



## Progression in Computational Knowledge, Concepts and Skills



### Overview of Computing Skills

Progression in Computational Knowledge, Concepts and Skills	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer and Presentation Skills (including word processing skills and painting)  <b>Concepts</b> <b>Data</b> <b>Machines</b>	<b>Unit 1: Word Processing Skills</b>  *Using technology purposefully to create, organise, store, manipulate and retrieve.  *Recognise common uses of information technology beyond school.	<b>Unit 2: Computer Art</b>  *Using technology purposefully to create, organise, store, manipulate and retrieve.  *Recognise common uses of information technology beyond school.	<b>Unit 2: Word Processing</b>  *Selecting, using and combining a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content.  *Using technology safely, respectfully and responsibly.	<b>Unit 3: Word Processing</b>	<b>Unit 5: 3D Modelling: Sketch Up</b>  *Selecting, using and combining a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content.	<b>Unit 2: Spreadsheets</b>  *Selecting, using and combining a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content.

			<p>*Understand how to recognise acceptable and unacceptable behaviour.</p> <p>*Understand how to identify a range of ways to report concerns about content and contact.</p>			
	<p><b>Unit 2: Computer Skills</b></p> <p>*Using technology purposefully to manipulate and retrieve.</p> <p>*Using technology safely and respectfully.</p> <p>*Keep personal information private.</p>	<p><b>Unit 4: Presentation Skills</b></p> <p>*Using technology purposefully to organise, store and retrieve.</p> <p>*Recognise common uses of information technology beyond school.</p> <p>*Using technology safely and respectfully.</p>	<p><b>Unit 3: Drawing and DTP</b></p> <p>*Selecting, using and combining a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content.</p>			

	<p><b>Unit 3: Painting</b></p> <p>*Using logical reasoning to predict the behaviour of simple programs.</p> <p>Using technology purposefully to create and manipulate.</p>		<p><b>Unit 5: Presentation Skills</b></p>			
<p>Programming Skills</p> <p><b>Concepts</b></p> <p><b>Logic</b></p> <p><b>Abstraction</b></p> <p><b>Algorithms</b></p> <p><b>Program</b></p>	<p><b>Unit 4: Programming Toys</b></p> <p>*Understand what algorithms are and how they are implemented as programs on digital devices.</p> <p>*Understand programs and how to execute these by following precise and unambiguous instructions.</p> <p>*Use logical reasoning to</p>	<p><b>Unit 1: Preparing for Turtle Logo</b></p> <p>*Understand what algorithms are and how they are implemented as programs on digital devices.</p> <p>*Understand programs and how to execute these by following precise and unambiguous instructions.</p>	<p><b>Unit 1: Programming Turtle Logo and Scratch</b></p> <p>*Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems.</p> <p>*Solving problems by decomposing into smaller parts.</p>	<p><b>Unit 1: Scratch: Questions and Quizzes</b></p> <p>*Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems.</p> <p>*Solving problems by decomposing into smaller parts.</p>	<p><b>Unit 1: Scratch: Developing Games</b></p> <p>*Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems.</p> <p>*Solving problems by decomposing into smaller parts.</p>	<p><b>Unit 1: Scratch: Animated Stories</b></p> <p>*Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems.</p> <p>*Solving problems by decomposing into smaller parts.</p>

	<p>predict the behaviour of simple programs.</p> <p>*Using technology purposefully to create, organise and retrieve.</p>	<p>*Create and debug simple programs.</p>	<p>*Using sequence, selection and repetition in programs.</p> <p>*Working with variables and various forms of input and output.</p> <p>*Using logical reasoning to explain how simple algorithms work.</p>	<p>*Using sequence, selection and repetition in programs.</p>	<p>*Using sequence, selection and repetition in programs.</p> <p>*Using logical reasoning to explain how simple algorithms work.</p>	<p>*Using sequence, selection and repetition in programs.</p> <p>*Using logical reasoning to explain how simple algorithms work.</p>
	<p><b>Unit 6: Scratch Jr Programming</b></p> <p>*Understand what algorithms are and how they are implemented as programs on digital devices.</p> <p>*Understand programs and how to execute these by following precise and unambiguous instructions.</p>	<p><b>Unit 3: Programming Turtle Logo and Scratch</b></p> <p>*Understand what algorithms are and how they are implemented as programs on digital devices.</p> <p>*Understand programs and how to execute these by following precise</p>		<p><b>Unit 2: Programming Turtle Logo</b></p> <p>*Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems.</p> <p>*Solving problems by</p>	<p><b>Unit 2: Flowol</b></p> <p>*Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems.</p> <p>*Solving problems by decomposing into smaller parts.</p>	<p><b>Unit 3: Kodu Programming</b></p> <p>*Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems.</p> <p>*Solving problems by decomposing into smaller parts.</p>

	<p>*Use logical reasoning to predict the behaviour of simple programs.</p> <p>*Using technology purposefully to create, organise and retrieve.</p>	<p>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.</p>		<p>decomposing into smaller parts.</p> <p>*Using sequence, selection and repetition in programs.</p> <p>*Using logical reasoning to explain how simple algorithms work and to detect and correct errors in algorithms.</p>	<p>*Using sequence, selection and repetition in programs.</p> <p>*Using logical reasoning to explain how simple algorithms work.</p> <p>*Selecting, using and combining a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content.</p>
				<p><b>Unit 4: Animation</b></p> <p>*Selecting, using and combining a variety of software</p>	<p><b>Unit 3: Radio Station</b></p> <p>*Selecting, using and combining a variety of software</p>

				(including internet services) on a range of digital devices to design and create a range of programs, systems and content.	(including internet services) on a range of digital devices to design and create a range of programs, systems and content.	including the internet.  *Understand how computer networks can provide multiple services, such as the world wide web.
<p>Online Safety Skills</p> <p><b>Concepts</b> <b>Logic</b> <b>Abstraction</b> <b>Data</b> <b>Program</b> <b>Algorithms</b> <b>Machines</b></p>	<p><b>Unit 5: Online Safety</b></p> <p>*Using technology purposefully to create, organise, store, manipulate and retrieve.</p> <p>*Recognise common uses of information technology beyond school.</p> <p>*Using technology safely and respectfully.</p>	<p><b>Unit 7: Online Safety</b></p> <p>*Recognise common uses of information technology beyond school.</p> <p>*Using technology safely and respectfully.</p> <p>*Keep personal information private.</p> <p>*Understand where to go for help and support with concerns about content or</p>	<p><b>Unit 7: Online Safety</b></p> <p>*Understand computer networks including the internet.</p> <p>*Understand how computer networks can provide multiple services, such as the world wide web.</p> <p>*Using technology safely, respectfully and responsibly.</p>	<p><b>Unit 6: Online Safety</b></p> <p>*Using technology safely, respectfully and responsibly.</p> <p>*Understand how to recognise acceptable and unacceptable behaviour.</p> <p>*Understand how to identify a range of ways to report concerns about content and contact.</p>	<p><b>Unit 4: Online Safety</b></p> <p>*Using search technologies effectively.</p> <p>*Understand how results are selected and ranked.</p> <p>*Understand how to be discerning in evaluating digital content.</p> <p>*Using technology safely, respectfully and responsibly.</p>	<p><b>Unit 4: Online Safety</b></p> <p>*Using technology safely, respectfully and responsibly.</p>

		contact on the internet.	<p>*Understand how to recognise acceptable and unacceptable behaviour.</p> <p>*Understand how to identify a range of ways to report concerns about content and contact.</p>		<p>*Understand how to recognise acceptable and unacceptable behaviour.</p> <p>*Understand how to identify a range of ways to report concerns about content and contact.</p>	
<p>Using and Applying</p> <p><b>Concepts</b>  <b>Logic</b>  <b>Abstraction</b>  <b>Data</b>  <b>Program</b>  <b>Algorithms</b>  <b>Machines</b></p>	<p><b>Unit 7: Using and Applying</b></p> <p>*Using technology purposefully to create, organise, store, manipulate and retrieve.</p> <p>*Recognise common uses of information technology beyond school.</p>	<p><b>Unit 6: Using and Applying</b></p> <p>*Understand what algorithms are and how they are implemented as programs on digital devices.</p> <p>*Understand programs and how to execute these by following precise and unambiguous instructions.</p> <p>*Create and debug simple programs.</p>	<b>Unit 6: Using and Applying</b>	<b>Unit 5: Using and Applying</b>	<b>Unit 6: Using and Applying</b>	<b>Unit 6: Using and Applying</b>

		<p>*Use logical reasoning to predict the behaviour of simple programs.</p> <p>*Using technology purposefully to create, organise, store, manipulate and retrieve.</p> <p>*Recognise common uses of information technology beyond school.</p>				
<p>Communication Skills</p> <p><b><u>Concepts</u></b>  <b>Data</b>  <b>Machines</b>  <b>Algorithms</b></p>		<p><b>Unit 5: Using the Internet</b></p> <p>*Using technology purposefully to create, organise, store and retrieve.</p> <p>*Recognise common uses of information</p>	<p><b>Unit 4: Internet Research and Communication</b></p> <p>*Understand computer networks including the internet.</p> <p>*Understand how computer networks can provide multiple</p>			



		<p>technology beyond school.</p> <ul style="list-style-type: none"> <li>*Using technology safely and respectfully.</li> <li>*Keep personal information private.</li> <li>*Understand where to go for help and support with concerns about content or contact on the internet.</li> </ul>	<p>services, such as the world wide web.</p> <ul style="list-style-type: none"> <li>*Using search technologies effectively.</li> <li>*Understand how results are selected and ranked.</li> <li>*Understand how to be discerning in evaluating digital content.</li> <li>*Using technology safely, respectfully and responsibly.</li> <li>*Understand how to recognise acceptable and unacceptable behaviour.</li> <li>*Understand how to identify a range of ways to</li> </ul>			
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			report concerns about content and contact.			
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