



Progression Map: Computing

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Rec	The learning journey for Computing begins in The Early Years when children begin to understand cause and effect and develop and understanding that they can administer an input to a device (such as a toy) and receive a desired outcome. Through continuous provision, child led learning and adult directed activities children in the Early Years will develop their skills and knowledge of Computing. In our Early Years we understand the importance of ‘the unique child’ and therefore understand that children will take individual journeys to reach these goals. Adults are aware of the journey that children in our Early Years embark on and use assessment of the children and In the moment planning to identify their next steps and ensure progression for each individual child. By the end of The Early Years children will: • Use mechanical toys. • Have an understanding cause and effect. • Have an understanding of input and output in the environment. • Use technology purposefully. • Apply knowledge of one device to a new device. • Explore and tinker with devices in order to work out how to work them. • Give simple and concise instructions verbally. Specific knowledge: • Understand that devices are made from different parts. • Understand that their actions cause devices to work. • To use devices independently. • Know that devices are made up of different parts. Specific skills: • Can use a device they are well acquainted with. • Can work a wind-up toy. Experiences:					



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	• Explore and take apart different devices. • Have access to the interactive screen. Have access to iPads.		
Year 1	<u>Topic – Mini-beasts</u> National Curriculum Links: • 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. Specific knowledge: • The internet can be used for research. • To know what data is. • How to save a file to Showbie. • How to retrieve digital work from Showbie.	<u>Topic – Modern Tales</u> National Curriculum Links: • 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. Specific knowledge: • The difference between public, personal and private information. • Not everything online is true or trustworthy. Specific Skills: • Do the basics with technology; • Take a good quality photograph and video on an iPad; • Use technology to create and present my ideas; • Organise and store my digital work. • Collect and sort data;	<u>Topic – My Friend the Robot</u> National Curriculum Links: • Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. (CS) • Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. (CS) • Use technology purposefully to create, organise, store, manipulate and retrieve digital content. (IT) • Recognise common uses of information technology beyond school. (DL) • 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. (DL)



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	Specific Skills: • Do the basics with technology; • Take a good quality photograph and video on an iPad; • Use technology to create and present my ideas; • Organise and store my digital work. • Collect and sort data; • Recognise the ways we use technology in our classroom, my home and community; • Use a search engine; • Communicate politely using the internet. Wider Curriculum Links: N/A Science – various years – Animals, including humans Visits/Experiences: N/A	• Recognise the ways we use technology in our classroom, my home and community; • Use a search engine; • Understand something online may cause upset and know where to find help when it does; • Describe how to behave online in ways that do not upset others; • Explain what personal information is. Wider Curriculum Links: N/A English- becoming very familiar with key stories, fairy stories and traditional tales, retelling them and considering their particular characteristics. Computing – all Digital Literacy units Visits/Experiences: N/A	Specific knowledge: • Understand what robots are, what they are used for and where you might find them in the real world. • To save files under a proper name so others know the author. Specific Skills: • Do the basics with technology; • Take a good quality photograph and video on an iPad; • Follow a simple algorithm and create a simple sequence algorithm using symbols that solve a problem; • Create algorithms that can be turned into a program using a robot or digital device; • Independently debug simple sequence errors in a program; • Use logical reasoning to predict the outcome of simple programs; • Use technology to create and present my ideas; • Organise and store my digital work; • Recognise the ways we use technology in our classroom, my home and community;
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			Communicate politely via the internet. Wider Curriculum Links: N/A Visits/Experiences: N/A
Year 2	<u>Topic – Online Buddies</u> National Curriculum Links: - Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. (CS) - Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. (CS) - Use technology purposefully to create, organise, store, manipulate and retrieve digital content. (IT) - Recognise common uses of information technology beyond school. (DL) - Use technology safely and respectfully, keeping personal information private; identify where	<u>Topic – Presentations and Typing</u> National Curriculum Links: - Understand what algorithms are; how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. (CS) - Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. (CS) - Use technology purposefully to create, organise, store, manipulate and retrieve digital content. (IT) - Recognise common uses of information technology beyond school. (DL) - Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about	<u>Topic – Making Games</u> National Curriculum Links: - Understand what algorithms are; how they are implemented as program on digital devices; and that programs execute by following precise and unambiguous instructions. - Create and debug simple programs. - Use logical reasoning to predict the behaviour of simple programs. - Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Specific knowledge: - What a repeat loop is. - The purpose of the start, move, looks, sound, time and end blocks. - What a bug is and that a program can be debugged.



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	to go for help and support when they have concerns about content or contact on the internet or other online technologies. (DL) Specific knowledge: • Understand what friendship means online. • Understand how to stay safe online. • Understand the do's and don'ts of online communication. Specific Skills: • Save, share and retrieve my digital work; • Use technology to organise and present my ideas; • Use design and formatting to enhance my digital work; • Create with technology. E.g. Video, animation, 3D; • Give examples of how technology is used to communicate beyond school; • Understand that somethings online may upset me and that I cannot trust everyone online;	content or contact on the internet or other online technologies. (DL) Specific knowledge: • How to use search engines. • How to use tally charts. Specific Skills: • Save, share and retrieve my digital work; • Use technology to organise and present my ideas; • Use design and formatting to enhance my digital work; • Create with technology. E.g. Video, animation, 3D; • Collect and record data purposefully. Wider Curriculum Links: N/A Visits/Experiences: N/A	Specific Skills: • Save, share and retrieve digital work; • Use technology to organise and present ideas; • Plan an algorithm with a sequence of commands to carry out specific tasks; • Identify bugs in computer programs; • Use the term 'debug' in context; • Create a simple repeat loop; • Create a simple game program; • Predict the outcome of a sequence of blocks in Scratch; • Use design and formatting to enhance digital work; • Create with technology. Wider Curriculum Links: N/A Visits/Experiences: N/A
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	• Use online services to communicate safely; • Understand that once something it posted you lose control if it and know how to get help if I need to; • Give examples of online bullying behaviour, I understand the impact it may have and I know where to go for support; • Use a search engine and I am aware that not everything I read online is true; • Know the rules of using technology at home or in school; • Explain what personal information is and understand the need for passwords to protect it; • Be aware that content online is owned by the person that created it. Wider Curriculum Links: N/A Visits/Experiences: N/A		
Year 3	<u>Topic – My Online Life</u> National Curriculum Links:	<u>Topic – Rainforests</u> National Curriculum Links:	<u>Topic – Dancing Robot</u> National Curriculum Links:



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	- Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Specific knowledge: - Trust in someone can be taken back. - How to block someone. - Posting something publicly means everyone can see it. - How to protect our identity through avatars, nicknames, etc. - Know what is appropriate to share online. - The impact technology can have on our health.	- Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content - Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Specific knowledge: - There are numerous search engines - VR is technology that makes the user believe they are somewhere else	- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. - Use logical reasoning to explain how some simple algorithms work and to detect correct errors in algorithms and programs. - Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing. Specific knowledge: - A computer understands command, repeat/loop and decision instructions - An algorithm is when different instructions are put together - A program is when all the instructions are sequenced to perform a task
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	Specific Skills: • Search the internet; • Analyse information through accurate searches; • Understand the need for copyright and the consequences of ignoring it; • Explain what bullying is and where to go for help; • Keep my data secure through passwords; • Take appropriate measures to protect their online identity. Wider Curriculum Links: Computing – all Digital Literacy units Visits/Experiences: N/A	• How to use Tiny Tap to create interactive content • Copyright free images are images we have permission to use Specific Skills: • Troubleshoot when something does not appear to be working with a device; • Discuss different types of digital content and file types; • Improve the quality and presentation of work; • Create with technology. Wider Curriculum Links: Geography – Year 2 – How does Kampong Ayer compare to where we live? Geography – Year 2- Why are jungles so wet and deserts so dry? Visits/Experiences: N/A	• Bugs must be fixed and programs tested lots before they are perfect Specific Skills: • Troubleshoot when something does not appear to be working with my device; • Plan, create and debug programs; • Use decomposition to solve computing problems; • Work with various forms of input and output; • Use logical reasoning to predict and correct errors in algorithms and programs Wider Curriculum Links: Computing – Year 2 – Making Games Visits/Experiences: N/A
Year 4	<u>Topic – Dinosaurs</u> National Curriculum Links:	<u>Topic – Real or Fake?</u> National Curriculum Links:	<u>Topic – Hour Of Code</u> National Curriculum Links:



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	- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. (CS) - Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. (CS) - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. (CS) - 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. (CS & DL) - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. (CS & DL) - Select, use and combine a variety of software (including internet services) on a range of digital devices to	- Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Specific knowledge: - What Fake News is - How to spot Fake News - Know why people create Fake News - Social media is used to spread Fake News Specific Skills: - Understand the different methods of communication using the internet;	- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts - Use sequence, selection, and repetition in programs; work with variables and various forms of input and output - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Specific knowledge: - What a conditional statement is and how it can be used - Coding can be text-based or visual - How to manipulate a sprite to complete tasks Specific Skills: - Solve an open-ended problem by breaking it up into smaller parts; - Design and write a program for a given purpose;
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	design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. (IT) • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. (DL) Specific knowledge: • To recognise the role of actors, directors, editors, camera operators and special effect artists. • How to work collaboratively. • How to use a range of filming techniques. Specific Skills: • Explain common file types; • Improve the quality and presentation of my work using editing and formatting techniques; • Create with technology. E.g. Video, animation, 3D;	• Use a search engine, aware that not everything online is true; • Evaluate information presented to me to make informed choices about what is Fake News; • Understand that people may have a different online identity to that in real life; • Identify Fake News stories. Wider Curriculum Links: N/A Computing – all Digital Literacy units Visits/Experiences: N/A	• Test existing programs to see how they can be improved; • Improve the quality of my work using design and formatting techniques; • Use conditional statements such as 'if', 'then' and 'when' to achieve specific outcomes. Wider Curriculum Links: N/A Computing – Year 2 – Making Games Computing – Year 3 – Dancing Robot Visits/Experiences: N/A
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	• Use a search engine and I am aware that not everything I read online is correct; • Collaborate online to create digital content; • Evaluate information presented to me to make informed choices about what is Fake News. Wider Curriculum Links: N/A Visits/Experiences: N/A		
Year 5	<u>Topic – My Online Life</u> National Curriculum Links: • Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	<u>Topic – Lost in Space</u> National Curriculum Links: • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. (CS) • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. (CS) • Use logical reasoning to explain how some simple algorithms work and to	<u>Topic – News Reporter and Podcaster</u> National Curriculum Links: • Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. • select, use and combine a variety of software (including internet services)



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	- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Specific knowledge: - How to change the font - How to change the size of the text - How to change the colour of text - How to change the colour of pages - How to add images, emojis and shapes Specific Skills: - Search for someone online and create a summary report about that person; - Understand the need for copyright and the consequences of ignoring it; - Be aware that there are people online who may try to upset me and my group of friends. I make a positive contribution to my online community; - Understand the impact online bullying can have and I know what to	detect and correct errors in algorithms and programs. (CS) - 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. (CS & DL) - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. (CS & DL) - 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. (IT) - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. (DL) Specific knowledge: - Understand the layout of a quiz.	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. Specific knowledge: - What a podcast is - How people listen to podcasts - How to make a podcast - What a subject of a podcast could be - How to publish a podcast Specific Skills: - Record and produce a podcast / audio clips; - Use unfamiliar technology to create content; - Improve the quality and presentation of my work; - Access school email and can send emails to classmates and teacher.
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	do if I am the victim or I witness online bullying; • Understand the impact technology can have on my health, well being and lifestyle; • Create a strong password and understand the real cost of some apps; • Be aware that my identity can be copied by other users and take appropriate measure to minimise the risk of this happening. Wider Curriculum Links: N/A Visits/Experiences: N/A	• Demonstrate how to make responsible choices about having an online identity, depending on context. • To understand how to make a strong password and create one. Specific Skills: • Decompose a problem, design an algorithm and use this to write a program; • Use unfamiliar technology to create content; • Create a strong password and understand the real cost of some apps; • Use variables and conditional statements to improve programs; • Film and produce a short video; • Use logical reasoning to detect & debug a program. Wider Curriculum Links: N/A Visits/Experiences: N/A	Wider Curriculum Links: N/A Visits/Experiences: N/A
Year 6	<u>Topic – Online Safety Dilemmas</u>	<u>Topic – Crossy Roads</u>	<u>Topic – Money</u>



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	National Curriculum Links: - Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Specific knowledge: - Apps have ways to block or report inappropriate behaviour - Our personal responsibilities surrounding behaviour online - Websites available to support mental health and wellbeing - Apps and games are made to be addictive	National Curriculum Links: - Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts - Use sequence, selection, and repetition in programs; work with variables and various forms of input and output - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Specific knowledge: - In create a game, each part much be decomposed - Key vocabulary: event, command, sequence, loop, random and range. - Code is decomposed into smaller parts so only part of the code needs to be debugged. - A game uses different types of coding instructions. - Games can have differing levels of playability.	National Curriculum Links: - Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. (CS) - Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. (CS) - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. (CS) - 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. (CS & DL) - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. (CS & DL) - Select, use and combine a variety of software (including internet services)
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	Specific Skills: • Collaborate to create digital content; • Create a consistent design for my presentation; • Present to others; • Talk about the way search results are selected and ranked; • Create a digital storyboard to plan a project or investigation; • Use a search engine, aware that other people may be attempting to influence my opinions; • Explain how to protect my device from harm on the internet; • Understand the need for copyright and the consequences of ignoring it; • Film and produce a short film without instruction. Wider Curriculum Links: N/A Computing – all Digital Literacy units Visits/Experiences: N/A	Specific Skills: • Create a consistent design for my presentation; • Present to others; • Design, plan and create a complex program; • Test, debug and modify a program to improve it; • Use logical reasoning to detect and correct errors in algorithms and programs; • Create and combine a range of media in order to produce digital content; • Improve the quality and presentation of my work using editing and formatting techniques; • Recognise when I need to use a variable to achieve a required output; • Create a complex game using Hopscotch, going beyond tutorials. Wider Curriculum Links: N/A Computing – Year 2 – Making Games Computing – Year 3 – Dancing Robot Computing – Year 4 – Hour Of Code Computing – Year 5 – Web Designer	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. (IT) • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. (DL) Specific Knowledge: • Understand the evolution of money. • Understand digital scams. • To understand careers, salary, and stocks. • To evaluate data and calculate profit or loss. Specific Skills: • Collaborate to create digital content; • Create a consistent design for my presentation, and present to others; • Create and combine a range of media in order to produce digital content;
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		Visits/Experiences: N/A	• Improve the quality and presentation of my work using editing and formatting techniques; • Create a digital storyboard to plan a project or investigation; • Use a search engine and I am aware that not everything I read online is correct and that other people may be attempting to influence my opinions. Wider Curriculum Links: N/A Visits/Experiences: N/A
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