



Otley All Saints C.E Primary School

'Learning, Love and Laughter Every Day'

Computing Progression

Computing Curriculum Map								
Term		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	
Key Stage 1	Year 1	0.1 How do I use the school computer independently?	2.1 How do I record sound and pictures?	3.1 How do I present data using pictures?	Online Safety and digital literacy	4.1 What is an algorithm?	5.1 What is a program?	
	Year 2	2.2 How do I create a multimedia story?	1.2 How do I use a computer as a writer?	4.2 How do I improve my algorithms? Beebots	3.2 What is a branching database?	Online Safety Understand personal data and who a responsible adult is.	5.2 How do I improve my programs? Logo	
Term		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	
Key Stage 2	Year 3	0.3 Key skills and Online Safety	1.3 Communication with text and images Create a poster - (PHSCE - Anti-bullying poster)	4.3 Programming (sequence and events)	5.3 Programming Understanding, and creating algorithms.	3.3 Databases	2.3 Communication with multimedia	
	0.4 Key skills (key skills and digital literacy)							
	Year 4	1.4 How do I use a computer as an artist?		2.4 What makes an excellent multimedia story?	3.4 How is data shared online?	4.4 How do I write efficient programs in Scratch/Kodu?	5.4 How do I use interaction in a program to tell stories?	
	0.5 Key skills (key skills and digital literacy)							
	Year 5	1.5 How do I find and share data responsibly?	3.5 How do we collaborate online?	5.5 How do I create games in Scratch? Maze game		4.5 How do I program a physical system? (combined DT Micro:bit topic)	2.5 How do I create a radio advert or podcast?	

		0.6 Key skills (and digital literacy)					
	Year 6	E-safety/Social Media Mental Awareness	3.6 Why do we use spreadsheets?	1.6 'How do I use a computer as a designer?	2.6 What makes an excellent film?	4.6 How do I build complex physical	5.6 How do I use Scratch as a game designer?

Computing Progression of Knowledge & Skills

EYFS - Reception-

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic:						
Knowledge /skills:	<div style="border: 1px solid gray; padding: 5px; display: inline-block; background-color: #f0f0f0;"> W Computing in Early Years Development matters skills.docx </div>					
	<ul style="list-style-type: none"> - Begin to use different digital devices. - Recognise that you can access content on a digital device. - Begin to use a mouse, touchscreen or appropriate access device to target and select options on screen. - Recognise a selection of digital devices. - Recognise the basic parts of a computer, e.g. mouse, screen, keyboard. -Are aware that some online content is inappropriate. - Are aware that information can be public or private. - Know to tell an appropriate adult if they see something on the computer that upsets them. (revisit regularly throughout the year) 	<ul style="list-style-type: none"> - Explore technology. - Repeat an action with technology to trigger a specific outcome. - Recognise the success or failure of an action. - Follow simple instructions to control a digital device. - Recognise that we control computers. 	<ul style="list-style-type: none"> - Input a short sequence of instructions to control a device. <p><u>Multimedia</u></p> <ul style="list-style-type: none"> - Operate a digital device with support to fulfil a task. - Create simple digital content, e.g. digital art. <p><u>Data</u></p> <ul style="list-style-type: none"> - Access content in a range of formats, e.g. image, video, audio. - Answer basic questions about information displayed in images e.g. more or less. (will touch on this through the year but specifically taught in summer term) 			
Links to GGGs/SMSC/ Enrichment opportunities /Cross-curricular links:	HE and RSE links- computing specific highlighted in orange					

Computing Progression of Knowledge & Skills

KS1 - Year 1

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic:	0.1 How do I use the school computer independently?	2.1 How do I record sound and pictures?	3.1 How do I present data using pictures?	Online Safety and digital literacy	4.1 What is an algorithm?	5.1 What is a program?
Prior Knowledge/ learning:	<p>Children have not learned to login to the computer or to switch the computer on. They have begun to use a mouse, touchscreen or appropriate access device to target and select options on screen.</p> <p>Program used: N/A</p>	<p>In EYFS children have created simple digital content, e.g. digital art.</p> <p>Program used: paints and other web based paint programs</p>	<p>In EYFS children will have had some exposure to images that present data. They will have answered basic questions about the information displayed in images e.g. more or less.</p> <p>Program used: N/A</p>	<p>In EYFS children were taught that some online content is inappropriate. They have an awareness that information can be public or private. They also know how to tell an appropriate adult if they see something on the computer that upsets them.</p> <p>Program used: N/A</p>	<p>Experience exploring technology and controlling devices. Earlier in the year they have looked at what kind of devices contain computers – but this can be introduced here too. Directional language: forwards, backwards, right-turn, left-turn (quarter turn) – this can be consolidated in this unit.</p> <p>Program used: Beebots</p>	<p>Basic functions of the Bee-Bot buttons. Key language: program, debugging, command, robot. Directional language: forwards, backwards, right-turn, left-turn (quarter turn) – this can be consolidated in this unit.</p> <p>Program used: Beebots</p>

Knowledge:	<ul style="list-style-type: none"> - Recognise a range of digital devices. - Select a digital device to fulfil a specific task, e.g. to take a photo. - Name a range of digital devices, e.g. laptop, phone, games console. - Identify the basic parts of a computer, e.g. mouse, keyboard, screen. 	<ul style="list-style-type: none"> - Recognise that you can find out information from a website. - Recognise that you can edit digital content to change its appearance. 	<ul style="list-style-type: none"> - Recognise different forms of digital content, i.e. text, image, video and audio. - Recognise charts and pictograms and why we use them. - Explain information shown in a simple chart or pictogram. - Identify the key features of a chart or pictogram. 	<ul style="list-style-type: none"> - Explain why we use passwords. - Recognise examples of personal information e.g. name, image. - Know who to tell if concerned about the content or contact online. - Recognise that digital content belongs to the person who created it. - Talk about their use of technology at home. 	<ul style="list-style-type: none"> - Explain that we control computers by giving them instructions. - Predict the outcome of a simple algorithm or program. - Explain what an algorithm is – a sequence of instructions to make something happen. 	<ul style="list-style-type: none"> - Recognise that computers don't have a brain. - Predict the outcome of a simple algorithm or program. - Recognise that the order of instructions in an algorithm is important.
Skills:	<ul style="list-style-type: none"> - Log on to the school computer / unlock the school tablet with support. - Use a suitable access device (mouse, keyboard, touchscreen, switch) to access and control an activity on a computer. - Open key applications independently. - Save and open files with support. - Add an image to a document from a given folder/source with support. 	<ul style="list-style-type: none"> - Create digital content, e.g. digital art. - Choose media from a selection (e.g. images, video, sound) to present information on a topic. - Select basic tools/options to change the appearance of digital content, e.g. filter on an image / font / size of paintbrush. - Combine media with support to present information, e.g. text and images. 	<ul style="list-style-type: none"> - Collect simple data (e.g. likes/dislikes) on a topic. - Present simple data using images, e.g. number of animals. - Modify simple charts/pictograms, e.g. add title, item or labels. - Collect data on a topic (eye colour, pets etc.) and present in a pictogram or chart. 	<ul style="list-style-type: none"> - Use a simple password when logging on, where relevant. 	<ul style="list-style-type: none"> - Create a simple program e.g. to control a floor robot. - Create a simple algorithm. 	<ul style="list-style-type: none"> - Create a simple algorithm. - Debug an error in a simple algorithm or program e.g. for a floor robot.
END POINTS:	1. Log on to a computer	1. Name one thing we can use a computer for.	1. What is a pictogram? 2. Look at the pictogram (see endpoints document). Is the following	1. Why do we use passwords?	1. What is a computer program?	1. Tell me one thing about an algorithm? 2. What do we call it when we find and

	<p>2. Use a mouse to open applications</p> <p>Assessed skill: Type simple words on a keyboard.</p>	<p>2. What should you do if you see something on a computer that upsets you?</p> <p>Assessed skill: 1. Create simple art on a computer using basic tools, or take photos on a digital device on a theme</p>	<p>sentence true or false: a) More children travel by bus than by car.</p> <p>Assessed skill: Collect data on a theme and create a simple pictogram from the results.</p>		<p>2. Which square will the Bee-Bot end up in if it follows this program?</p> <p>Assessed skill: Create a short program to move a Bee-Bot to a given square on a grid.</p>	<p>correct errors in a program?</p> <p>Assessed skill: Plan out a short program by writing an algorithm first, e.g. for a Bee-Bot</p>
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Computing Progression of Knowledge & Skills

KS1 - Year 2

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic:	1.2 How do I use a computer as a writer?	2.2 How do I create a multimedia story?	4.2 How do I improve my algorithms? Beebots/Logo - turtle	3.2 What is a branching database?	Online Safety Understand personal data and who a responsible adult is.	5.2 Simple drawing programs
Prior Learning:	<p>In Y1 children: used a range of input and output devices; learnt why we use a computer to write; used basic icons and where to find options in menus in word processing software; learnt where to open and save work at school; how to edit text and why we use particular effects (e.g. bold, underline); why we need rules when using technology</p> <p>Program used: word/ paintz app</p>		<p>In Y1, children had experience using Bee-Bots and are familiar with the commands. Directional language: forwards, backwards, right-turn, left-turn (quarter turn) – this can be consolidated in this unit. Pupils will also know what an algorithm and a program is.</p> <p>Program used: Beebot and Beebot online</p>		<p>In Y1 children explored charts and pictograms and considered why we use them. Children working at the expected level were able to explain information shown in a simple chart or pictogram.</p> <p>Program used: .j2data.com (free version will not save)</p>	
	<p>In Y1 children were taught to:</p> <ul style="list-style-type: none"> - Recognise examples of personal information e.g. name, image. - Know who to tell if concerned about the content or contact online. - Recognise that digital content belongs to the person who created it. - Talk about their use of technology at home. 		<p>In Y1 children working at the expected level were able to predict the outcome of a simple algorithm or program and recognise that the order of instructions in an algorithm is important. They were able to create a simple algorithm.</p> <p>Program used: Beebot and Beebot online</p>			

Knowledge:	<ul style="list-style-type: none"> - Explain that you can search for information on the internet. - Identify the common features of digital content, e.g. title, images. 	<ul style="list-style-type: none"> - Recognise that we can use technology to record and playback audio or take and view photographs. - Recognise that we can use different types of media to convey information, e.g text, image , video, audio - Identify different forms of digital content, i.e. text, image, video and audio. 	<ul style="list-style-type: none"> - Explain that computers have no intelligence and we have to program them to do things. - Explain what an algorithm is, and that when inputted on a computer it is called a program. - Identify and correct errors in a given algorithm or program, and recognise the term debugging. 	<ul style="list-style-type: none"> - Recognise charts, pictograms and branching databases, and why we use them. - Recognise an error in a branching database. - Identify the features of a good question in a branching database.- Evaluate a given branching database and suggest improvements. 	<ul style="list-style-type: none"> - Remember a simple password to log onto the computer or a website. - Identify rules for acceptable use of technology in school. - Recognise what personal information is and the need to keep it private. - Recognise that spending a lot of time in front of a screen can be unhealthy. - Recognise that some information found online may not be true. 	<ul style="list-style-type: none"> - Debug an error in a simple algorithm or program e.g. for a floor robot.
Key skills taught across the Y2 computing curriculum:	<ul style="list-style-type: none"> Identify and use input devices, e.g. mouse, keyboard; and output devices, e.g. speakers, screen. - Open key applications independently. - Save and open files to/from a given folder. - Add an image to a document from a given folder/source. - Resize an image in a document. - Highlight text and use arrow keys. - Capture media independently (e.g. take photos, record audio). 					
Skills:	<ul style="list-style-type: none"> - Create simple digital content for a purpose, e.g. digital art. 	<ul style="list-style-type: none"> - Apply edits to digital content to achieve a particular effect, e.g. emphasise part of a text. - Present ideas and information by combining media, e.g. text and images. - Plan out digital content, e.g. a simple sketch or storyboard. 	<ul style="list-style-type: none"> - Create a program with multiple steps e.g. to control a floor robot. 	<ul style="list-style-type: none"> - Identify an object using a branching database - Create a branching database using pre-prepared images and questions - Independently plan out and create a branching database. 	<ul style="list-style-type: none"> -create a new password for the school network and use it to login 	<ul style="list-style-type: none"> - Identify and correct errors in a given algorithm or program, and recognise the term debugging. - Plan out a program by creating an algorithm, and evaluate its success.
Links to GGs/SMSC/ Enrichment opportunities/Cr	HE and RSE links- computing specific highlighted in orange					

oss-curricular links:						
END POINTS:	<p>1. Identify the following hardware: mouse, keyboard, screen.</p> <p>2. Tell me one way you can change text in a document, e.g. a title.</p> <p>Assessed skill: Use word-processing software to write and edit simple text (evidence this)</p>	<p>1. What kind of media/computer files can we use to tell stories (e.g. we can use text or...)?</p> <p>2. What is a storyboard?</p> <p>Assessed skill: Create a short sequence of images with text or sound to tell a story</p>	<p>1. Tell me something about an algorithm.</p> <p>2. What is wrong with this program to move the Bee-Bot to the flower?</p> <p>Assessed skill: Create an algorithm to plan out a multi-step program with the Bee-Bot to move to a specific square, then test and debug it (if required)</p>	<p>1. Why do we use branching databases?</p> <p>2. Which of these questions could you include in a branching database? a) Do you like football or basketball? b) Does it have 4 legs? c) What colour is it?</p> <p>Assessed skill: Identify an object using a branching database.</p>	Project Evolve introduced next academic year.	<p>1. What is important about instructions in an algorithm or program?</p> <p>2. Can you remember the code in Logo for forwards, backwards, left and right?</p> <p>Assessed skill: Create an algorithm to plan out a program using software, e.g. Logo, to draw shape, then test and debug it (if required).</p>

Computing Progression of Knowledge & Skills

KS2 - Year 3

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic:	0.3 Key skills and Online Safety	1.3 Communication with text and images	4.3 Sequence and events	5.3 Programming Understanding, and creating algorithms.	3.3 Databases	2.3 Communication with multimedia
Prior Knowledge:	<p>In Y2, children learnt the importance of keeping passwords safe and created a new password for their network login.</p> <p>Program used: N/A</p>	<p>In Y2, children combined text and images using Word. They used a short sequence of images to create a story.</p> <p>Program used: Microsoft Word</p>	<p>In Y2, children created an algorithm to plan out a multi-step program. They used Bee-Bots to move to a specific square, then tested and debugged their code as required.</p> <p>Program used: Beebots and Turtle</p>	<p>Children learnt the terms algorithm and program and gained a basic understanding of what this means. They explored the program Logo and used the forwards and backward commands. By the end of the unit, children working at the expected level, could create a basic shape using Logo (could choose commands from given options).</p> <p>Program used: (Scratch for current cohort but will be) Logo</p>	<p>In KS1, children learnt about simple databases. They used them to answer simple questions about a range of given data. They used a branching database to find answers.</p> <p>Program used: J2data.com</p>	<p>In Y2, children combined text and images using They used a short sequence of images to create a story. They also learnt how to open programs and how to save work.</p> <p>Program used: Microsoft word</p>

<p>Knowledge:</p>	<ul style="list-style-type: none"> - Explain why we need to keep our password safe. - Recognise that digital content belongs to the person who first created it, but we can give permission for others to use it. - Recognise when to share personal information and when not to. - Recognise that some people lie about who they are online. - Are aware that games and films have age ratings. - Describe what a computer is (input > process > output). - Explain the difference between input and output devices on a computer. - Know where to save and open files (e.g. in shared folder). - Recognise that school computers are connected. 	<ul style="list-style-type: none"> - Identify the features of a good piece of digital content. 	<ul style="list-style-type: none"> - Predict the outcome of a block or text based program (Scratch/Logo). - Recognise that we can create an algorithm to help plan out a program. - Identify errors in a block or text-based program and correct them. - Recognise that different inputs can be used to control a program. 	<ul style="list-style-type: none"> - Predict the outcome of a block or text based program (Scratch/Logo). - Identify repeated steps in a program or algorithm. - Recognise a forever loop in a program or algorithm. 	<ul style="list-style-type: none"> - Recognise charts, pictograms and databases, and why we use them. - Recognise that search engines store information in databases. 	<ul style="list-style-type: none"> - Explain why we use technology to create digital content. - Recognise why we use different types of media to convey information, e.g. text, image, audio, video.
<p>Key skills taught across the Y3 computing curriculum:</p>	<ul style="list-style-type: none"> - Save files with appropriate names. - Use a keyboard effectively to type in text. - Use left-, right- and double-click on the mouse. - Add an image to a document from the internet. - Resize and move an image in a document. - Use a search engine to find simple information. 					

<p>Skills:</p>		<ul style="list-style-type: none"> - Design and create simple digital content for a purpose/audience, e.g. poster. - Edit digital content to improve it, e.g. resize text. 	<ul style="list-style-type: none"> - Successfully modify an existing program, e.g. change background, number of times things happen. - Use a forever loop in a program to keep something happening. 	<ul style="list-style-type: none"> - Use a count-controlled loop (e.g. repeat 3 times) to make a program more efficient. - Create examples of algorithms containing count-controlled loops. 	<ul style="list-style-type: none"> - Present information using a suitable chart - Explore a record card database to find out information. - Use filters in a database to find out specific information. - Name the key parts of a database, e.g. record, field, search. - Answer questions about information in a database. - Name some benefits of using a computer to create charts and databases. 	<ul style="list-style-type: none"> - Present ideas and information by combining media independently, e.g. text and images.
<p>Links to GGs/SMSC/ Enrichment opportunities/Cross-curricular links:</p>	<p>HE and RSE links- computing specific highlighted in orange</p>					
<p>END POINTS:</p>	<p>Project Evolve will be introduced next academic year.</p>	<p>1. Can you tell me the key features of a good poster? 2. Describe how to add an image to a poster.</p> <p>Assessed skill: Design and create a poster for a purpose, including key features</p>	<p>1. What is the difference between an algorithm and a program? 2. Can you name 3 different Events in Scratch?</p> <p>Assessed skill: Create a program that uses at least two different events to trigger action.</p>	<p>1. What is an algorithm? Tell me 3 things. 2. Why do we use count-controlled loops in programs?</p> <p>Assessed skill: Design and create a program that uses a count-controlled loop to draw shapes.</p>	<p>1. Why do we use computers to create databases? 2. Can you name key features of a database?</p> <p>Assessed skill: Search for specific information using a database.</p>	<p>1. Why do we add music to films and animations? 2. Can we use other people's music in our films or animations? Skill: Create a piece of music in a suitable application for a purpose. Refine and improve.</p>

Computing Progression of Knowledge & Skills

KS2 - Year 4

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic:	1.4 How do I use a computer as an artist?		2.4 What makes an excellent multimedia story?	3.4 How is data shared online?	4.4 How do I write efficient programs in Kodu?	5.4 How do I use interaction in a program to tell stories?
Prior Knowledge:	<p>In Y3, children selected an image to use within a poster. They combined and edited text and graphics to create an anti-bullying poster. Children used the class tablet to take photographs with some support. They learnt how to find the photos on S: and how to insert them into a document.</p> <p>Program used:</p>		<p>Children created databases and have used search engines with support.</p> <p>Program used:</p>	<p>In Y3, children working at the expected level created a program that used at least two different events to trigger action.</p> <p>Program used:</p>		

<p>Knowledge:</p>	<ul style="list-style-type: none"> - Identify the features of a good piece of digital content and apply these in own design. - Know where to find copyright free content, e.g. creative commons images. 	<ul style="list-style-type: none"> - Explain the benefits of using technology to present information - Identify the features of a good piece of digital content and apply these in own design. 	<ul style="list-style-type: none"> - Draw conclusions from information stored in a database, chart or table. - Choose appropriate formats to present data to convey information. - Recognise that school computers are connected together on a network. - Recognise that the Internet is made up of computers and other digital devices connected together all around the world. - Know that you use a web browser to access information stored on the internet. - Appreciate that you need to use specific software to work with video, images, audio etc. - Recognise what kinds of websites are trustworthy sources of information. - Recognise the benefits and risks of different apps and websites. - Recognise that the media can portray groups of people differently. 	<ul style="list-style-type: none"> - Recognise that different solutions may exist for the same problem. - Evaluate a program and make improvements to the code or design accordingly. 	<ul style="list-style-type: none"> - Recognise variables in a program and what they do. - Evaluate a program and make improvements to the code or design accordingly.
<p>Key skills taught across the Y4 computing curriculum:</p>	<ul style="list-style-type: none"> -Delete and move files. - Use key parts of a keyboard effectively, e.g. shift, arrow keys, delete). - Copy and paste text or images in a document. - Crop an image and apply simple filters. - Use a search engine to find specific information. 				
<p>Skills:</p>	<ul style="list-style-type: none"> - Collect, organise and present information using a range of media. - Design and create digital content for a specific purpose, e.g. poster, animation. - Edit digital content to improve it according to feedback. 	<ul style="list-style-type: none"> - Collect, organise and present information using a range of media. - Design and create digital content for a specific purpose, e.g. 	<ul style="list-style-type: none"> - Design a questionnaire and collect a range of data on a theme. -Can rate a game or film they have made and explain their rating. 	<ul style="list-style-type: none"> - Name a range of sensors in physical systems. - Predict what will happen in a program or algorithm when the input changes (e.g. sensor, data or event). 	<ul style="list-style-type: none"> - Predict what will happen in a program or algorithm when the input changes (e.g. sensor, data or event). - Use two-way selection in programs and algorithms, i.e. if...then...else...

	- Collaborate with peers using online tools, e.g. blogs, Google Drive, Office etc - Remember and use an individual password.	poster, animation. - Edit digital content to improve it according to feedback.		- Use two-way selection in programs and algorithms, i.e. if...then...else... - Create programs including repeat until loops.	- Create and use simple variables, e.g. to keep score.
Links to GGS/SMSC/ Enrichment opportunities/ Cross-curricular links:	HE and RSE links- computing specific highlighted in orange				
END POINTS:	<p>1. List three tools you use in an application to create digital art/edit a photo? (e.g. different brushes, crop, pick colour etc).</p> <p>2. Who owns a digital image?</p> <p>Assessed skill: Create a piece of digital art or edit a photo for a purpose, using a number of tools.</p>	<p>1. What is a stop-motion animation?</p> <p>2. What are the features of a good animation?</p> <p>Assessed skill: Plan out an animation using a storyboard, and create a short animation on a theme, including audio.</p>	<p>1. Name some ways we can present data using a computer? 2. Can you explain what the Internet is?</p> <p>Assessed skill: Collect data on a theme and present effectively using a suitable application.</p>	<p>1. Why do we decompose programming projects?</p> <p>2. What is the difference between a count-controlled and an infinite loop?</p> <p>Assessed skill: Plan out and create a program that uses an infinite loop to keep something happening.</p>	<p>1. Can you give an example of Selection in a program?</p> <p>2. Look at the algorithm below: If you are older than 11: Touch your nose Else if you are younger than 7: Wave your hands Else: Turn around What would you do if you are 8 years old?</p> <p>Assessed skill: Plan out and program a quiz in a programming language that gives different feedback depending on whether the answer is correct.</p>

Computing Progression of Knowledge & Skills

KS2 - Year 5

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic:	1.5 How do I find and share data responsibly?	3.5 How do we collaborate online?	4.5 How do I create games in Scratch? Maze game		5.5 How do I program a physical system? Micro:bit	2.5 How do I create a radio advert or podcast?
Prior Knowledge:	In Y3, children working at the expected level have taken their own images and/or selected and saved images to use later. They have used programs to edit pictures to create art work. Children have saved own images and evaluated their own and each other's work. Program used: Powerpoint, Chrome, web-based art sites such and befunky.com	In KS1 and LKS" children have refined their word processing/word art skills, when supported used search engines to find images to be used in combination with graphics. Program used: Chrome, J2e data	In LKS2, children have used Scratch to created simple algorithms. With support, they have worked with variables, infinite loops, changed back drops and sprite. They have also used 'else if' commands. Program used: Scratch		In LKS2, children have used Scratch to created simple algorithms. With support, they have worked with variables, loops, changed back drops and sprite. They have also used 'else if' commands. Program used: Scratch	In Y3, children used programs to add audio tracks to an animation. Children have storyboarded their animations- this skill will be useful for planning a podcast. Program used: Pivot

<p>Knowledge:</p>	<p>Explain the difference between data and information.</p> <ul style="list-style-type: none"> - Appreciate that different programs work with different types of data, e.g. text, number, video. - Explain the difference between the Internet and the World Wide Web. - Know the difference between a search engine and a web browser. - Explain the basics of how search engines work, and that different search engines may give different results. 	<ul style="list-style-type: none"> - Recognise the benefits and risks of sharing data online. - Consider the audience when designing and creating digital content. - Recognise the benefits of using technology to collaborate with others - Evaluate their own content against success criteria and make improvements accordingly. - Know where to find copyright free images and audio, and why this is important. - Critically evaluate websites for reliability of information and authenticity. 	<ul style="list-style-type: none"> - Recognise variables in a program and what they do. - Evaluate a program and make improvements to the code or design accordingly. 	<ul style="list-style-type: none"> - Evaluate a program and make improvements to the code or design accordingly. - Recognise that different solutions may exist for the same problem. 	<ul style="list-style-type: none"> - Consider the audience when designing and creating digital content. - Identify and use appropriate hardware and software to fulfil a specific task. - Identify success criteria for creating digital content for a given purpose and audience.
<p>Key skills taught across the Y5 computing curriculum:</p>	<ul style="list-style-type: none"> - Type using fingers on both hands - Use common keyboard shortcuts, e.g. ctrl C (copy), ctrl V (paste). -Explain what makes a strong password. - Use folders to organise files. - Mute and unmute audio on a computer or tablet. - Use more than one search engine, and they may produce different results. - Use a search engine effectively to find information and images. - Search for an application on a computer/tablet. 				
<p>Skills:</p>	<ul style="list-style-type: none"> - Perform complex searches for information using advanced settings in search engines. 	<ul style="list-style-type: none"> edit a range of existing and their own media to create content. - Demonstrate responsible use of a online services, and know a range of ways to report concerns. 	<ul style="list-style-type: none"> - Predict what will happen in a program or algorithm when the input changes (e.g. data or event). - Use two-way selection in programs and algorithms, i.e. if...then...else... - Create programs including repeat until loops. - Create and use simple variables, e.g. to keep score. 	<ul style="list-style-type: none"> -Name a range of sensors in physical systems. - Predict what will happen in a program or algorithm when the input changes (e.g. sensor, data or event). - Create programs including repeat until loops. - Use two-way selection in programs and algorithms, i.e. if...then...else... - Create an algorithm for a physical system containing a sensor. 	<ul style="list-style-type: none"> - Remix and edit a range of existing and their own media to create content.
<p>Links to GGs/SMSC/</p>	<p>HE and RSE links- computing specific highlighted in orange</p>				

<p>Enrichment opportunities/Cross-curricular links:</p>					
<p>END POINTS:</p>	<p>1. Tell me three things about search engines?</p> <p>2. How do you know if a website is reliable to use for information? How can you make sure the information is correct?</p> <p>Assessed skill: Use the advanced tools in a search engine to find out specific information.</p>	<p>1. How can we use the Internet to collaborate with others?</p> <p>2. What is the World Wide Web?</p> <p>Assessed skill: Design and create a simple web page to provide information, including hyperlinks.</p>	<p>1. What three concepts are used in programs to change the flow of what happens?</p> <p>2. What is a variable?</p> <p>Assessed skill: Use selection to plan out and create a simple maze game. Test and debug as required.</p>	<p>1. Name 3 different types of sensors.</p> <p>2. Give 3 examples of physical systems in the real world.</p> <p>Assessed skill: Use selection to design and simulate a physical system</p> <p>1. What are the features of an effective podcast/advert etc.?</p>	<p>1.Can you use other people's music in your podcast or films? What do you have to take into account?</p> <p>Assessed skill: Plan out and create an advert or podcast on a topic.</p> <p>Evaluate and refine according to feedback</p>

Computing Progression of Knowledge & Skills

KS2 - Year 6

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic:	E-safety/Social Media Mental Awareness	3.6 Why do we use spreadsheets?	1.6 'How do I use a computer as a designer?'	2.6 What makes an excellent film?	4.6 How do I build complex physical	5.6 How do I use Scratch as a game designer?
Prior Learning:	See knowledge and skills. Program used: N/A	In Y3, children used databases to find information. They also designed and created their own simple branching databases. Program used:	In Y5, children have used advanced search skills in Google to find images with common usage copyright. They have created simple websites using hyperlinks within and between pages. Program used: Powerpoint (Googlepages next academic year)	In Y5, children planned, recorded and edited their own audio content to create podcasts. Program used: Audacity and other web based audio editing software compatible with Chromebooks such as BandBlab, Audiomass	In Y5, children designed and created algorithms to create a step counter. They focused on variables, infinite loops and scores. They created Maze Games using Scratch. Program used:Micro:bit, SCRATCH and Makecode	In Y5, children designed and created algorithms to create a step counter. They focused on variables, infinite loops and scores. They created Maze Games using Scratch. Program used:Micro:bit, SCRATCH and Makecode
Knowledge:	<ul style="list-style-type: none"> - Explain what makes a strong password and why this is important at school and in the wider world. - Explain how algorithms are used to track online activities with a view to targeting advertising and information. - Know that there are laws around the purchase of games; the production, sending and storage of images; what is written online; and around online gambling. 	<ul style="list-style-type: none"> - Recognise what a spreadsheet is and what it is used for. - Explain the difference between physical, mobile and wireless networks. - Recognise that poor quality data leads to unreliable results. 	<ul style="list-style-type: none"> -Explain the benefits of using technology to collaborate with others. 	<ul style="list-style-type: none"> -Know and Key, good features of a film. -Know the names and features of different camera angles used in film 	<ul style="list-style-type: none"> -Understand the difference between and use if... then... and if... then... else... statements 	<ul style="list-style-type: none"> - Recognise and use procedures (subroutines) in programs. - Plan out a program in detail, including task, algorithm, code and execution level. -Understand the difference between and use if... then... and if... then... else... statements - Recognise key concepts (sequence, selection, repetition and variables) in a range of languages and contexts.

<p>Key skills taught across the Y6 computing curriculum:</p>	<ul style="list-style-type: none"> -Type efficiently using both hands. - Use a range of keyboard shortcuts. - Recognise that different devices may have different operating systems. - Organise files effectively using folders and file names. - Use the advanced search tools when using a search engine to find specific information and images. - Explain the basic function of an operating system. - Recognise common file types and extensions e.g. jpeg, png, doc, wav - Recognise a range of Internet services, e.g. email, VOIP (e.g. Skype, FaceTime) 					
<p>Skills:</p>		<ul style="list-style-type: none"> - Use simple formulae in a spreadsheet to find out information from a set of data. - Collect data for a purpose and plan out a spreadsheet to present it effectively, using relevant formulae. - Produce graphs from data in a spreadsheet to answer a question. - Analyse and evaluate data and information in a spreadsheet, chart or database. - Recognise that poor quality data leads to unreliable results. 	<ul style="list-style-type: none"> - Select, combine and remix a range of media to create original content. - Consider all steps of the design process when creating content (e.g. identify problem, plan, create, evaluate, share.) - Identify the most effective tools to present information for a specific purpose. - Evaluate existing digital content in terms of effectiveness and design 	<ul style="list-style-type: none"> -Identify success criteria for creating digital content for a given purpose and audience -Evaluate their own content against success criteria and make improvements accordingly -Identify and use appropriate hardware and software to fulfil a specific task -Remix and edit a range of existing and their own media to create content -Recognise the audience when designing and creating digital content 	<ul style="list-style-type: none"> -Can design a physical computing system that uses sensors, e.g. using a flow chart - Combine a variable with relational operators (< = >) to determine when a program changes, e.g. if score > 5, say “well done”. 	<ul style="list-style-type: none"> -Design and program a physical computing system that uses sensors. - Use nested selection statements in a program or algorithm effectively. - Explain common errors in programs and how to fix them. - Combine a variable with relational operators (< = >) to determine when a program changes, e.g. if score > 5, say “well done”.
<p>Links to SDGs/SMSC/ Enrichment opportunities:</p>	<p>HE and RSE links- computing specific highlighted in orange</p>					
<p>END POINTS:</p>		<ol style="list-style-type: none"> 1. What is a spreadsheet? 2. Give 3 ways we might use spreadsheets in the real world. 	<ol style="list-style-type: none"> 1.What are the different steps you need to go through to create an effective digital artefact (e.g. poster, presentation etc)? 	<ol style="list-style-type: none"> 1. Name 3 different camera shots in film-making. 2. What are the features of a good film? 	<ol style="list-style-type: none"> 1. Explain the difference between Sequence, Repetition and Selection in a program. 	<ol style="list-style-type: none"> 1. Describe 3 ways we can use computers and programming to help us, i.e. not just to make games. 2. Why do we use variables in programs?

		<p>Assessed skill: Create a spreadsheet for a purpose, using simple formulas.</p>	<p>2. Why do we use computers to design content? Assessed skill: Plan out and create a digital artefact for a purpose. Refine and improve according to feedback.</p>	<p>Assessed skill: Plan out, film and edit a film on a topic. Refine and improve according to feedback</p>	<p>2. How do we use variables in programs? Assessed skill: Design and create a game using repetition, selection and variables to control what happens</p>	<p>Assessed skill: Combine all of their knowledge to create their own program that includes repetition, selection, variables. This should include a detailed plan of the program and the algorithms required.</p>
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