



Computing Year 6

Unit of work	Physical Computing	3D Modelling	Photo editing	Managing Online Information	
Link to Programme of study	Computer Science	Digital Literacy – inc. online safety	Digital Literacy – inc. online safety	Digital Literacy – inc. online safety	
Composite knowledge	<p>Recognise and use selection and conditionals in their programming</p> <p>Design, write and debug programs which achieve specific outcomes</p> <p>Use logical reasoning to explain what will happen when code is run</p>	<p>Use a variety of software to design and create</p> <p>Identify how technology – specially 3D modelling and 3D printing, is used in the world around us</p>	<p>Use a variety of software</p> <p>Identify how technology is used in the world around them</p> <p>Recognise the affect technology can have on our mental wellbeing</p>	<p>use search technologies effectively</p> <p>be discerning in evaluating digital content</p> <p>select, use and combine a variety of software to create digital artefacts</p>	
Intentional knowledge they need to understand (Component knowledge)	<p>Build and use a Raspberry PI computer</p> <p>Use the GPIO pins on a Raspberry PI to connect peripherals</p> <p>Work in pairs to build a circuit with LEDs</p> <p>Write and test code in Scratch to control LEDs and buttons</p> <p>Create sequences of code which execute only if a specific condition is met</p> <p>Recognise that programs can have an effect on the physical world</p>	<p>Recognise CAD as computer aided design</p> <p>Recognise some of the ways 3D modelling is used</p> <p>Use the tools available within a software package to make things happen:</p> <ul style="list-style-type: none"> • add shapes to the workspace • edit the dimensions of the added shapes • combine and group shapes to create more complex designs • Rotate the axis to inspect designs from all angles 	<p>Identify altered images and suggest how they were edited</p> <p>Recognise the affect altered images can have on them</p> <p>Use image editing software to digitally alter images</p> <p>Use video tutorials to learn new skills</p> <p>Evaluate their own work and suggest ways to develop it further</p>	<p>To recognise that the World Wide Web is not owned by anybody and how this effects the information available on it</p> <p>Recognise that they need to check ‘facts’ they find online</p> <p>Have strategies for evaluating the validity of online information</p> <p>Recognise how their opinions and behaviours can be manipulated by other people online</p> <p>Plan, design and create digital artefacts using skills they have learnt</p>	

National Curriculum KS2 (skills)	<p>Key stage 2 Pupils should be taught to:</p> <ul style="list-style-type: none"> 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. 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. 				
Vocabulary	Raspberry PI, GPIO pins, Breadboard, LED, Condition, Sequence, selection	3D Modelling, tinkerCAD, C.A.D, 3D Printing, Layers, PLA	Air brushing, photo editing, Fake image, Pixlr, Digitally altered, wand tool, eraser, layers, opacity,	Validity, facts, opinion, belief, evaluate, misinformation, disinformation, html, css, images, photo editing,	
Links to prior knowledge	Year 5 – Selection in Programs Year 4 – Build Your Own Computer Year 4 – Sequences of Instructions Year 3 – Scratch Sequences			Year 6 – introducing HTML Year 6 – photo editing	
Key knowledge for assessment	<p>Can build and debug a Raspberry PI computer</p> <p>Can build and debug a circuit using a breadboard</p> <p>Can create and test code to control an LED</p> <p>Can create and test code that includes selection</p>	<p>Can give some examples of where 3D modelling and 3D printing are used in the world around them.</p> <p>Can create increasingly more complex designs using the CAD software</p> <p>Can plan, design and have printed a 3D artefact</p>	<p>Can identify altered images and images that use filters</p> <p>Can use an image editing software to create their own edited images</p> <p>Can combine software packages to create digital artefacts</p>	<p>Recognises the need to critically evaluate the information they find online</p> <p>Can design and create a digital artefact for a specific purpose</p> <p>Have experienced publishing information online</p>	

Cross Curricular Links	D&T Science	Art D#&T	Art		
Oracy & Outdoor Learning Links	Paired Programming				