

Computing Skills and Knowledge Progression

	Nursery	Reception	Year 1 Computing systems and networks- Technology around us (e-safety)	Year 2 Computing systems and networks- Technology around us (e-safety)	Year 3 Computing systems and networks- Technology around us (e-safety)	Year 4 Computing systems and networks- Technology around us (e-safety)	Year 5 Computing systems and networks - Sharing information	Year 6 Computing systems and networks- communication and collaboration
	National Curriculum/ Development Matters							

Computing Skills and Knowledge Progression

Autumn Term 1	<p>Recognise that a range of technology is used in places such as homes and schools.</p> <p>They select and use technology for particular purposes.</p>	<p>Recognise that a range of technology is used in places such as homes and schools.</p> <p>They select and use technology for particular purposes.</p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>Recognise common uses of information technology beyond school.</p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>Recognise common uses of information technology beyond school.</p> <p>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.</p>	<p>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.</p> <p>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.</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p>	<p>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.</p> <p>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.</p> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p> <p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>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.</p>	<p>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.</p> <p>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.</p> <p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p>	<p>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.</p> <p>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.</p> <p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p>

Computing Skills and Knowledge Progression

Knowledge

Computing Skills and Knowledge Progression

	<ul style="list-style-type: none"> -To identify a computer - To identify a phone -To identify an iPad 	<ul style="list-style-type: none"> - To identify technology -To identify a computer - To identify a phone -To identify an iPad -Locate examples of technology in the classroom -Identify a chart -I know the difference between a photography and video. -Talk about AR objects in my class 	<ul style="list-style-type: none"> - To identify technology -To identify a computer and its main parts -Explain how these technology examples help us -Explain technology as something that helps us -Locate examples of technology in the classroom -Name the main parts of a computer -Know what a keyboard is for - Identify rules to keep us safe and healthy when we are using technology in and beyond the home 	<ul style="list-style-type: none"> -Recognise the uses and features of information technology. - Identify the uses of information technology in the school. - Identify information technology beyond school. -Explain how information technology helps us. explain how to use information technology safely. - Recognise that choices are made when using information technology, - Describe some uses of computers. -Identify examples of computers. - Identify that a computer is a part of IT. -Identify examples of IT. - Identify that some IT can be used in more than one way. -Sort school IT by what it's used for. -Find examples of information technology. - Sort IT by where it is found. - Explain the uses 	<ul style="list-style-type: none"> - Explain how digital devices function. - Identify input and output devices. - Recognise how digital devices can change the way we work. -Explain how a computer network can be used to share information. -Explore how digital devices can be connected. - Recognise the physical components of a network. -Explain that digital devices accept inputs. -Explain that digital devices produce outputs. - Classify input and output devices. - Describe a simple process. - Design a digital device. - Explain how I use digital devices for different activities. - Recognise similarities between using digital devices and non-digital tools. 	<ul style="list-style-type: none"> - Describe how networks physically connect to other networks. - Recognise how networked devices make up the internet. - Outline how websites can be shared via the World Wide Web (WWW). -Describe how content can be added and accessed on the World Wide Web (WWW). - Recognise how the content of the WWW is created by people. - Evaluate the consequences of unreliable content. - Demonstrate how information is shared across the internet. - Describe the internet as a network of networks. - Discuss why a network needs protecting. -Describe networked devices and how they connect. - Explain that the internet is used to provide many services. - Recognise that the World Wide Web contains websites and web pages. -Describe how to access websites on the WWW. - Describe where websites are stored when uploaded to the WWW. - Explain the types of media that can be shared on the WWW. - Explain that internet services can be used to create content online. - Explain what media can 	<ul style="list-style-type: none"> - Explain that computers can be connected together to form systems. - Recognise the role of computer systems in our lives. - Describe how search engines select results. - Describe how search engines select results. - Explain how search results are ranked. - Recognise why the order of results is important, and to whom. - Describe that a computer system features inputs, processes, and outputs. - Describe that a computer system features inputs, processes, and outputs. - Explain that computer systems communicate with other devices. - Explain that systems are built using a number of parts. - Explain the benefits of a given computer system. - Explain that tasks that are managed by computer systems. - Identify the human elements of a computer system. - Compare results from different search engines. - Explain why we need tools to find things online - Recognise the role of web crawlers in creating an index. - Explain that a search engine follows rules to rank results. 	<ul style="list-style-type: none"> - Explain that computers can be connected together to form systems. - Recognise the role of computer systems in our lives. - Describe how search engines select results. - Explain how search results are ranked. - Recognise why the order of results is important, and to whom. - Describe that a computer system features inputs, processes, and outputs. - Explain that computer systems communicate with other devices. - Explain that systems are built using a number of parts. - Explain the benefits of a given computer system. - Identify tasks that are managed by computer systems. - Identify the human elements of a computer system. - Compare results from different search engines. - Explain why we need tools to find things online - Recognise the role of web crawlers in creating an index. - Explain that a search engine follows rules to rank results.
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Computing Skills and Knowledge Progression

			<p>of information technology.</p> <ul style="list-style-type: none"> -Recognise common types of technology. - Explain why we use IT. -Name different uses of information technology. - Explain how rules can help keep me safe. - Explain the different rules for using IT -Explain the need to use IT in different ways. - Identify the choices that I make when using IT. 	<ul style="list-style-type: none"> - Suggest differences between using digital devices and non-digital tools. - Discuss why we need a network switch. - explain how messages are passed through multiple connections - Recognise different connections. -demonstrate how information can be passed between devices - Explain the role of a switch, server, and wireless access point in a network. - Recognise that a computer network is made up of a number of devices. - Identify how devices in a network are connected together. - Identify networked devices around me. - Identify the benefits of computer networks. 	<p>be found on websites.</p> <ul style="list-style-type: none"> - Recognise that I can add content to the WWW. - Explain that there are rules to protect content. - Explain that websites and their content are created by people. - Suggest who owns the content on websites. -Explain that not everything on the World Wide Web is true. - Explain why I need to think carefully before I share or reshare content. - Explain why some information I find online may not be honest, accurate, or legal. 	<p>elements of a computer system.</p> <ul style="list-style-type: none"> - Compare results from different search engines. - Explain why we need tools to find things online - Recognise the role of web crawlers in creating an index. - Explain that a search engine follows rules to rank results. - Give examples of criteria used by search engines to rank results. - Describe some of the ways that search results can be influenced. - Explain how search engines make money. - Recognise some of the limitations of search engines. 	<ul style="list-style-type: none"> - Give examples of criteria used by search engines to rank results. - Describe some of the ways that search results can be influenced. - Explain how search engines make money. - Recognise some of the limitations of search engines.
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Computing Skills and Knowledge Progression

Skills							
<ul style="list-style-type: none"> -Play on a touch screen game and use computers/keyboards/mouse in role play -Sort physical objects, take a picture and discuss what I have done -Create a simple digital collage. -Watch films back -Take a photograph - Use a painting app 	<ul style="list-style-type: none"> -Play on a touch screen game and use computers/keyboards/mouse in role play Type letters with increasing confidence using a keyboard and tablet -Dictate short, clear sentences into a digital device -Sort physical objects, take a picture and discuss what I have done -Present simple data on a digital device. -Record my voice over a picture. -Create a simple digital collage. -Move and resize images with my fingers or mouse -Animate a simple image to speak in role -Create a simple animation to tell a story including more than one character Record a short film using the camera -Record and play a film -Watch films back -Take a photograph -Take a photograph and use it in an app - Use a painting app and explore the paint and brush tools -Scan a QR code - Explore a 360 image -Record sounds with different resources -Find ways to change your voice (tube, tin can, shouting to create an echo) - Record sounds/voices in storytelling and explanations 	<ul style="list-style-type: none"> -To use a mouse in different ways -To use a keyboard to type on a computer -To use the keyboard to edit text - Switch on and log into a computer - Use a mouse to click and drag -Click and drag to make objects on a screen - Use a mouse to create a picture - Use a mouse to open a program -Save my work to a file - Type their name on a computer -Delete letters - Open my work from a file - Use the arrow keys to move the cursor 	<ul style="list-style-type: none"> -Demonstrate how IT devices work together. - Use IT for different types of activities. 	<ul style="list-style-type: none"> - Follow a process. 	<ul style="list-style-type: none"> -Demonstrate how information is shared across the internet 	<ul style="list-style-type: none"> - Experiment with search engines. - Make use of a web search to find specific information - Refine my web search. - Relate a search term to the search engine's index. - Order a list by rank. 	<ul style="list-style-type: none"> - Experiment with search engines. - Make use of a web search to find specific information - Refine my web search. - Relate a search term to the search engine's index. - Order a list by rank.

Computing Skills and Knowledge Progression

		Reception	Year 1 Creating media- digital painting	Year 2 Creating media- digital photography	Year 3 Creating media - Desktop publishing	Year 4 Creating media - Photo editing	Year 5 Creating media – Vector drawing	Year 6 Creating media – Web page creation
	National Curriculum/ Development Matters							
Autumn Term 2	Recognise that a range of technology is used in places such as homes and schools.	Recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	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 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. 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.	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.	-Be responsible, competent, confident and creative users of information and communication technology. -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.
	Knowledge							

Computing Skills and Knowledge Progression

	<ul style="list-style-type: none"> -To identify a computer - To identify a phone -To identify an iPad 	<ul style="list-style-type: none"> - To identify technology -To identify a computer - To identify a phone -To identify an iPad -Locate examples of technology in the classroom -Identify a chart -I know the difference between a photography and video. -Talk about AR objects in my class 	<ul style="list-style-type: none"> -Describe what different freehand tools do - explain why I chose the tools I used - Compare painting a picture on a computer and on paper - know which tools were helpful and why - Know that different paint tools do different jobs -Explain that pictures can be made in lots of different ways - Explain whether I prefer painting using a computer or using paper -Spot the differences between painting on a computer and on paper 	<ul style="list-style-type: none"> - Describe what makes a good photograph. -Decide how photographs can be improved. - Recognise that photos can be changed. 	<ul style="list-style-type: none"> - Recognise how text and images convey information. - Recognise that text and layout can be edited. - Consider how different layouts can suit different purposes. - Consider the benefits of desktop publishing. - Explain the difference between text and images. - Identify the advantages and disadvantages of using text and images. - Recognise that text and images can communicate messages clearly. - Explain that text can be changed to communicate more clearly. - Define the term 'page orientation'. - Recognise placeholders and say why they are important. - Compare work made on desktop publishing to 	<ul style="list-style-type: none"> - Explain that the composition of digital images can be changed. - Explain that colours can be changed in digital images. - Explain how cloning can be used in photo editing. - Explain that images can be combined. -Evaluate how changes can improve an image. - Explain why I might crop an image. -Explain that different colour effects make you think and feel different things. - Explain why I chose certain colour effects. - Identify how a photo edit can be improved. - Explain why photos might be edited. - Describe the image I want to create. 	<ul style="list-style-type: none"> - Identify that drawing tools can be used to produce different outcomes. - Recognise that vector drawings consist of layers. - Discuss how vector drawings are different from paper-based drawings. - Recognise that vector drawings are made using shapes. - Explain that each element added to a vector drawing is an object. - Identify the shapes used to make a vector drawing. - Explain how alignment grids and resize handles can be used to improve consistency. - Identify that each added 	<ul style="list-style-type: none"> -Evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
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Computing Skills and Knowledge Progression

					work created by hand - Identify the uses of desktop publishing in the real world - Explain why desktop publishing might be helpful.		object creates a new layer in the drawing. - Recognise when I need to group and ungroup objects.	
	Skills							

Computing Skills and Knowledge Progression

	<ul style="list-style-type: none"> -Play on a touch screen game and use computers/keyboards/mouse in role play -Sort physical objects, take a picture and discuss what I have done -Create a simple digital collage. -Watch films back -Take a photograph - Use a painting app 	<ul style="list-style-type: none"> -Play on a touch screen game and use computers/keyboards/mouse in role play Type letters with increasing confidence using a keyboard and tablet -Dictate short, clear sentences into a digital device -Sort physical objects, take a picture and discuss what I have done -Present simple data on a digital device. -Record my voice over a picture. -Create a simple digital collage. -Move and resize images with my fingers or mouse -Animate a simple image to speak in role -Create a simple animation to tell a story including more than one character Record a short film using the camera -Record and play a film -Watch films back -Take a photograph -Take a photograph and use it in an app - Use a painting app and explore the paint and brush tools -Scan a QR code - Explore a 360 image -Record sounds with different resources -Find ways to change your voice (tube, tin can, shouting to create an echo) - Record sounds/voices in storytelling and explanations 	<ul style="list-style-type: none"> -To use the shape tool and the line tools - Make careful choices when painting a digital picture - Use a computer on my own to paint a picture -Draw lines on a screen and explain which tools I used - Make marks on a screen and explain which tools I used -Use the paint tools to draw a picture -Make marks with the square and line tools - Use the shape and line tools effectively - Use the shape and line tools to recreate the work of an artist -Choose appropriate shapes - Create a picture in 	<ul style="list-style-type: none"> -Use a digital device to take a photograph. - Make choices when taking a photograph. - Use tools to change an image. 	<ul style="list-style-type: none"> - Choose appropriate page settings. - Add content to a desktop publishing publication. -Can change font style, size, and colours for a given purpose. - Edit text. - Create a template for a particular purpose. - Choose the best locations for my content. - Make changes to content after I've added it. - Paste text and images to create a magazine cover. - Choose a suitable layout for a given purpose. - Identify different layouts. - Match a layout to a purpose. 	<ul style="list-style-type: none"> - Combine images for a purpose. - Improve an image by rotating it. - Use photo editing software to crop an image. - Experiment with different colour effects. - Add to the composition of an image by cloning. - Remove parts of an image using cloning. - Experiment with tools to select and copy part of an image. - Use a range of tools to copy between images. - Choose suitable images for my project. - Create a project that is a combination of other images. -Combine text and my image to complete the project. - Review images against a given criteria. - Use feedback to guide making changes. 	<ul style="list-style-type: none"> - Create a vector drawing by combining shapes. - Use tools to achieve a desired effect. - Group objects to make them easier to work with. - Apply what I have learned about vector drawings. - Experiment with the shape and line tools. - Move, resize, and rotate objects I have duplicated. - Modify objects to create a new image - Use the zoom tool to help me add detail to my drawings. - Change the order of layers in a vector drawing. - Use layering to create an image. 	<ul style="list-style-type: none"> -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.
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Computing Skills and Knowledge Progression

			<p>the style of an artist</p> <ul style="list-style-type: none"> - Make appropriate colour choices - Choose appropriate paint tools and colours to recreate the work of an artist - Change the colour and brush sizes - Make dots of colour on the page - Use dots of colour to create a picture in the style of an artist on my own 			<ul style="list-style-type: none"> - Copy part of a drawing by duplicating several objects. - Reuse a group of objects to further develop my vector drawing. - Compare vector drawings to freehand paint drawings. - Create a vector drawing for a specific purpose - Reflect on the skills I have used and why I have used them. 	
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	Nursery	Reception	Year 1 Creating Media (Digital writing)	Year 2 Creating Media (making Music)	Year 3 Creating media - Stop-frame animation	Year 4 Creating media - Audio editing	Year 5 Creating media - Video editing	Year 6 Programming – Variables in games
	National Curriculum/ Development Matters							

Computing Skills and Knowledge Progression

Spring Term 3	<p>Recognise that a range of technology is used in places such as homes and schools.</p> <p style="text-align: center;">They select and use technology for particular purposes.</p>	<p>Recognise that a range of technology is used in places such as homes and schools.</p> <p style="text-align: center;">They select and use technology for particular purposes.</p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>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.</p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p> <p>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.</p>	<p>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.</p> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p> <p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>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.</p>	<p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p> <p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>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.</p>	<p>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.</p> <p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>Use sequence, selection, and</p>
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Computing Skills and Knowledge Progression

								<p>repetition in programs; work with variables and various forms of input and output.</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p>
Knowledge								

Computing Skills and Knowledge Progression

	<ul style="list-style-type: none"> -To identify a computer - To identify a phone -To identify an iPad 	<ul style="list-style-type: none"> - To identify technology -To identify a computer - To identify a phone -To identify an iPad -Locate examples of technology in the classroom -Identify a chart -I know the difference between a photography and video. -Talk about AR objects in my class 	<ul style="list-style-type: none"> -Explain why I used the tools that I chose - Compare typing on a computer to writing on paper -Decide if my changes have improved my writing - Explain what tool I used to change the text -Explain the differences between typing and writing - Explain why I prefer typing or writing 	<ul style="list-style-type: none"> - Explain how music can make us feel. -Identify that there are patterns in music. - Explain that music is created and played by humans. - Relate an idea to a piece of music. -Explain how my music can be played in different ways. - Identify that music is a sequence of notes. -Explain how I changed my work. 	<ul style="list-style-type: none"> - Explain that animation is a sequence of drawings or photographs. - Relate animated movement with a sequence of images. -identify the need to work consistently and carefully. -Evaluate the impact of adding other media to an animation. -Explain how an animation/flip book works. - Create an effective stop-frame animation. -Explain why little changes are needed for each frame. - Predict what an animation will look like. - Evaluate the quality of my animation. - Review a sequence of frames to check my work. - Evaluate another learner's animation. - Explain ways to make my animation better. 	<ul style="list-style-type: none"> - Identify that sound can be recorded. - Explain that audio recordings can be edited. - Recognise the different parts of creating a podcast project. - Explain that the person who records the sound can say who is allowed to use it. - Discuss what sounds can be added to a podcast. - Explain how sounds can be combined to make a podcast more engaging. - Explain the difference between saving a project and exporting an audio file. 	<ul style="list-style-type: none"> - Explain what makes a video effective. - Identify digital devices that can record video. - Identify that video can be improved through reshooting and editing. - Consider the impact of the choices made when making and sharing a video. - Explain that video is a visual media format - Identify features of videos. - Suggest filming techniques for a given purpose. - Decide which filming techniques I will use. -Explain how to improve a video by reshooting and editing. - Recognise that my choices when making a video will impact on the quality of the final outcome. 	<ul style="list-style-type: none"> -To define a 'variable' as something that is changeable. -Identify examples of information that is a variable. -Explain that the way a variable changes can be defined. -Identify that variables can hold numbers and letters. -Identify a program variable as a placeholder in memory for a single value. -Explain that a variable has a name and a value Recognise that the value of a variable can be changed. -Recognise that the value of a variable can be used by a program. - I can explain my design choices.
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Computing Skills and Knowledge Progression

								-Identify ways that my game could be improved
	Skills							

Computing Skills and Knowledge Progression

	<ul style="list-style-type: none"> -Play on a touch screen game and use computers/keyboards/mouse in role play -Sort physical objects, take a picture and discuss what I have done -Create a simple digital collage. -Watch films back -Take a photograph - Use a painting app 	<ul style="list-style-type: none"> -Play on a touch screen game and use computers/keyboards/mouse in role play Type letters with increasing confidence using a keyboard and tablet -Dictate short, clear sentences into a digital device -Sort physical objects, take a picture and discuss what I have done -Present simple data on a digital device. -Record my voice over a picture. -Create a simple digital collage. -Move and resize images with my fingers or mouse -Animate a simple image to speak in role -Create a simple animation to tell a story including more than one character Record a short film using the camera -Record and play a film -Watch films back -Take a photograph -Take a photograph and use it in an app - Use a painting app and explore the paint and brush tools -Scan a QR code - Explore a 360 image -Record sounds with different resources -Find ways to change your voice (tube, tin can, shouting to create an echo) - Record sounds/voices in storytelling and explanations 	<ul style="list-style-type: none"> - Use a computer to write - Add and remove text on a computer -Identify that the look of text can be changed on a computer - Make careful choices when changing text -Change the font - Select all of the text by clicking and dragging - Select a word by double-clicking -- Use 'undo' to remove changes - Make changes to text on a computer 	<ul style="list-style-type: none"> - Experiment with sound using a computer. - Use a computer to create a musical pattern. - Create music for a purpose. - Review and refine our computer work. - Create a rhythm pattern. -Play an instrument following a rhythm pattern. -Connect images with sounds. - Use a computer to experiment with pitch. - Refine my musical pattern on a computer. -Add a sequence of notes to my rhythm - Create a rhythm which represents an animal 	<ul style="list-style-type: none"> - Plan an animation. - Review and improve an animation. -Create an effective flip book—style animation. - Draw a sequence of pictures. break down a story into settings, characters and events - Create a storyboard. - Describe an animation that is achievable on screen. - Use onion skinning to help me make small changes between frames. 	<ul style="list-style-type: none"> - Apply audio editing skills independently. - Combine audio to enhance my podcast project. - Evaluate the effective use of audio. - Identify the input and output devices used to record and play sound. - Use a computer to record audio. - Inspect the soundwave view to know where to trim my recording. - Re-record my voice to improve my recording. - Plan appropriate content for a podcast. - Save my project so the different parts remain editable. - Improve my voice recordings - Record content following my plan. - Review the quality of my recordings. - Arrange multiple sounds to create the effect I want. - Open my project to continue working on it. - Choose appropriate edits to improve my podcast. -Listen to an audio recording to identify its strengths. - Suggest improvements to an audio recording. 	<ul style="list-style-type: none"> - Capture video using a range of techniques. - Create a storyboard. - Compare features in different videos. - Experiment with different camera angles. - Identify and find features on a digital video recording device. - Make use of a microphone. - Capture video using a range of filming techniques. - Review how effective my video is. - Create and save video content. - Outline the scenes of my video. - Select the correct tools to make edits to my video. - Store, retrieve, and export my recording to a computer. evaluate my video and share my opinions. - Make edits to my video and improve the final outcome. 	<ul style="list-style-type: none"> Decide where in a program to change a variable. -Make use of an event in a program to set a variable. -Choose the artwork for my project. -Create algorithms for my project. -Create the artwork for my project. -Choose a name that identifies the role of a variable. -Test the code that I have written. -Use variables to extend my game. -Share my game with others.
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Computing Skills and Knowledge Progression

			I've chosen - Create my animal's rhythm on a computer. - Listen to music and describe how it makes me feel. - Review my work.					
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		EYFS	Year 1 Programming- moving a robot	Year 2 Programming- moving a robot	Year 3 Programming - Sequence in music	Year 4 Programming - Repetition in shape	Year 5 Programming - Selection in physical computing	Year 6 Data and information – Introduction to Spreadsheets
	National Curriculum/ Development Matters							

Computing Skills and Knowledge Progression

Spring Term 4	<p>Recognise that a range of technology is used in places such as homes and schools.</p> <p style="text-align: center;">They select and use technology for particular purposes.</p>	<p>Recognise that a range of technology is used in places such as homes and schools.</p> <p style="text-align: center;">They select and use technology for particular purposes.</p>	<p>Recognise common uses of information technology beyond school.</p> <p>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.</p> <p>Create and debug simple programs.</p> <p>Use logical reasoning to predict the behaviour of simple programs.</p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>Analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.</p> <p>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.</p> <p>Create and debug simple programs.</p>	<p>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.</p> <p>Use logical reasoning to predict the behaviour of simple programs.</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p>	<p>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.</p> <p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect</p>	<p>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.</p> <p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p>	<p>Be responsible, competent, confident and creative users of information and communication technology.</p> <p>-Use technology purposefully to create, organise, store, manipulate and retrieve digital content</p> <p>- Recognise common uses of information technology beyond school</p> <p>-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.</p> <p>-Recognise common uses of information technology beyond school.</p> <p>-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</p>

Computing Skills and Knowledge Progression

							and correct errors in algorithms and programs.		content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
	Knowledge								

Computing Skills and Knowledge Progression

	<ul style="list-style-type: none"> -To identify a computer - To identify a phone -To identify an iPad 	<ul style="list-style-type: none"> - To identify technology -To identify a computer - To identify a phone -To identify an iPad -Locate examples of technology in the classroom -Identify a chart -I know the difference between a photography and video. -Talk about AR objects in my class 	<ul style="list-style-type: none"> -Explain what a given command will do -Act out a given word 	<ul style="list-style-type: none"> - Describe a series of instructions as a sequence. -Explain what happens when we change the order of instructions. - Use logical reasoning to predict the outcome of a program. - Explain that programming projects can have code and artwork. -Compare my prediction to the program outcome. -Predict the outcome of a sequence. - Explain the choices I made for my mat design. - Identify different routes around my mat. - Explain what my algorithm should achieve. 	<ul style="list-style-type: none"> - Identify that commands have an outcome. - Explain that a program has a start. - Explain that a program has a start. -Recognise that a sequence of commands can have an order. -Explain that objects in Scratch have attributes (linked to). - Identify the objects in a Scratch project (sprites, backdrops). - Recognise that commands in Scratch are represented as blocks. - Identify that each sprite is controlled by the commands I choose. -Explain that the objects in my project will respond exactly to the code. -Explain what a sequence is. 	<ul style="list-style-type: none"> - Identify that accuracy in programming is important. - Explain what 'repeat' means. - Explain the effect of changing a value of a command. - Identify the effect of changing the number of times a task is repeated. - Predict the outcome of a program containing a count-controlled loop. - Explain that a computer can repeatedly call a procedure. - Identify 'chunks' of actions in the real world. -Identify everyday tasks that include repetition as part of a sequence, eg brushing teeth, dance moves. 	<ul style="list-style-type: none"> - Explain that a loop can stop when a condition is met. - Explain that a loop can be used to repeatedly check whether a condition has been met. - Explain what an infinite loop does. - Explain that a condition is either true or false. -Explain that a condition being met can start an action. - Identify a condition and an action in my project. - Describe what my project will do. - Identify a real-world example of a condition starting an action. 	<ul style="list-style-type: none"> -Suggest how to structure my data. -Explain what an item of data is. Explain that formulas can be used to produce calculated data. -Explain which data types can be used in calculations. -Identify that changing inputs changes outputs. Explain why data should be organised. -Suggest when to use a table or chart.
Skills								

Computing Skills and Knowledge Progression

	<ul style="list-style-type: none"> -Play on a touch screen game and use computers/keyboards/mouse in role play -Sort physical objects, take a picture and discuss what I have done -Create a simple digital collage. -Watch films back -Take a photograph - Use a painting app 	<ul style="list-style-type: none"> -Play on a touch screen game and use computers/keyboards/mouse in role play Type letters with increasing confidence using a keyboard and tablet -Dictate short, clear sentences into a digital device -Sort physical objects, take a picture and discuss what I have done -Present simple data on a digital device. -Record my voice over a picture. -Create a simple digital collage. -Move and resize images with my fingers or mouse -Animate a simple image to speak in role -Create a simple animation to tell a story including more than one character Record a short film using the camera -Record and play a film -Watch films back -Take a photograph -Take a photograph and use it in an app - Use a painting app and explore the paint and brush tools -Scan a QR code - Explore a 360 image -Record sounds with different resources -Find ways to change your voice (tube, tin can, shouting to create an echo) - Record sounds/voices in storytelling and explanations 	<ul style="list-style-type: none"> - Combine forwards and backwards commands to make a sequence - Combine four direction commands to make sequences -Plan a simple program - Find more than one solution to a problem -Match a command to an outcome - Predict the outcome of a command on a device - Run a command on a device -Follow an instruction - Give directions - Recall words that can be acted out -Compare forwards and backwards movements - Predict the outcome of a sequence involving forwards and backwards commands - Start a sequence from the same place -Compare left and right turns - Experiment with turn and move commands to move a robot - Predict the outcome of a sequence 	<ul style="list-style-type: none"> - Design an algorithm. - Create and debug a program that I have written. -Choose a series of words that can be enacted as a sequence. - Follow instructions given by someone else. - Give clear instructions. -Show the difference in outcomes between two sequences that consist of the same commands. - Use an algorithm to program a sequence on a floor robot. - Use the same instructions to create different algorithms. - Follow a sequence. - Test my mat to make sure that it is usable. -Create an algorithm to meet my goal. -Use my algorithm to create a program. -Plan algorithms for different parts of a task. - Put together the different parts of my program. - Test and debug each part of the program. 	<ul style="list-style-type: none"> - Explore a new programming environment. - Change the appearance of my project. - Create a project from a task description. - Choose a word which describes an on-screen action for my plan. - Create a program following a design. - Create a sequence of connected commands. - Start a program in different ways. - Combine sound commands. - Order notes into a sequence. - Build a sequence of commands. - Decide the actions for each sprite in a program. - Make design choices for my artwork. - Identify and name the objects I will need for a project. - Implement my algorithm as code. - Relate a task description to a design. 	<ul style="list-style-type: none"> - Create a program in a text-based language. - Modify a count-controlled loop to produce a given outcome. - Decompose a task into small steps. - Create a program that uses count-controlled loops to produce a given outcome. - Create a code snippet for a given purpose. - Program a computer by typing commands. - Test my algorithm in a text-based language. - Use a template to create a design for my program. - Write an algorithm to produce a given outcome. - Identify patterns in a sequence. - Use a count-controlled loop to produce a given outcome. - Choose which values to change in a loop. - Use a procedure in a program. 	<ul style="list-style-type: none"> - Control a simple circuit connected to a computer. - Write a program that includes count-controlled loops. - Design a physical project that includes selection. - Create a program that controls a physical computing project. - Create a simple circuit and connect it to a microcontroller. -Program a microcontroller to make an LED switch on. connect more than one output component to a microcontroller - Design sequences that use count-controlled loops - Use a count-controlled loop to control outputs. - Design a conditional loop. - Program a microcontroller to respond to an input. - Use selection (an 'if...then...' statement) to direct the flow of a program. - Create a detailed drawing of my project. 	<ul style="list-style-type: none"> -Create a data set in a spreadsheet. -Collect data. -Build a data set in a spreadsheet. Enter data into a spreadsheet. -Choose an appropriate format for a cell. -Apply an appropriate format to a cell. -Construct a formula in a spreadsheet. -Apply formulas to data. Calculate data using different operations. Create a formula which includes a range of cells. -Apply a formula to multiple cells by duplicating it. -Use a chart to show the answer to a question. -Create a spreadsheet to plan an event. -Use a spreadsheet to answer questions. -Apply a formula to calculate the data I need to answer questions. -Choose suitable ways to present data. -Produce a chart.
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Computing Skills and Knowledge Progression

			involving up to four commands -Choose the order of commands in a sequence - Debug my program - Explain what my program should do -Identify several possible solutions - Plan two programs - Use two different programs to get to the same place			- Design a program that includes count-controlled loops. - Develop my program by debugging it. - Make use of my design to write a program.	- Test and debug my project. - Use selection to produce an intended outcome - Write an algorithm that describes what my model will do.	
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		EYFS	Year 1 Databases – grouping data	Year 2 Databases- Pictograms	Year 3 Data and Information - Branching databases	Year 4 Data and information - Data logging	Year 5 Data information - Flat file databases	Year 6 Creating media – 3D Modelling
	National Curriculum/ Development Matters							

Computing Skills and Knowledge Progression

Summer Term 1	<p>Recognise that a range of technology is used in places such as homes and schools.</p> <p style="text-align: center;">They select and use technology for particular purposes.</p>	<p>Recognise that a range of technology is used in places such as homes and schools.</p> <p style="text-align: center;">They select and use technology for particular purposes.</p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>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.</p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>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 online technologies.</p>	<p>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.</p>	<p>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.</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p>	<p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>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.</p>	<p>-Be responsible, competent, confident and creative users of information and communication technology.</p> <p>-Recognise common uses of information technology beyond school.</p> <p>-Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>-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.</p>
	Knowledge							

Computing Skills and Knowledge Progression

	<ul style="list-style-type: none"> -To identify a computer - To identify a phone -To identify an iPad 	<ul style="list-style-type: none"> - To identify technology -To identify a computer - To identify a phone -To identify an iPad -Locate examples of technology in the classroom -Identify a chart -I know the difference between a photography and video. -Talk about AR objects in my class 	<ul style="list-style-type: none"> - Label objects - Identify that objects can be counted - Describe objects in different ways - Count objects with the same properties - Compare groups of objects - Answer questions about groups of objects -Describe objects using labels - Identify the label for a group of objects - Match objects to groups -Count a group of objects - Count objects - Group objects -Describe an object - Describe a property of an object - Find objects with similar properties can count how many objects share a property - Group objects in more than one way - Group similar objects -Count how many objects share a property - Group objects in more than one way - Group similar objects 	<ul style="list-style-type: none"> - Recognise that we can count and compare objects using tally charts. -Recognise that objects can be represented as pictures. - Recognise that people can be described by attributes. - Explain that we can present information using a computer. -Explain what the pictogram shows. -Answer 'more than'/'less than' and 'most/least' questions about an attribute. -Give simple examples of why information should not be shared. - Share what I have found out using a computer. 	<ul style="list-style-type: none"> - Identify the attributes needed to collect data about an object. - Explain why it is helpful for a database to be well structured. - Compare two branching database structures. -Explain that questions need to be ordered carefully to split objects into similarly sized groups. - 	<ul style="list-style-type: none"> - Explain that data gathered over time can be used to answer questions. - Explain that a data logger collects 'data points' from sensors over time. - Recognise how a computer can help us analyse data. - Identify the data needed to answer questions. - Identify data that can be gathered over time. - Suggest questions that can be answered using a given data set. - Explain what data can be collected using sensors. - Identify that data from sensors can be recorded. - Use data from a sensor to answer a given question. identify the intervals used to collect data. - Recognise that a data logger collects data at given points. -Explain the data that I have captured. - Explain that there are different ways to view data. 	<ul style="list-style-type: none"> - Explain that tools can be used to select specific data. - Explain that computer programs can be used to compare data visually. - Explain how information can be recorded. - Explain what a field and a record is in a database. - Explain that data can be grouped using chosen values. - Explain the benefits of using a computer to create charts. 	<ul style="list-style-type: none"> -Recognise that you can work in three dimensions on a computer. Another. -Identify that digital 3D objects can be modified. -Recognise that objects can be combined in a 3D model. -Explain how my 3D model could be improved.
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Computing Skills and Knowledge Progression

		<ul style="list-style-type: none">-Choose how to group objects- Describe groups of objects- Record how many objects are in a group-Compare groups of objects- Decide how to group objects to answer a question- Record and share what I have found					
Skills							

Computing Skills and Knowledge Progression

	<ul style="list-style-type: none"> -Play on a touch screen game and use computers/keyboards/mouse in role play -Sort physical objects, take a picture and discuss what I have done -Create a simple digital collage. -Watch films back -Take a photograph - Use a painting app 	<ul style="list-style-type: none"> -Play on a touch screen game and use computers/keyboards/mouse in role play Type letters with increasing confidence using a keyboard and tablet -Dictate short, clear sentences into a digital device -Sort physical objects, take a picture and discuss what I have done -Present simple data on a digital device. -Record my voice over a picture. -Create a simple digital collage. -Move and resize images with my fingers or mouse -Animate a simple image to speak in role -Create a simple animation to tell a story including more than one character Record a short film using the camera -Record and play a film -Watch films back -Take a photograph -Take a photograph and use it in an app - Use a painting app and explore the paint and brush tools -Scan a QR code - Explore a 360 image -Record sounds with different resources -Find ways to change your voice (tube, tin can, shouting to create an echo) - Record sounds/voices in storytelling and explanations 		<ul style="list-style-type: none"> - Create a pictogram. - Select objects by attribute and make comparisons. -Organise data in a tally chart. - Use a tally chart to create a pictogram. -Create a pictogram to arrange objects by an attribute. - Tally objects using a common attribute. -Choose a suitable attribute to compare people. - Collect the data I need. - Create a pictogram and draw conclusions from it. - Use a computer program to present information in different ways. 	<ul style="list-style-type: none"> - Create questions with yes/no answers. -Create a branching database. - Plan the structure of a branching database. -Independently create an identification tool. -Create two groups of objects separated by one attribute. - Investigate questions with yes/no answers. - Make up a yes/no question about a collection of objects. - Arrange objects into a tree structure. - Create a group of objects within an existing group. - Select an attribute to separate objects into groups. -Group objects using my own yes/no questions. - Select objects to arrange in a branching database. - Test my branching database to see if it works. -Create yes/no questions using given attributes. - Create a physical version of a branching 	<ul style="list-style-type: none"> - Use a digital device to collect data automatically. - Use data from sensors to answer questions. - Choose a data set to answer a given question. - Sort data to find information - View data at different levels of detail. - Plan how to collect data using a data logger. - Propose a question that can be answered using logged data. - Use a data logger to collect data. - Draw conclusions from the data that I have collected. - Explain the benefits of using a data logger. - Interpret data that has been collected using a data logger. - 	<ul style="list-style-type: none"> - Use a form to record information. - Compare paper and computer-based databases. - Outline how you can answer questions by grouping and then sorting data. -Use a real-world database to answer questions. - Create a database using cards. - Order, sort, and group my data cards. -Choose which field to sort data by to answer a given question. - Navigate a flat-file database to compare different views of information. - Combine grouping and sorting to answer specific questions. - Group information using a database. -Choose multiple criteria to answer a given question - Choose which field and value are required to answer a given question - Outline how 'AND' and 'OR' 	<ul style="list-style-type: none"> -Add 3D shapes to a project. View 3D shapes from different perspectives I can move 3D shapes relative to one. -Resize an object in three dimensions. -Lift/lower 3D objects. Recolour a 3D object. -Rotate objects in three dimensions. -Duplicate 3D objects. -Group 3D objects. -Create a 3D model for a given purpose. -Accurately size 3D objects. -Show that placeholders can create holes in 3D objects. Combine a number of 3D objects. Plan my own 3D model. -Analyse a 3D model. -Choose objects to use in a 3D model. -Combine objects in a design. -Create my own digital 3D model.
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Computing Skills and Knowledge Progression

					<p>database.</p> <ul style="list-style-type: none"> - Create questions that will enable objects to be uniquely identified. - Independently create questions to use in a branching database. <p>Create a branching database that reflects my plan.</p> <ul style="list-style-type: none"> - Suggest real-world uses for branching databases. - Work with a partner to test my identification tool. 		<p>can be used to refine data selection.</p> <ul style="list-style-type: none"> - Refine a chart by selecting a particular filter. - Select an appropriate chart to visually compare data. -Ask questions that will need more than one field to answer. - Present my findings to a group. - Refine a search in a real-world context. 	<ul style="list-style-type: none"> -Construct a 3D model based on a design. -Modify my 3D model to improve it.
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	Nursery	EYFS	Year 1 Programming- Introduction into animation	Year 2 Programming Quizzes	Year 3 Programming - Events and actions into animation	Year 4 Programming - Repetition in games	Year 5 Programming - Selection in quizzes	Year 6 Programming – Sensing movement
	National Curriculum/ Development Matters							

Computing Skills and Knowledge Progression

Summer Term 2	<p>Recognise that a range of technology is used in places such as homes and schools.</p> <p style="text-align: center;">They select and use technology for particular purposes.</p>	<p>Recognise that a range of technology is used in places such as homes and schools.</p> <p style="text-align: center;">They select and use technology for particular purposes.</p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.</p> <p>Create and debug simple programs.</p> <p>Use logical reasoning to predict the behaviour of simple programs.</p>	<p>Analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.</p> <p>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.</p> <p>Create and debug simple programs.</p>	<p>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.</p> <p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p>	<p>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.</p> <p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p> <p>Use logical reasoning to explain how some simple algorithms work</p>	<p>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.</p> <p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p> <p>Use logical reasoning to explain how some simple</p>

Computing Skills and Knowledge Progression

								and to detect and correct errors in algorithms and programs.	algorithms work and to detect and correct errors in algorithms and programs.
	Knowledge								

Computing Skills and Knowledge Progression

	<ul style="list-style-type: none"> -To identify a computer - To identify a phone -To identify an iPad 	<ul style="list-style-type: none"> - To identify technology -To identify a computer - To identify a phone -To identify an iPad -Locate examples of technology in the classroom -Identify a chart -I know the difference between a photography and video. -Talk about AR objects in my class 	<ul style="list-style-type: none"> - Choose a command for a given purpose - Show that a series of commands can be joined together - Identify the effect of changing a value - Explain that each sprite has its own instructions - Design the parts of a project - Use my algorithm to create a program - Compare different programming tools - Explain what happens when I change a value - Decide how each sprite will move 	<ul style="list-style-type: none"> -Explain that a sequence of commands has a start. - Explain that a sequence of commands has an outcome. - Decide how my project can be improved. Identify that a program needs to be started. - Identify the start of a sequence. - Show how to run my program. -Can compare my project to my design. 	<ul style="list-style-type: none"> - Explain how a sprite moves in an existing project. - Explain the relationship between an event and an action. - Consider the real world when making design choices. 	<ul style="list-style-type: none"> - Explain that in programming there are infinite loops and count controlled loops. - list an everyday task as a set of instructions including repetition. -recognise that some programming languages enable more than one process to be run at once. - explain what the outcome of the repeated action should be. - explain the effect of my changes. - identify which parts of a loop can be changed. 	<ul style="list-style-type: none"> - Explain how selection is used in computer programs. - Relate that a conditional statement connects a condition to an outcome. -Explain how selection directs the flow of a program. - Design a program which uses selection. - Create a program which uses selection. - Evaluate my program. - Recall how conditions are used in selection. - Identify the condition and outcomes in an 'if... then... else...' statement. - Explain that program flow can branch according to a condition. - Identify the outcome of user input in an algorithm. - Outline a given task. - Identify the setup code I need in my program. - Identify ways the program could be improved 	<ul style="list-style-type: none"> -Explain that selection can control the flow of a program. -Identify examples of conditions in the real world. -Determine the flow of a program using selection. -Explain that checking a variable doesn't change its value. Explain the importance of the order of conditions in else, if statements. -Decide what variables to include in a project.
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Computing Skills and Knowledge Progression

	Skills
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Computing Skills and Knowledge Progression

	<ul style="list-style-type: none"> -Play on a touch screen game and use computers/keyboards/mouse in role play -Sort physical objects, take a picture and discuss what I have done -Create a simple digital collage. -Watch films back -Take a photograph - Use a painting app 	<ul style="list-style-type: none"> -Play on a touch screen game and use computers/keyboards/mouse in role play Type letters with increasing confidence using a keyboard and tablet -Dictate short, clear sentences into a digital device -Sort physical objects, take a picture and discuss what I have done -Present simple data on a digital device. -Record my voice over a picture. -Create a simple digital collage. -Move and resize images with my fingers or mouse -Animate a simple image to speak in role -Create a simple animation to tell a story including more than one character Record a short film using the camera -Record and play a film -Watch films back -Take a photograph -Take a photograph and use it in an app - Use a painting app and explore the paint and brush tools -Scan a QR code - Explore a 360 image -Record sounds with different resources -Find ways to change your voice (tube, tin can, shouting to create an echo) - Record sounds/voices in storytelling and explanations 	<ul style="list-style-type: none"> - Find which commands to move a sprite - Use commands to move a sprite run my program - Use a Start block in a program - Use more than one block by joining them together - Change the value -Find blocks that have numbers add blocks to each of my sprites - Delete a sprite - Show that a project can include more than one sprite choose appropriate artwork for my project - Create an algorithm for each sprite can add programming blocks based on my algorithm - Test the programs I have created - Use sprites that match my design 	<ul style="list-style-type: none"> - Create a program using a given design. -Change a given design. - Create a program using my own design. -Change the outcome of a sequence of commands. - Match two sequences with the same outcome. -Build the sequences of blocks I need. - Decide which blocks to use to meet the design. - Work out the actions of a sprite in an algorithm can choose backgrounds for the design. - Choose characters for the design. - Create a program based on the new design. -Build sequences of blocks to match my design. - Choose the images for my own design. - Create an algorithm. - Debug my program. - Improve my project by adding features. 	<ul style="list-style-type: none"> - Create a program to move a sprite in four directions. - Adapt a program to a new context. - Develop my program by adding features. - Identify and fix bugs in a program. -Design and create a maze-based challenge. - Choose which keys to use for actions and explain my choices. -Identify a way to improve a program. - Choose a character for my project. - Choose a suitable size for a character in a maze program movement. - Choose blocks to set up my program. -Use a programming extension. -Build more sequences of commands to make my design work. - Choose suitable keys to turn on additional features. - Identify additional features 	<ul style="list-style-type: none"> - Develop the use of count-controlled loops in a different programming environment. - Develop a design that includes two or more loops which run at the same time. - Modify an infinite loop in a given program. - Design a project that includes repetition. - Create a project that includes repetition. - Modify a snippet of code to create a given outcome. - Predict the outcome of a snippet of code. - Choose when to use a count-controlled and an infinite loop. - Modify loops to produce a given outcome. - Choose which action will be repeated for each object. - Evaluate the effectiveness of the repeated sequences used in my program. - Re-use existing code snippets on new sprites. - Develop my own design 	<ul style="list-style-type: none"> - Identify conditions in a program. - Modify a condition in a program. - Create a program with different outcomes using selection. - Use selection in an infinite loop to check a condition. - Design the flow of a program which contains 'if... then... else...' - Show that a condition can direct program flow in one of two ways. -Use a design format to outline my project. - Implement my algorithm to create the first section of my program. - Share my program with others. - Test my program. - Extend my program further. 	<ul style="list-style-type: none"> -Create a program to run on a controllable device. Apply my knowledge of programming to a new environment. -Test my program on an emulator. Transfer my program to a controllable device -Use a variable in an if, then, else statement to select the flow of a program. -Update a variable with a user input. -Use a condition to change a variable. -Experiment with different physical inputs. -Use an conditional statement to compare a variable to a value. -Use an operand (e.g. <=>) in an if, then statement. -Modify a program to achieve a
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Computing Skills and Knowledge Progression

					<p>(from a given set of blocks).</p> <ul style="list-style-type: none"> - Match a piece of code to an outcome. - Modify a program using a design. - Test a program against a given design evaluate my project. - Implement my design. - Make design choices and justify them. 	<p>explaining what my project will do.</p> <ul style="list-style-type: none"> - Evaluate the use of repetition in a project. - Select key parts of a given project to use in my own design. - Build a program that follows my design. - Evaluate the steps I followed when building my project. - Refine the algorithm in my design. 		<p>different outcome.</p> <ul style="list-style-type: none"> - Design a project that uses inputs and outputs on a controllable device. - Design the algorithm for my project. Design the program flow for my project. - Develop a program to use inputs and outputs on a controllable device. Create a program based on my design. Test my program against my design. - Use a range of approaches to find and fix bugs.
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