

## Sandon Primary Academy – Computing: Nursery

### Curriculum Definition: Exploring technology and its uses.

Autumn Term	Spring Term	Summer Term
<p><b>Information Technology: Creating Media</b> Children learn to select and present information on screen.</p>	<p><b>Computer Science: Computer Systems and Networks</b> Children learn how to explore and tinker with hardware to develop familiarity and introduce relevant vocabulary. They learn to recognise that a range of technology is used in places such as homes and schools. Children learn how to operate an iPad camera and use it to take photographs.</p>	<p><b>Computer Science: Programming</b> Children will learn to follow instructions as part of practical activities and games and to learn to debug when things go wrong. They will learn to give simple instructions and that an algorithm is a set of instructions to carry out a task, in a specific order</p>
<p><b>Key Objectives:</b>  <b>Lesson 1: Online Safety: Health and Wellbeing</b>  <ul style="list-style-type: none"> <li>I can identify rules that help keep us safe and healthy in and beyond the home when using technology</li> </ul> <b>Lesson 2: Selecting and Presenting Pictures</b> <ul style="list-style-type: none"> <li>I can select appropriate pictures.</li> <li>I can make a scene by sticking pictures onto a background.</li> <li>I can present the pictures I have chosen.</li> </ul> <b>Lesson 3: Selecting and Presenting Digital Pictures</b> <ul style="list-style-type: none"> <li>I can select appropriate pictures on an iPad.</li> <li>I can make a digital scene by sticking pictures onto a background.</li> <li>I can present the pictures I have chosen digitally.</li> </ul> <b>Lesson 4: Using Paint to Create Lines</b> <ul style="list-style-type: none"> <li>I can create lines of different thicknesses.</li> <li>I can use the texture tool.</li> </ul> <b>Lesson 5: Using Paint Skills to Make a Short Animation in Groups</b> <ul style="list-style-type: none"> <li>I can continue to explore the paint tools.</li> <li>I can select pictures.</li> <li>I can make a short animation as part of a group.</li> </ul> <b>Lesson 6: Animation in Pairs</b> <ul style="list-style-type: none"> <li>I can continue to explore the paint tools.</li> <li>I can select pictures.</li> <li>I can make a short animation in pairs.</li> </ul> </p>	<p><b>Key Objectives:</b>  <b>Lesson 1: Online Safety: Online Bullying</b>  <ul style="list-style-type: none"> <li>I can describe ways that some people can be unkind online.</li> </ul> <b>Lesson 2: Exploring Hardware using a Tinker Tray</b> <ul style="list-style-type: none"> <li>I can explore hardware safely and respectfully.</li> <li>I can ask questions about the hardware that I am exploring.</li> <li>I can begin to use the names of the hardware that I am exploring.</li> </ul> <b>Lesson 3: Real-World Tinker Tray</b> <ul style="list-style-type: none"> <li>I can explore hardware safely and respectfully.</li> <li>I can match hardware to images of hardware.</li> <li>I can identify familiar hardware and comment on how I am familiar with it.</li> </ul> <b>Lesson 4: Pictures of Play</b> <ul style="list-style-type: none"> <li>I understand what a picture is.</li> <li>I can take pictures using an iPad.</li> <li>I can take pictures which are of a purpose with an iPad.</li> </ul> <b>Lesson 5: Picture Walk</b> <ul style="list-style-type: none"> <li>I can take pictures using an iPad which are in focus.</li> <li>I can take pictures which are of a purpose with an iPad.</li> </ul> <b>Lesson 6: Class Photo Album</b> <ul style="list-style-type: none"> <li>I can flip the camera to forward facing.</li> <li>I can take a picture of myself using a forward-facing camera.</li> <li>I can take a picture of myself which includes all of my facial features.</li> </ul> </p>	<p><b>Key Objectives:</b>  <b>Lesson 1: Online Safety: Online Reputation</b>  <ul style="list-style-type: none"> <li>I can give examples of information which is put on the internet.</li> </ul> <b>Lesson 2: Following Instructions</b> <ul style="list-style-type: none"> <li>I can listen to given instructions with some success.</li> <li>I can participate in games where I need to follow instructions.</li> <li>I can show an understanding of the instructions given.</li> <li>I understand that instructions are algorithms.</li> </ul> <b>Lesson 3: Giving Instructions</b> <ul style="list-style-type: none"> <li>I can communicate with my partner.</li> <li>I can give instructions to my partner with some success.</li> <li>I understand the importance of giving clear instructions.</li> <li>I understand that instructions are algorithms.</li> </ul> <b>Lesson 4: Dressing Up Instructions</b> <ul style="list-style-type: none"> <li>I can listen to given instructions.</li> <li>I can participate well in games where I need to follow instructions.</li> <li>I can show an understanding of the instructions given.</li> <li>I can give appropriate instructions to children in my class.</li> <li>I understand the importance of giving clear instructions.</li> <li>I understand that instructions are algorithms.</li> </ul> <b>Lesson 5: Debugging Instructions</b> <ul style="list-style-type: none"> <li>I can give instructions to complete a task.</li> <li>I can improve my instructions by making them more specific.</li> <li>I understand the importance of giving clear instructions.</li> <li>I understand that instructions are algorithms.</li> </ul> <b>Lesson 6: Making Predictions</b> <ul style="list-style-type: none"> <li>I can follow visual instructions with some success.</li> <li>I can make plausible predictions.</li> <li>I can sequence visual instructions.</li> <li>I understand that instructions are algorithms.</li> </ul> </p>
<p><b>Key Vocabulary:</b></p> <ul style="list-style-type: none"> <li><b>Pictures</b> – a painting or drawing</li> <li><b>Background</b> - a setting for the main figures or objects, or appears furthest from the viewer.</li> <li><b>Select</b> - picking an object</li> <li><b>Present</b> – the layout of the objects selected</li> <li><b>Digital Image</b> – image made digitally</li> <li><b>Paint (program)</b> – a program used to create digital art using a range of medias</li> <li><b>Paintbrush Tool</b> – drawing tool selected on paint</li> <li><b>Lines</b> – marks</li> <li><b>Animation</b> - creating an illusion of movement when shown as a sequence.</li> </ul>	<p><b>Key Vocabulary:</b></p> <ul style="list-style-type: none"> <li><b>Hardware</b> – tools, machinery, and other durable equipment.</li> <li><b>Monitor</b> – device that displays information in pictorial or textual form</li> <li><b>Keyboard</b> – allows a person to enter letters, numbers, and other symbols (together, these are called characters) into a computer</li> <li><b>Mouse</b> – hand-held pointing device that detects two-dimensional motion relative to a surface.</li> <li><b>Camera</b> – device that captures digital images</li> <li><b>Tinker</b> – play based, exploration when learning about something</li> <li><b>Picture</b> – a painting or drawing</li> <li><b>iPad</b> – device</li> <li><b>Focus</b> – image with clarity and sharpness</li> <li><b>Forward-Facing</b> – front facing</li> <li><b>Selfie</b> – picture of yourself using a forward-facing camera</li> </ul>	<p><b>Key Vocabulary:</b></p> <ul style="list-style-type: none"> <li><b>Instruction</b> – a direction or order.</li> <li><b>Communication</b> – the imparting or exchanging of information by speaking, writing, or using some other medium.</li> <li><b>Verbal</b> – using words.</li> <li><b>Visual</b> – using images/pictures.</li> <li><b>Debugging</b> – the process of identifying and removing errors from computer hardware or software.</li> <li><b>Prediction</b> – a statement about what you think will happen in the future</li> <li><b>Algorithm</b> - a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer.</li> </ul>
<p><b>Resources (IT):</b></p> <ul style="list-style-type: none"> <li>Online Safety: <a href="https://projectevolve.co.uk/sign-in/">https://projectevolve.co.uk/sign-in/</a> Username: <a href="mailto:icolclough@sandonprimary.org.uk">icolclough@sandonprimary.org.uk</a> Password: Sandon123456! (Lesson 1)</li> <li>Website: <a href="https://www.j2e.com/jit5#paint">https://www.j2e.com/jit5#paint</a> (Lesson 3-4)</li> <li>Website: <a href="https://www.j2e.com/jit5#animate">https://www.j2e.com/jit5#animate</a> (Lesson 5-6)</li> </ul>	<p><b>Resources (IT):</b></p> <ul style="list-style-type: none"> <li>Online Safety: <a href="https://projectevolve.co.uk/sign-in/">https://projectevolve.co.uk/sign-in/</a> Username: <a href="mailto:icolclough@sandonprimary.org.uk">icolclough@sandonprimary.org.uk</a> Password: Sandon123456! (Lesson 1)</li> <li>Hardware – Laptop House to support (Lesson 2-3)</li> <li>iPad (Lesson 4-6)</li> </ul>	<p><b>Resources (IT):</b></p> <ul style="list-style-type: none"> <li>Online Safety: <a href="https://projectevolve.co.uk/sign-in/">https://projectevolve.co.uk/sign-in/</a> Username: <a href="mailto:icolclough@sandonprimary.org.uk">icolclough@sandonprimary.org.uk</a> Password: Sandon123456! (Lesson 1)</li> <li>iPad (Lesson 5)</li> </ul>

### Early Years Framework/Birth to 5 Matters:

#### Autumn: I am Special, I am Me!

- Range 3 - Shows interest in toys with buttons, flaps and simple mechanisms and begins to learn to operate them
- Range 4 - Seeks to acquire basic skills in turning on and operating some digital equipment

#### Spring: All Aboard!

- Range 4 - Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car.
- Range 4 - Plays with water to investigate “low technology” such as washing and cleaning

#### Summer: Food!

- Range 5 - Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.
- Range5 - Knows that information can be retrieved from digital devices and the internet

### Online Safety:

Autumn: Health and Wellbeing

Spring: Online Bullying

Summer: Online Reputation

### Key Computing Days:

- National Coding Week - September
- Safer Internet Day – February

**National Curriculum: By the end of EYFS, pupils will be able to:**

- Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.