that digital images can be changed To change the composition of an image To describe how images can be changed for different uses To make good choices when selecting different tools To recognise that not all images are real To evaluate how changes can improve an image **Y5/6** To use a computer to create and manipulate three-dimensional (3D) digital objects To compare working digitally with 2D and 3D graphics To construct a digital 3D model of a physical object To identify that physical objects can be broken down into a collection of 3D shapes	**Y3/4** To develop the use of count-controlled loops in a different programming environment To explain that in programming there are infinite loops and count controlled loops To develop a design that includes two or more loops which run at the same time To modify an infinite loop in a given program To design a project that includes repetition To create a project that includes repetition **Y5/6** To create a program to run on a controllable device To explain that selection can control the flow of a program To update a variable with a user input

	To recognise why the order of results is important, and to whom To recognise how we communicate using technology To evaluate different methods of online communication	through reshooting and editing To consider the impact of the choices made when making and sharing a video		To choose suitable ways to present data	To design a digital model by combining 3D objects To develop and improve a digital 3D model	To use an conditional statement to compare a variable to a value To design a project that uses inputs and outputs on a controllable device To develop a program to use inputs and outputs on a controllable device
Skills Progression	Y3/4 To use a search engine effectively To choose the most practical form of communication Y5/6 To outline methods of communicating and collaborating using the internet To choose methods of internet communication and collaboration for given purposes To evaluate different methods of online communication and collaboration	Y3/4 To record sound using a computer To play recorded audio To import audio into a project To delete a section of audio To change the volume of tracks in a project Y5/6 To position 3D shapes relative to one another To use digital tools to modify 3D objects To combine objects to create a 3D digital artefact To use digital tools to accurately size 3D objects	Y3/4 To recognise that digital images can be manipulated To recognise that digital images can be changed for different purposes To choose the most appropriate tool for a particular purpose To consider the impact of changes made on the quality of the image Y5/6 To review an existing website (navigation bars, header) To create a new blank web page To add text to a web page To change the appearance of text	Y3/4 To use a digital device to collect data automatically To choose how often to automatically collect data samples To use a set of logged data to find information To use a computer program to sort data by one attribute To export information in different formats Y5/6 To calculate data using a formula for each operation To use functions to create new data To use existing cells within a formula To choose suitable ways to present spreadsheet data	Y3/4 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) Y5/6 To identify a variable in an existing program	Y3/4 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 Y5/6

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Knowledge and Skills Organiser

	To decide what you should and should not share online	To construct a 3D model which reflects a real world object	To embed media in a web page To set the style of text on 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		To experiment with the value of an existing variable To choose a name that identifies the role of a variable to make it easier for humans to understand it 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	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
Metacognition	**LKS2** **Pose questions** pose questions to expand their knowledge about the world **Identify and clarify information and ideas** identify main ideas and select and clarify information from a range of sources	**LKS2** **Organise and process information** collect, compare, and categorise facts and opinions found in a wide range of sources **Imagine possibilities and connect ideas** expand on known ideas to create new and	**LKS2** **Consider alternatives** explore situations using creative thinking strategies to propose a range of alternatives **Seek solutions and put ideas into action** experiment with a range of options when seeking solutions and putting ideas into action	LKS2 **Think about thinking (metacognition)** reflect on, explain and check the processes used to come to conclusions **Reflect on processes** identify pertinent information in an investigation and separate into smaller parts or ideas	LKS2 **Transfer knowledge into new contexts** transfer and apply information in one setting to enrich another **Apply logic and reasoning** - identify and apply appropriate reasoning and thinking strategies for outcomes	LKS2 **Draw conclusions and design a course of action** draw on prior knowledge and use evidence when choosing a course of action or drawing a conclusion **Evaluate procedures and outcomes** explain and

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	UKS2 **Pose questions** pose questions to clarify and interpret information and probe further to discover causes and consequences **Identify and clarify information and ideas** identify and clarify relevant information and prioritise ideas	imaginative combinations **UKS2** **Organise and process information** analyse, condense, and combine relevant information from multiple sources **Imagine possibilities and connect ideas** combine ideas in a variety of ways and from a range of sources to create new possibilities	**UKS2** **Consider alternatives** identify situations where current approaches do not work, challenge existing ideas, and generate alternative solutions **Seek solutions and put ideas into action** assess and test options to identify the most effective solution and put ideas into action	UKS2 **Think about thinking (metacognition)** reflect on assumptions made, consider reasonable criticism, and adjust their thinking if necessary **Reflect on processes** identify and justify the thinking behind choices they have made	UKS2 **Transfer knowledge into new contexts** apply knowledge gained from one context to another unrelated context and identify new meaning **Apply logic and reasoning** - assess whether there is adequate reasoning and evidence to justify a claim, conclusion, or outcome	justify ideas and outcomes UKS2 **Draw conclusions and design a course of action** scrutinise ideas or concepts, test conclusions and modify actions when designing a course of action **Evaluate procedures and outcomes** evaluate the effectiveness of ideas, products, performances, methods, and courses of action against given criteria
Year C Buzzards	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	Civilisation and democracy	**Culture**	**All Around the World**	**Exploration and Discovery**	**Natural Wonder**	**Community**
NC Objectives	▪ use sequence, selection, and repetition in programs; work with variables and various forms of input and output	▪ select, use and combine a variety of software (including internet services) on a range of digital devices to	▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by	▪ 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,	▪ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in	▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems

	▪ 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 ▪ design, write and debug programs that accomplish	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. use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	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	systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	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	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

	specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts					
Knowledge	Y3/4 To identify input and output devices To explain that a computer system accepts an input and processes it to produce an output To explain how a computer network can be used to share information To explain the role of a switch, server and wireless access point in a network To identify network devices around me To explain how networks can be connected to other networks Y5/6 To describe the input and output of a search engine	Y3/4 To plan an animation using a storyboard To set up the work area with an awareness of what will be captured To capture an image To use the onion skinning tool to review subject position To move a subject between captures To review a captured sequence of frames as an animation To remove frames to improve an animation To add media to enhance an animation To review a completed project Y5/6 To recognise the relationship between	Y3/4 To show that page orientation can be changed To add text to a placeholder To organise text and image placeholders in a page layout To add and remove images to and from placeholders To edit text in a placeholder To move, resize and rotate images To choose fonts and apply effects to text To review a document Y5/6 To use different camera angles To use pan, tilt and zoom To identify features of a video recording device or application	Y3/4 To create questions with yes/no answers To choose questions that will divide objects into evenly sized subgroups To repeatedly create subgroups of objects To identify an object using a branching database To retrieve information from different levels of the branching database Y5/6 To choose different ways to view data To choose which attribute and value to search by to answer a given question (operands) To ask questions that need more than one attribute to answer	Y3/4 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 Y5/6 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 way	Y3/4 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 Y5/6 To create a condition-controlled loop To use a condition in an ‘if…then…’ statement to start an action To use selection to switch the program flow in one of two ways To use a condition in an ‘if…then…else…’ statement to produce given outcomes

	To demonstrate that different search terms produce different results To evaluate the results of search terms	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 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 choose which attribute to sort data by to answer a given question To choose multiple criteria to search data to answer a given question (AND and OR) To select an appropriate graph to visually compare data To choose suitable ways to present information to other people		
Skills Progression	Y3/4 To identify input and output devices To explain that a computer system accepts	Y3/4 To plan an animation using a storyboard	Y3/4 To show that page orientation can be changed To add text to a placeholder	Y3/4 To create questions with yes/no answers	Y3/4 To build a sequence of commands To combine commands in a program	Y3/4 To build a sequence of commands To combine commands in a program

	an input and processes it to produce an output To explain how a computer network can be used to share information To explain the role of a switch, server and wireless access point in a network To identify network devices around me To explain how networks can be connected to other networks **Y5/6** To describe the input and output of a search engine To demonstrate that different search terms produce different results To evaluate the results of search terms	To set up the work area with an awareness of what will be captured To capture an image To use the onion skinning tool to review subject position To move a subject between captures To review a captured sequence of frames as an animation To remove frames to improve an animation To add media to enhance an animation To review a completed project Y5/6 To add an object to a vector drawing To select one object or multiple objects To delete objects To move objects between the layers of a drawing To duplicate objects using copy and paste To modify objects To reposition objects To group and ungroup selected objects	To organise text and image placeholders in a page layout To add and remove images to and from placeholders To edit text in a placeholder To move, resize and rotate images To choose fonts and apply effects to text To review a document Y5/6 To use different camera angles To use pan, tilt and zoom To identify features of a video recording device or application 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 choose questions that will divide objects into evenly sized subgroups To repeatedly create subgroups of objects To identify an object using a branching database To retrieve information from different levels of the branching database Y5/6 To choose different ways to view data To choose which attribute and value to search by to answer a given question (operands) To ask questions that need more than one attribute to answer To choose which attribute to sort data by to answer a given question To choose multiple criteria to search data to answer a given question (AND and OR) To select an appropriate graph to visually compare data To choose suitable ways to present information to other people	To order commands in a program To create a sequence of commands to produce a given outcome Y5/6 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 way	To order commands in a program To create a sequence of commands to produce a given outcome Y5/6 To create a condition-controlled loop To use a condition in an 'if...then...' statement to start an action To use selection to switch the program flow in one of two ways To use a condition in an 'if...then...else...' statement to produce given outcomes

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Knowledge and Skills Organiser

		To combine options to achieve a desired effect To create a vector drawing for a given purpose				
Metacognition	**LKS2** **Pose questions** pose questions to expand their knowledge about the world **Identify and clarify information and ideas** identify main ideas and select and clarify information from a range of sources **UKS2** **Pose questions** pose questions to clarify and interpret information and probe further to discover causes and consequences **Identify and clarify information and ideas** identify and clarify relevant information and prioritise ideas	**LKS2** **Organise and process information** collect, compare, and categorise facts and opinions found in a wide range of sources **Imagine possibilities and connect ideas** expand on known ideas to create new and imaginative combinations **UKS2** **Organise and process information** analyse, condense, and combine relevant information from multiple sources **Imagine possibilities and connect ideas** combine ideas in a variety of ways and from a range of sources	**LKS2** **Consider alternatives** explore situations using creative thinking strategies to propose a range of alternatives **Seek solutions and put ideas into action** experiment with a range of options when seeking solutions and putting ideas into action **UKS2** **Consider alternatives** identify situations where current approaches do not work, challenge existing ideas, and generate alternative solutions **Seek solutions and put ideas into action** assess and test options to identify the most effective solution and put ideas into action	LKS2 **Think about thinking (metacognition)** reflect on, explain and check the processes used to come to conclusions **Reflect on processes** identify pertinent information in an investigation and separate into smaller parts or ideas UKS2 **Think about thinking (metacognition)** reflect on assumptions made, consider reasonable criticism, and adjust their thinking if necessary **Reflect on processes** identify and justify the thinking behind choices they have made	LKS2 **Transfer knowledge into new contexts** transfer and apply information in one setting to enrich another **Apply logic and reasoning** - identify and apply appropriate reasoning and thinking strategies for outcomes UKS2 **Transfer knowledge into new contexts** apply knowledge gained from one context to another unrelated context and identify new meaning **Apply logic and reasoning** - assess whether there is adequate reasoning and evidence to justify a claim, conclusion, or outcome	LKS2 **Draw conclusions and design a course of action** draw on prior knowledge and use evidence when choosing a course of action or drawing a conclusion **Evaluate procedures and outcomes** explain and justify ideas and outcomes UKS2 **Draw conclusions and design a course of action** scrutinise ideas or concepts, test conclusions and modify actions when designing a course of action **Evaluate procedures and outcomes** evaluate the effectiveness of ideas, products, performances,

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Knowledge and Skills Organiser

		to create new possibilities				methods, and courses of action against given criteria
Year D Buzzards	**Autumn1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	Civilisation and Democracy	**Culture**	**All Around the World**	**Exploration and Discoveries**	**Natural Wonder**	**Community**
NC Objectives	▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ▪ 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,	▪ 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	▪ 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)	▪ 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 sequence, selection, and repetition in programs; work with variables and various forms of input and output	▪ 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	▪ 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

	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.	▪ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	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		acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	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
Knowledge	**Y3/4** To describe how networks physically connect to other networks To recognise how networked devices make up the internet	**Y3/4** To identify that sound can be digitally recorded To use a digital device to record sound To explain that a digital recording is stored as a file	**Y3/4** To identify that accuracy in programming is important To create a program in a text-based language To explain what 'repeat' means	**Y3/4** To explain that data gathered over time can be used to answer questions To use a digital device to collect data automatically To explain that a data logger collects 'data points' from sensors over time	**Y3/4** To explain that digital images can be changed To change the composition of an image To describe how images can be changed for different uses	**Y3/4** To develop the use of count-controlled loops in a different programming environment To explain that in programming there are infinite loops and count controlled loops

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	To outline how websites can be shared via the World Wide Web (WWW) To describe how content can be added and accessed on the World Wide Web (WWW) To recognise how the content of the WWW is created by people To evaluate the consequences of unreliable content **Y5/6** To identify how to use a search engine To describe how search engines select results To explain how search results are ranked To recognise why the order of results is important, and to whom To recognise how we communicate using technology To evaluate different methods of online communication	To explain that audio can be changed through editing To show that different types of audio can be combined and played together To evaluate editing choices made **Y5/6** To explain what makes a video effective To identify digital devices that can record video To capture video using a range of techniques To create a storyboard To identify that video can be improved through reshooting and editing To consider the impact of the choices made when making and sharing a video	To modify a count-controlled loop to produce a given outcome To decompose a task into small steps To create a program that uses count-controlled loops to produce a given outcome **Y5/6** To define a 'variable' as something that is changeable To explain why a variable is used in a program To choose how to improve a game by using variables To design a project that builds on a given example To use my design to create a project To evaluate my project	To use data collected over a long duration to find information To identify the data needed to answer questions To use collected data to answer questions **Y5/6** To identify questions which can be answered using data To explain that objects can be described using data To explain that formulas can be used to produce calculated data To apply formulas to data, including duplicating To create a spreadsheet to plan an event To choose suitable ways to present data	To make good choices when selecting different tools To recognise that not all images are real To evaluate how changes can improve an image **Y5/6** To use a computer to create and manipulate three-dimensional (3D) digital objects To compare working digitally with 2D and 3D graphics To construct a digital 3D model of a physical object To identify that physical objects can be broken down into a collection of 3D shapes To design a digital model by combining 3D objects To develop and improve a digital 3D model	To develop a design that includes two or more loops which run at the same time To modify an infinite loop in a given program To design a project that includes repetition To create a project that includes repetition **Y5/6** To create a program to run on a controllable device To explain that selection can control the flow of a program To update a variable with a user input To use an conditional statement to compare a variable to a value To design a project that uses inputs and outputs on a controllable device To develop a program to use inputs and outputs on a controllable device
Skills Progression	Y3/4	Y3/4 To record sound using a computer	Y3/4 To recognise that digital images can be manipulated	Y3/4 To use a digital device to collect data automatically	Y3/4	Y3/4

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	To use a search engine effectively To choose the most practical form of communication Y5/6 To outline methods of communicating and collaborating using the internet To choose methods of internet communication and collaboration for given purposes To evaluate different methods of online communication and collaboration To decide what you should and should not share online	To play recorded audio To import audio into a project To delete a section of audio To change the volume of tracks in a project Y5/6 To position 3D shapes relative to one another To use digital tools to modify 3D objects To combine objects to create a 3D digital artefact To use digital tools to accurately size 3D objects To construct a 3D model which reflects a real world object	To recognise that digital images can be changed for different purposes To choose the most appropriate tool for a particular purpose To consider the impact of changes made on the quality of the image Y5/6 To review an existing website (navigation bars, header) To create a new blank web page To add text to a web page To change the appearance of text To embed media in a web page To set the style of text on 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	To choose how often to automatically collect data samples To use a set of logged data to find information To use a computer program to sort data by one attribute To export information in different formats Y5/6 To calculate data using a formula for each operation To use functions to create new data To use existing cells within a formula To choose suitable ways to present spreadsheet data	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) Y5/6 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 easier for humans to understand it 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 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 Y5/6 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

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					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	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
Metacognition	**LKS2** **Pose questions** pose questions to expand their knowledge about the world **Identify and clarify information and ideas** identify main ideas and select and clarify information from a range of sources **UKS2** **Pose questions** pose questions to clarify and interpret information and probe further to discover causes and consequences **Identify and clarify information and ideas** identify and clarify	**LKS2** **Organise and process information** collect, compare, and categorise facts and opinions found in a wide range of sources **Imagine possibilities and connect ideas** expand on known ideas to create new and imaginative combinations **UKS2** **Organise and process information** analyse, condense, and combine relevant information from multiple sources **Imagine possibilities and connect ideas** combine ideas in a variety of ways and	**LKS2** **Consider alternatives** explore situations using creative thinking strategies to propose a range of alternatives **Seek solutions and put ideas into action** experiment with a range of options when seeking solutions and putting ideas into action **UKS2** **Consider alternatives** identify situations where current approaches do not work, challenge existing ideas, and generate alternative solutions **Seek solutions and put ideas into action** assess and test options to identify the most effective solution and put ideas into action	LKS2 **Think about thinking (metacognition)** reflect on, explain and check the processes used to come to conclusions **Reflect on processes** identify pertinent information in an investigation and separate into smaller parts or ideas UKS2 **Think about thinking (metacognition)** reflect on assumptions made, consider reasonable criticism, and adjust their thinking if necessary **Reflect on processes** identify and justify the thinking behind choices they have made	LKS2 **Transfer knowledge into new contexts** transfer and apply information in one setting to enrich another **Apply logic and reasoning** - identify and apply appropriate reasoning and thinking strategies for outcomes UKS2 **Transfer knowledge into new contexts** apply knowledge gained from one context to another unrelated context and identify new meaning **Apply logic and reasoning** - assess whether there is adequate reasoning and evidence to justify a claim, conclusion, or outcome	LKS2 **Draw conclusions and design a course of action** draw on prior knowledge and use evidence when choosing a course of action or drawing a conclusion **Evaluate procedures and outcomes** explain and justify ideas and outcomes UKS2 **Draw conclusions and design a course of action** scrutinise ideas or concepts, test conclusions and modify actions when designing a course of action **Evaluate procedures and outcomes** evaluate the

	relevant information and prioritise ideas	from a range of sources to create new possibilities				effectiveness of ideas, products, performances, methods, and courses of action against given criteria