



## COMPUTING

### Subject Intention:

Our intention is to develop a curriculum that will provide our children with the skills, knowledge and confidence that they need to become digitally literate. We want children to become problem solvers and to be able to deal with real life tasks. Our curriculum map is broad and balanced to allow children to work on and build upon the 3 areas of computing (digital literacy, information technology and computer science). The progression document clearly shows the progression of the skills through school. It is clear that the skills are built upon each year and there's plenty of time for recapping and embedding; allowing children to know more and remember more. We use the Twinkl Plan-it scheme as our computing scheme in order to develop teacher's CPD. Teachers are encouraged to use this, alongside their professional judgement when planning their lessons. We intend to prepare our children for a future that is being transformed by technology and to keep themselves safe in an increasingly digital world. We want to equip our children with the tools and skills needed to be able to keep themselves and others safe online. They should be able to effectively communicate how to be a responsible digital citizen.

### Subject Implementation:

#### **Curriculum**

Computing is taught through a clear and comprehensive scheme that works inline with the National Curriculum. We use the Twinkl Plan-it scheme for computing and the units often link with the themes across the wider curriculum; allowing those cross-curricular links to make learning relevant and purposeful. The units are chosen carefully to ensure they are broad and balanced and covering the objectives and skills on the progression document.

#### **Online safety**

Online safety is taught throughout computing lessons. This allows children to practise the skills of becoming a digitally responsible citizen. In addition to this, children are given the opportunity to explore key issues of online safety during Safer Internet Day. During this half term, online safety will be a focus throughout the computing lessons.

#### **Resources**

In school, we have a class set of laptops and a class set of tablets. These resources are timetabled for each class to use. Every class has one timetabled slot for the laptops and at least one slot for the tablets. There are other slots that can be signed up for, should teachers wish to use them. We are also developing physical computing throughout school and are currently purchasing additional equipment for this.

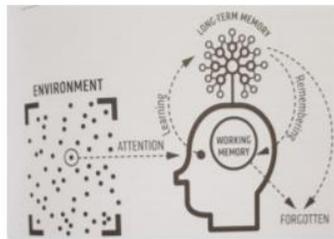
#### **Assessment**

Teachers assess computing through teacher judgements. Evidence for this is collected through online files and through the use of Seesaw. Assessment judgements are recorded on Target Tracker.

### Subject Impact:

Our children are digitally literate and are able to use technology responsibly. They are able to confidently communicate how to keep themselves safe online. Children have a comprehensive knowledge of how to use technology to achieve a wide variety of goals. They know more, remember more and understand more about how technology works and the importance of it in a world that is becoming increasingly more digital.

What practices do we employ in our lessons to encourage children to know more and remember more?



What do our lessons look like			
<b>Introduction</b>	<b>Teaching input</b>	<b>Pupil activity</b>	<b>Ongoing assessment</b>
<b>Daily review</b>	Present new materials using small steps Provide models	Guide student practice  Obtain a high success rate	Ask questions  Check for student understanding
	Provide scaffolds for difficult tasks	Provide scaffolds for difficult tasks Independent practice	Weekly and Monthly Review

How does this lead to specific learning activities?

<b>Introduction (Daily Review)</b>	<ul style="list-style-type: none"> <li>• Definition of words</li> <li>• Show examples for children to identify knowledge/skills</li> <li>• Vocab quiz</li> </ul>
<b>Input (Present new materials in small steps)</b>	<ul style="list-style-type: none"> <li>• Teacher to model small steps and then children to have a go</li> </ul>
<b>Input ( Provide models)</b>	<ul style="list-style-type: none"> <li>• Examples of high quality models</li> <li>• Narrow down skills/tasks</li> <li>• Carefully chosen resources</li> <li>• Adult/peer role model</li> </ul>
<b>Input (Scaffolds for difficult tasks)</b>	
<b>Pupil Activity (Guided student activity)</b>	<ul style="list-style-type: none"> <li>• Teacher to observe pupils and provide guidance to support or stretch</li> </ul>
<b>Pupil Activity (Obtain a high success rate)</b>	<ul style="list-style-type: none"> <li>• Adult support</li> <li>• Apply techniques / skills</li> </ul>
<b>Pupil Activity (Time for independent practice)</b>	<ul style="list-style-type: none"> <li>• Children practise using the knowledge and skills they have learnt</li> </ul>
<b>Ongoing Assessment (Ask questions)</b>	<ul style="list-style-type: none"> <li>• What resources have you used? Why?</li> <li>• How did you achieve that?</li> <li>• How could you improve?</li> <li>• How could you change the outcomes?</li> <li>• What would happen if....?</li> </ul>
<b>Ongoing Assessment (Check student understanding)</b>	
<b>Ongoing Assessment (Weekly and monthly reviews)</b>	<ul style="list-style-type: none"> <li>• Look at children's work</li> <li>• Ask questions</li> <li>• Vocab review</li> </ul>



# South Hiendley Primary School Curriculum Statement



## COMPUTING

### LONG TERM PLAN

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 1	Online Safety DL	Programming Toys CS	Computing Skills IT	Painting IT	Word Processing Skills IT	Using & Applying IT
YEAR 2		Preparing for Turtle Logo CS	Presentation Skills IT	Programming Turtle CS	Using the Internet IT	Computer Art IT
YEAR 3		Internet Research & Communication IT	Drawing & Desktop Publishing IT	Presentation Skills IT	Programming Turtle Logo & Scratch CS	Using & Applying Skills IT
YEAR 4		Animation IT	Word Processing IT	Programming Turtle Logo CS	Scratch Questions & Quizzes CS	Using & Applying Skills IT
YEAR 5		3D Modelling SketchUp IT	Internet Research and Web Design IT	Controlling Devices Flowol CS	Scratch CS	Using & Applying IT
YEAR 6		Kodu Programming CS	Film Making IT	Scratch CS	Spreadsheets IT	Using & Applying IT

### PLANNED VOCABULARY

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Control Information Internet Program	Instructions Algorithm Debug Sequence Cursor Trackpad Save Undo Redo Bold Underline Italics SMART	Backdrop Sprite Test Folder Presentation File Application Internet Upload Insert Rotate Resize Duplicate Search Engine	Order Group Manipulate Combine Template Themes Transition Audio Animations Cyberbullying Privacy	Procedure Decompose Selection Variables Formatting Hyperlink Minimise Maximise Restore	Interpret Flowchart Control Subroutine Citation Spam	Secure Pan Zoom Dimension Deconstruct Physical systems Simulate Import Data Cells Formula



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## COMPUTING

### Knowledge Progression: COMPUTER SCIENCE

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<p>Knows how to operate simple equipment.</p> <p>Shows an interest in technological toys with knobs or pulleys or real objects such as cameras or mobile phones.</p> <p>Complete a simple computer program.</p>	<p>Create instructions using pictures.</p> <p>Explain the need to be precise when writing an algorithm.</p> <p>Write instructions to program a person like a computer.</p> <p>Program a toy to move. E.g. Bee-Bot.</p> <p>Debug a programmable toy.</p> <p>Program a sequence to make a programmable toy move.</p>	<p>Give, follow and complete an algorithm that includes:</p> <ul style="list-style-type: none"> <li>Turning left</li> <li>Turning right</li> <li>Half turns</li> <li>Quarter turns</li> </ul> <p>Use the following commands:</p> <ul style="list-style-type: none"> <li>right 90</li> <li>left 90</li> <li>repeat</li> <li>say</li> </ul> <p>Add sound to an algorithm.</p> <p>Change the backdrop in an algorithm.</p> <p>Add sprites to an algorithm.</p> <p>Use recognised language in an algorithm (as above).</p> <p>Test an algorithm.</p> <p>Debug an algorithm.</p>	<p>Use the previous year's commands plus:</p> <ul style="list-style-type: none"> <li>move</li> <li>rotate</li> </ul> <p>Create and debug algorithms that involve objects moving.</p> <p>Create and debug algorithms that involve drawing shapes and patterns.</p>	<p>Create an algorithm that includes a procedure.</p> <p>Debug an algorithm that includes a procedure.</p> <p>Create an algorithm that accomplishes specific goals.</p> <p>Debug an algorithm that accomplishes specific goals.</p> <p>Design, write and debug a program using blocks</p> <p>Decompose a problem into smaller parts.</p> <p>Use sequence, selection and duplicate functions in programs.</p> <p>Use variables in programs.</p>	<p>Draw and interpret flowcharts using correct symbols.</p> <p>Create and edit a flowchart to control a simulated device.</p> <p>Control multiple outputs at the same time.</p> <p>Use a decision symbol based on the status of an input.</p> <p>Create a flowchart programme containing a subroutine.</p> <p>Design, write and debug flowchart programs for a given task.</p> <p>Design and program more complex a character game with a specific goal. Programs should include a range of features to enhance a game (sound, movement, speech bubbles, costume changes etc.)</p>	<p>Investigate and evaluate the features of programming software.</p> <p>Use 'when' and 'do' instructions to write simple instructions.</p> <p>Analyse and deconstruct code to work out its purpose.</p> <p>Use a range of features and tools when creating a program.</p> <p>Program a character to be controlled and reach a goal.</p> <p>Use coding to create animations.</p> <p>Control timing within their algorithm.</p> <p>Use a range of features including:</p> <ul style="list-style-type: none"> <li>show</li> <li>hide</li> <li>timings</li> <li>sound</li> </ul>
	<p><b>Units:</b></p> <p>Programming Toys (Aut 2)</p>	<p><b>Units:</b></p> <p>Preparing for Turtle Logo (Sum 1)</p> <p>Programming Turtle Logo (Sum 2)</p>	<p><b>Units:</b></p> <p>Programming Turtle Logo &amp; Scratch (Sum 1)</p>	<p><b>Units:</b></p> <p>Programming Turtle Logo (Spr 2)</p> <p>Scratch Questions &amp; Quizzes (Sum 1)</p>	<p><b>Units:</b></p> <p>Controlling Devices Flowol (Spr 2)</p> <p>Scratch (Sum 1)</p>	<p><b>Units:</b></p> <p>Kodu Programming (Aut 2)</p> <p>Scratch (Spr 2)</p>

### Knowledge Progression: INFORMATION TECHNOLOGY

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<p>Knows how to operate simple equipment.</p> <p>Shows an interest in technological toys with knobs or pulleys or real objects such as cameras or mobile phones.</p> <p>Knows that information can be retrieved from computers.</p> <p>Use ICT hardware to interact with age-appropriate computer software.</p> <p>They select and use technology for particular purposes.</p>	<p>Move the cursor and click using a trackpad.</p> <p>Switch on and shut down a computer correctly.</p> <p>Launch an application and manipulate windows.</p> <p>Save a file.</p> <p>Locate and open saved work.</p> <p>Drag objects across a screen.</p> <p>Use undo and redo.</p> <p>Use different features in a paint program:</p> <ul style="list-style-type: none"> <li>Change colours</li> <li>Change brushes</li> <li>Create shapes</li> <li>Fill areas</li> <li>Add text</li> </ul> <p>Use a keyboard to type letters and symbols.</p> <p>Highlight text to change the format (bold, underline, italics).</p> <p>Change the font, size and colour of the text.</p>	<p>Create folders.</p> <p>Create a simple presentation with text.</p> <p>Use the copy and paste function to add and format an image.</p> <p>Reorder slides on a presentation.</p> <p>Present a presentation.</p> <p>Search for files and applications.</p> <p>Print a document.</p> <p>Search the internet using one word.</p> <p>Find suitable results on the internet for children.</p> <p>Follow links to another web page.</p> <p>Create content to share.</p> <p>Use a camera to take a photograph.</p> <p>Find and upload saved photos on a computer.</p> <p>Use a range of tools to create computer art:</p> <ul style="list-style-type: none"> <li>Insert lines</li> <li>Change sizes</li> <li>Draw lines</li> <li>Rotate and resize shapes.</li> <li>Duplicate</li> </ul>	<p>Use the trackpad or computer mouse to draw with different shapes and lines.</p> <p>Order and group objects.</p> <p>Manipulate shapes and lines.</p> <p>Combine text and images.</p> <p>Identify how the word order affects search results</p> <p>Explain how searches return results.</p> <p>Save and share web pages.</p> <p>Create slide templates.</p> <p>Create presentations that include:</p> <ul style="list-style-type: none"> <li>Themes</li> <li>Transitions</li> <li>Animations</li> <li>Actions</li> <li>Audio</li> <li>Video</li> </ul>	<p>Use a range of formatting tools to format images and layout.</p> <p>Use the spellcheck tool.</p> <p>Insert and format a table into a word processing document.</p> <p>Change a page layout.</p> <p>Create hyperlinks within a word document.</p> <p>Create a short computer animation that includes:</p> <ul style="list-style-type: none"> <li>Moving figures</li> <li>A background</li> <li>Structured timing using time slider</li> </ul> <p>Create a stop-motion animation.</p> <p>Analyse and evaluate our work.</p>	<p>Create a web page layout.</p> <p>Add text to a web page.</p> <p>Add images to a web page.</p> <p>Add hyperlinks to a web page.</p> <p>Publish and share a web page.</p> <p>Draw and manipulate 3D images.</p> <p>Add detail to 3D drawings.</p> <p>Add and manipulate 3D models.</p> <p>Create a complex 3D model.</p>	<p>Choose appropriate software for the task given.</p> <p>Locate and check appropriate digital content and provide accurate crediting of sources.</p> <p>Use digital recording devices to film.</p> <p>Import videos into video editing software.</p> <p>Use video editing software to create a short film including:</p> <ul style="list-style-type: none"> <li>Arranging video files to form the film</li> <li>Create transitions</li> <li>Use visual effects</li> </ul> <p>Edit and improve work.</p> <p>Enter data and formulas into a spreadsheet by:</p> <ul style="list-style-type: none"> <li>Identifying cells</li> <li>Typing text and numbers</li> <li>Use the SUM function</li> </ul> <p>Order and present data based on calculations.</p> <p>Add, edit and calculate data.</p> <p>Use a spreadsheet to solve problems.</p> <p>Design a spreadsheet for specific purposes.</p>
	<p><b>Units:</b></p> <p>Computing Skills (Spr 1)</p> <p>Painting (Spr 2)</p> <p>Word Processing Skills (Sum 1)</p> <p>Using &amp; Applying (Sum 2)</p>	<p><b>Units:</b></p> <p>Using the Internet (Aut 2)</p> <p>Presentation Skills (Spr 1)</p> <p>Computer Art (Spr 2)</p>	<p><b>Units:</b></p> <p>Drawing &amp; Desktop Publishing (Aut 1)</p> <p>Internet Research &amp; Communication (Spr 1)</p> <p>Presentation Skills (Spr 2)</p> <p>Using &amp; Applying (Sum 2)</p>	<p><b>Units:</b></p> <p>Word Processing (Aut 1)</p> <p>Animation (Aut 2)</p> <p>Using &amp; Applying (Sum 2)</p>	<p><b>Units:</b></p> <p>3D Modelling Sketch Up (Aut 2)</p> <p>Internet Research &amp; Web Design (Spr 1)</p> <p>Using &amp; Applying (Sum 2)</p>	<p><b>Units:</b></p> <p>Film Making (Aut 1)</p> <p>Spreadsheets (Sum 1)</p> <p>Using &amp; Applying (Sum 2)</p>

## Knowledge Progression: DIGITAL LITERACY

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<p>Use ICT hardware to interact with age-appropriate computer software.</p> <p>Recognise that a range of technology is used in places such as homes and schools.</p> <p>They select and use technology for particular purposes.</p>	<p>Understand what each letter in SMART stands for.</p> <p>Spot when something might not be safe.</p> <p>Explain what to do if something is not safe.</p> <p>Make links between the online and offline world.</p> <p>Explore how to use email safely as a way of communication.</p>	<p>Use child-friendly search engines.</p> <p>Keep personal details private online.</p> <p>Tell an adult if something makes them feel uncomfortable online.</p> <p>Search safely online.</p> <p>Only use photos online that I have permission for.</p> <p>Recognise inappropriate comments and report it to an adult.</p> <p>Understand that the information I share online leaves a 'digital footprint'.</p> <p>Rate and review websites.</p>	<p>Identify ways to communicate online.</p> <p>Explain how to stay safe when communicating online.</p> <p>Explain why we need to be responsible online.</p> <p>Know what cyberbullying is and how to address it.</p> <p>Understand privacy settings.</p> <p>Safely send and receive emails.</p>	<p>Understand how to respond to cyberbullying.</p> <p>Know how to report concerns.</p> <p>Understand plagiarism and how to avoid it.</p> <p>Explain how to be a responsible digital citizen.</p>	<p>Identify spam emails and what to do with them.</p> <p>Write citations for websites.</p> <p>Create strong passwords.</p> <p>Recognise when, why and how photographs we see online may have been edited.</p> <p>Apply online safety rules to real-life scenarios.</p>	<p>Compare cyberbullying to bullying in person and develop strategies for dealing with online bullying</p> <p>Identify secure websites by identifying privacy seals of approval.</p> <p>Identify information that should never be shared.</p> <p>Evaluate media aimed at boys and girls.</p> <p>Apply online safety knowledge to online activities.</p>
	<p><b>Units:</b> Online Safety (Aut 1)</p>	<p><b>Units:</b> Online Safety (Aut 1)  Using the Internet (Aut 2)</p>	<p><b>Units:</b> Online Safety (Aut 1)  Internet Research &amp; Communication (Aut 2)</p>	<p><b>Units:</b> Online Safety (Aut 1)</p>	<p><b>Units:</b> Online Safety (Aut 1)</p>	<p><b>Units:</b> Online Safety (Aut 1)</p>



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### COMPUTING



#### Assessment:

Assessment is regular, and ongoing. It is a part of the learning process. It is not onerous and does not generate additional paperwork or workload for teachers. It is used to identify next steps for learning, to identify gaps and provide support and challenge where appropriate, ensuring the children are always prepared for their current and next stage of learning. Strategies for this are detailed in our 10 methods for moving knowledge from working to long term memory.

Collection of work: Children upload their outcomes where appropriate to the "See Saw" collection system. This enables subject leaders to review the work for each class, checking against the appropriate knowledge progression and planning documentation. In hand with pupil voice, this enables us to see how pupils are knowing more, remembering more and that knowledge is revisited on a regular basis.