


## Computing Progression of Skills and Knowledge

	Year 3	Year 4	Year 5	Year 6
<b>Computing systems and networks</b>	<b>Connecting computers</b> <ul style="list-style-type: none"> <li>- Explain how digital devices function</li> <li>- Identify input and output devices</li> <li>- Recognise how digital devices can change the way we work</li> <li>- Explain how a computer network can be used to share information</li> <li>- Explore how digital devices can be connected</li> <li>- Recognise the physical components of a network</li> </ul>	<b>The Internet</b> <ul style="list-style-type: none"> <li>- Describe how networks physically connect to other networks</li> <li>- Recognise how networked devices make up the internet</li> <li>- Outline how websites can be shared via the World Wide Web (WWW)</li> <li>- Recognise how the content of the WWW is created</li> <li>- Evaluate the consequences of unreliable content</li> </ul>	<b>Systems and searching</b> <ul style="list-style-type: none"> <li>- Explain the computers can be connected together to form systems</li> <li>- Recognise the role of computer systems</li> <li>- Experiment with search engines</li> <li>- Describe how search engines search results</li> <li>- Explain how results are ranked and why this is important</li> </ul>	<b>Communication and collaboration</b> <ul style="list-style-type: none"> <li>- Explain the importance of internet addresses</li> <li>- Recognise how data is transferred across the internet</li> <li>- Explain how sharing information online can support people working together</li> <li>- Evaluate different ways of working online</li> <li>- Recognise how we communicate using technology</li> <li>- Evaluate different methods of online communication</li> </ul>
<b>Programming</b>	<b>Sequencing sounds</b> <ul style="list-style-type: none"> <li>- Explore a new programming environment</li> <li>- Identify that commands have an outcome</li> <li>- Explain that a program has a start</li> <li>- Recognise that a sequence of commands can have an order</li> <li>- Change the appearance of my project</li> <li>- Create a project from a task description</li> </ul> <b>Events and actions in programs</b> <ul style="list-style-type: none"> <li>- Explain how a sprite moves</li> <li>- Create a programme to move a sprite in four directions</li> <li>- Adapt a program</li> <li>- Develop a programme by adding features</li> <li>- Identify and fix bugs in a program</li> </ul>	<b>Repetition in Shapes</b> <ul style="list-style-type: none"> <li>- Identify that accuracy in programming is important</li> <li>- Create a programme in a text-based language</li> <li>- Explain what 'repeat' means</li> <li>- Modify a count controlled loop</li> <li>- Decompose a task into small steps</li> <li>- Create a programme that uses loops</li> </ul> <b>Repetition in Games</b> <ul style="list-style-type: none"> <li>- Develop the use of loops</li> <li>- Explain the use of infinite loops and count controlled loops</li> <li>- Use two or more loops at the same time</li> <li>- Modify an infinite loop</li> <li>- Use repetition</li> </ul>	<b>Selection in Physical Computing</b> <ul style="list-style-type: none"> <li>- Control a simple circuit connected to a laptop</li> <li>- Write a programme with count-controlled loops</li> <li>- Explain that a loop can stop or can be used repeatedly</li> <li>- Design a physical project</li> </ul> <b>Selection in Quizzes</b> <ul style="list-style-type: none"> <li>- Explain how selection is used in computing programs</li> <li>- Relate that conditional statement connects a condition to an outcome</li> <li>- Explain how selection directs the flow of a program</li> <li>- Design a programme which uses selection</li> <li>- Create a program with uses selection</li> <li>- Evaluate my program</li> </ul>	<b>Variables in Games</b> <ul style="list-style-type: none"> <li>- Define a 'variable' (something changeable)</li> <li>- Explain why a variable is used in programming</li> <li>- Choose how to improve a game by using variables</li> <li>- Design a project that builds on a given example</li> <li>- Create a project</li> <li>- Evaluate my project</li> </ul>

<p><b>Creating media</b></p>	<p><b>Stop-frame animation</b></p> <ul style="list-style-type: none"> <li>- Explain that animation is a sequence of drawings or photographs</li> <li>- Relate animated movement with a sequence of images</li> <li>- Plan an animation</li> <li>- Identify the need to work consistently and carefully</li> <li>- Review and improve an animation</li> <li>- Evaluate the impact of adding other media to an animation</li> </ul> <p><b>Desktop publishing</b></p> <ul style="list-style-type: none"> <li>- Recognise how text and images convey information</li> <li>- Recognise that text and layout can be edited</li> <li>- Choose page settings</li> <li>- Add content to a desktop publishing publication</li> <li>- Use different layouts</li> </ul>	<p><b>Audio Production</b></p> <ul style="list-style-type: none"> <li>- Identify that sound can be recorded</li> <li>- Explain that audio recordings can be edited</li> <li>- Recognise the different parts of a creating a podcast</li> <li>- Apply audio and editing skills</li> <li>- Combine audio to enhance a podcast</li> </ul> <p><b>Photo Editing</b></p> <ul style="list-style-type: none"> <li>- Explain that the composition of digital images can be changed</li> <li>- Explain that colours can be changed in digital images</li> <li>- Use cloning</li> <li>- Combine images</li> <li>- Evaluate how images can be improved an image</li> </ul>	<p><b>Video Production</b></p> <ul style="list-style-type: none"> <li>- Explain what makes a video effective</li> <li>- Identify digital devices that can record video</li> <li>- Capture video using a different techniques</li> <li>- Create a storyboard</li> <li>- Understand that video can be improved through reshooting and editing</li> </ul> <p><b>Introduction to Vector Graphics</b></p> <ul style="list-style-type: none"> <li>- Identify that drawing tools can be used to produce different outcomes</li> <li>- Create a vector drawing using shapes</li> <li>- Use tools to achieve a desired effect</li> <li>- Recognise that vector drawings consist of layers</li> <li>- Group objects to make them easier to work with</li> </ul>	<p><b>Web-page Creation</b></p> <ul style="list-style-type: none"> <li>- Review an existing website</li> <li>- Plan the features of a web page</li> <li>- Consider ownership and use images (copyright)</li> <li>- Recognise the need to preview pages</li> <li>- Outline the need for a navigation path</li> <li>- Recognise the implications of linking to content owned by other people</li> </ul> <p><b>3D Modelling</b></p> <ul style="list-style-type: none"> <li>- Recognise that you can work in 3D on a computer</li> <li>- Identify that digital 3D objects can be modified</li> <li>- Recognise that objects can be combined in a 3D model</li> <li>- Create a 3D model for a given purpose</li> <li>- Plan a 3D model</li> <li>- Create a 3D digital model</li> </ul>
<p><b>Data and information</b></p>	<p><b>Branching databases</b></p> <ul style="list-style-type: none"> <li>- Create questions with yes/no answers</li> <li>- Identify the attributes needed to collect data about an object</li> <li>- Create a branching database</li> <li>- Explain why it is helpful for a database to be structured</li> <li>- Plan the structure of a branching database</li> <li>- Create an identification tool</li> </ul>	<p><b>Data logging</b></p> <ul style="list-style-type: none"> <li>- Explain that data gathered over time can be used to answer questions</li> <li>- Use a digital device to collect data</li> <li>- Use a data logger</li> <li>- Recognise how a computer can help us analyse data</li> <li>- Identify data needed to answer questions</li> <li>- Use data from sensors</li> </ul>	<p><b>Flat File Databases</b></p> <ul style="list-style-type: none"> <li>- Use a form to record information</li> <li>- Compare paper and computer based databases</li> <li>- Outline how you can answer questions by grouping and sorting data</li> <li>- Explain that tools can be used to select data</li> <li>- Explain that programs can be used to compare data</li> </ul>	<p><b>Spreadsheets</b></p> <ul style="list-style-type: none"> <li>- Create a data set in a spreadsheet</li> <li>- Build a data set in a spreadsheet</li> <li>- Explain that formulas can be used to produce calculated data</li> <li>- Apply formulas to data</li> <li>- Create a suitable way to present data</li> <li>-</li> </ul>