

**Progression in computing knowledge and skills  
EYFS to year six**



Providing a first class education for our children is our core purpose. Within Longnor CE Primary School, we seek to lay the foundations of knowledge, skills and attitudes that prepare children extremely well for their next stage of education so that transition from one stage to another is natural, seamless and timely. We seek to develop in children a lifelong love of learning and the underlying skills to enable them to succeed. Our curriculum aims to go beyond the academic, but also into the behaviours and attitudes we wish our children to demonstrate as citizens of the world. This includes:

- Building a community by learning how to work together as a team.
- Develop an understanding of culture and self.
- A sense of achievement.
- Developed self-confidence.
- Emotional development and self-esteem.
- Development of collaboration, critical thinking and communication.
- Continue to evolve the curriculum responding to our ever-changing world.
- Challenging learning opportunities.
- Knowledge in how to stay safe online.

National curriculum expectations		
By the end of EYFS	By the end of key stage one	By the end of key stage two
<p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently.</p> <p>Explore, use and refine a variety of artistic effects to express their ideas and feelings</p> <p>Show resilience and perseverance in the face of a challenge.</p> <p>Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'.</p> <p>Explore how things work.</p>	<ul style="list-style-type: none"> <li>• Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>• Create and debug simple programs</li> <li>• Use logical reasoning to predict the behaviour of simple programs</li> <li>• Use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>• Recognise common uses of information technology beyond school</li> <li>• Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</li> </ul>	<ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>• Use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>• 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</li> <li>• Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>• 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</li> <li>• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>

Progression in computing knowledge and skills  
EYFS to year six



Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer systems and network	Skills						
	<p>Choose an app to use on the ipad and explain the choice of app.</p> <p>Show how to use and look after the ipads safely.</p>	<p>Choose a piece of technology to do a job.</p> <p>Recognise that some technology can be used in different ways.</p> <p>Identify main parts of a computer.</p> <p>Show how to use technology safely.</p> <p>Use a mouse in different ways.</p> <p>Use the keyboard to type.</p> <p>Use the keyboard to edit text.</p>	<p>Identify information technology beyond school.</p> <p>Describe some uses of computers.</p> <p>Identify information technology in school.</p> <p>Show how to use IT safely.</p>	<p>Identify input and output devices.</p> <p>Explain that a computer system accepts an input and processes it to produce an output.</p> <p>Explain how a computer network can be used to share information.</p> <p>Explain the role of a switch server and wireless access point in a network.</p> <p>Identify network devices around me.</p> <p>Explain how networks can be connected to other networks.</p>	<p>Explain how to access the world wide web.</p> <p>Evaluate the reliability of content and the consequences of unreliable content.</p>	<p>Evaluate different ways of working together across the internet.</p> <p>Choose whether to work in a private or public group safely.</p>	<p>Recall how to use a wide range of search engines and compare results.</p> <p>Recognise that search terms need to be chosen carefully.</p> <p>Identify and evaluate the results of searches including the use of adverts.</p> <p>Use a range of methods to communicate using the internet.</p> <p>Select and evaluate methods of communication.</p> <p>Make sensible decisions in what to share online.</p>
Knowledge and vocabulary							
	<p>Explain how we can use an ipad or a laptop/computer to help us.</p> <p>Explain what we can do on the ipads.</p>	<p>Explain that technology is something that can help us.</p> <p>Identify examples of technology.</p> <p>Explain how examples of technology helps us.</p> <p>Recognise that a computer is an example of technology.</p> <p>Recognise that choices are made when using technology.</p> <p>Explain why rules are needed when using technology.</p>	<p>Recognise different types of computers used in school.</p> <p>Identify that a computer is a part of information technology.</p> <p>Recognise the features of information technology.</p> <p>Talk about the uses of information technology.</p> <p>Explain how information technology benefits us.</p> <p>Say how rules for using information technology can help us.</p> <p>Recognise that choices are made when using IT.</p>	<p>Describe what an input is.</p> <p>Explain that a process acts on the inputs.</p> <p>Explain that an output is produced by the process.</p> <p>Explain how computer systems can change the way that we work.</p> <p>Identify how changing the process can affect the output.</p> <p>Recognise that a digital device is made up of several parts.</p> <p>Recognise that computers can be connected to each other and identify the benefits of computer networks.</p> <p>Recognise that a network is made up of a number of components and how devices in a network are connected with one another.</p>	<p>Describe how networks connect to other networks.</p> <p>Outline how information content/media can be added, created and shared via the World Wide Web seen as webpages and websites.</p> <p>Explain that the global interconnection of networks is the internet and explain that the internet enables us to view the World Wide Web.</p> <p>Recognise the need for security on the internet.</p> <p>Explain the benefits of the World Wide Web.</p>	<p>Recognise that computers can be part of a system in an electronic device and that computers can be connected together to form systems.</p> <p>See that computers communicate with other devices.</p> <p>Recognise that information/media is transferred/shared across the internet using agreed methods/protocols.</p> <p>Recognise the role the computer system has in our lives.</p> <p>Recognise that connections between computers allow us to work together across the world.</p>	<p>Define the purpose of an index.</p> <p>Explain the term ranking and how these are used in a search engine.</p> <p>Explain the importance of the order of results.</p> <p>Define communication.</p>

Progression in computing knowledge and skills  
EYFS to year six



Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Creating media	Skills						
	Know how to use the ipads to take photos.	Use a computer to paint a picture.  Use a keyboard to enter text onto a computer.  Position the cursor in a chosen location.  Change the font on the computer.	Use a device to capture an image.  View images on a digital device and make decisions as to which to keep.  Edit photos using a filter.  Use a computer to create a piece of music.  Edit and refine work on the computer.	Plan and capture images from a fixed position.  Edit frames in a sequence.  Add and remove text to placeholders in a prepared grid.  Move, resize and edit shapes on a page.	Record sound using icons effectively.  Manage audio/image file effectively - find, open and save files.  Manipulate images for different purposes.  Select tools for efficient and effective use.	Choose carefully how to alter and manipulate object/several objects in image.  Combine options to achieve a desired effect.  Create a vector drawing for a given purpose.  Plan and create a video using a storyboard.  Review and edit the captured video.	Create a 3D graphical object using a laptop.  Alter and manipulate the 3D image.  Recognise the role of scale in the design.  Review existing websites.  Create a new, blank web page adding text, changing the appearance, style and embedding media into the page  Insert hyperlinks into the page.
	Knowledge and vocabulary						
	Know how to use the camera to take photos on the ipad.	Recognise that tools can be changed to produce different outcomes.  Choose options to achieve a desired effect.  Consider the impact of choices made.  Know that the shift key will change the output of the key.  Know that the backspace will delete text or use the undo function.	Make choices when composing my photograph - landscape/portrait.  Evaluate photograph taken according to light, zoom and clarity.  Recognise that some photos are fake or edited.  Listen to and evaluate a range of pieces of music.  Know that music is made by humans.  Consider how different sequences create different effects.	Explain that an animation is made up of a sequence of images.  Review sequence of captured images as an animation.  Select the layout of the page for the task.  Evaluate the layout of the page including shapes and text boxes.	Recognise that sound can be digitally recorded through the use of microphones.  Recognise that sound can be layered.  Know how to manipulate images and then save them to be re-used.	Recognise that a vector drawing comprises separate objects.  Explain how alignment of layers can help create a consistent drawing.  Recognise that objects can be modified in groups.  Consider the impact of the choices made.  Evaluate the features of a recorded video considering the results of the choices made.	Recognise that 3D objects comprise length, width and height.  Recognise the similarities and differences when working in 3D compared to 2D.  Recognise the features of a website and that it is a set of hyperlinked web pages.  Begin to recognise the relationship between HTML and visual display.  Recognise the need for a navigation path and planned website.
	Recognise that information can be stored on a computer.  Recognise that information can be saved on a computer.  Recognise that information can be retrieved, edited and re-saved.  Recognise that work can be shared between devices,	Give examples of why some information should not be shared.	Know how to export and share a project.	Recognise that audio is stored as a file that can be edited and altered.	Save and export finished video	Recognise that a website will be published onto the WWW and how to use URLs to retrieve page.	

Progression in computing knowledge and skills  
EYFS to year six



		printed and that others can see my work.					
--	--	--	--	--	--	--	--

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Data and information	Skills						
	Use apps/games to input answers using the ipad.	Collect simple data. Identify and sort objects into groups by similarities. Describe a group of objects.	Enter data into a computer. Describe groups according to attributes. Compare groups using the computer.	Identify the object attributes needed to collect relevant data. Retrieve information from different levels of the branching database.	Capture data using a data logger. Use a computer program to sort data by one attribute. Present data in a table. Present data in a graph.	Navigate through a database. Choose different ways to view data. Choose which attribute to sort data by to answer a given question. Select an appropriate graph to compare data.	Calculate data using different operations using Excel or Google Sheets. Recognise that changing inputs also changes outcomes. Apply formulas to data.
	Knowledge and vocabulary						
	Know how to input answers when playing games on the ipad.	Identify that objects can be sorted and counted. Recognise that information can be presented in different ways.	Use a tally to collect data. Use pictograms to answer questions. Use the computer to present information in different ways.	Create and investigate questions with yes/no answers. Decide which data is needed to answer specific questions. Relate two levels of a branching database using AND.	Suggest questions that can be answered using a given data set. Identify sensors as input devices.	Ask questions that need more than one attribute to answer. Explain that a computer program can be used to organise data. Outline how 'AND' and 'OR' can be used to refine data selection. Outline how to filter data.	Identify questions that can be answered with data. Explain what an item of data is. Choose suitable ways to represent data.

Progression in computing knowledge and skills  
EYFS to year six



Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Programming	Skills						
	<p>Give and follow simple commands.</p> <p>Begin exploring how simple technology can be programmed - beebots and Daisy the dinosaur.</p>	<p>Give and follow commands.</p> <p>Match commands to outcomes.</p> <p>Choose a series of words to act as a program.</p> <p>Run a program on a device.</p>	<p>Create and debug a program written.</p> <p>Run a program independently on a device.</p>	<p>Order commands in a program.</p> <p>Create a sequence of commands to produce a given outcome.</p>	<p>Plan a program that includes loops to produce a given outcome.</p> <p>Create sequences that run at the same time.</p>	<p>Create a condition-controlled loop.</p> <p>Use if... then... to start an action.</p> <p>Use if... then... else to produce given outcomes.</p> <p>Experiment with the repeat-until loop.</p> <p>Plan a program that includes conditions to produce a given outcome dependent upon the conditions.</p>	<p>Experiment with a variable and the value of in a given program.</p> <p>Decide where in a program to set a variable and select conditional statements to the variable.</p>
Programming	Knowledge and vocabulary						
	<p>Know that a set of instructions can move a character or device.</p>	<p>Choose a command for a given purpose.</p> <p>Build a sequence of commands in steps.</p> <p>Combine commands in a program.</p>	<p>Choose a series of commands that can be run as a program.</p> <p>Predict the outcome of the program.</p>	<p>Explain that programs start because of an input.</p> <p>Explain that the order of commands can affect a program's output.</p> <p>Identify a series of commands which build to make a sequence in a program.</p>	<p>Explain what repeat means.</p> <p>Explain that we can use a loop command to repeat instructions.</p> <p>Explain an indefinite loop.</p>	<p>Relate a count-controlled loop to a condition.</p> <p>Explain how a conditioned-controlled loop works.</p> <p>Explain the importance of if...then...else statements.</p> <p>Justify decisions in the sequence and choice of algorithm.</p>	<p>Define variable as something that is changeable.</p> <p>To alter the position of the variable in the sequence and explain the outcome.</p>

Check debugging