


LEVENS CE SCHOOL
Curriculum Milestones- Computing

Relevant areas of EYFS framework				
Nursery & EYFS	Levens CE School follows the “Development Matters” curriculum. The “Technology” element of the EYFS curriculum was removed in 2021 and as such there are no explicit computing goals for Nursery and EYFS in regards to computing. Despite this, we believe that there are many vital skills, developed in Nursery and Reception, which allow students to full access the Computing curriculum in later years. Technology is embedded in our Nursery and Early Years environment through the devices used to present, create and capture learning, opportunities to sequence and identify patterns, “unplugged” Computing activities and STEM learning and provision.			
KS1 Outcomes	<ul style="list-style-type: none"> - Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. - Create and debug simple programs. - Use logical reasoning to predict the behaviour of simple programs. 	<ul style="list-style-type: none"> - Use technology purposefully to create, organise, store, manipulate and retrieve digital content. 	<ul style="list-style-type: none"> - Recognise common uses of information technology beyond school. 	<ul style="list-style-type: none"> - 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.
Year 1	<ul style="list-style-type: none"> • Explain what a given command will do. • Choose a command for a given purpose. • Combine forwards and backwards commands to make a sequence. • Combine direction commands to make sequences. • Plan a simple program. • Find more than one solution to a problem. 	<p>Art & Images</p> <ul style="list-style-type: none"> • Describe what different digital freehand tools do. • Use the shape tool and the line tools. • Use a computer on my own to paint a picture. <p>Written Information</p> <ul style="list-style-type: none"> • Use a computer to write, adding and removing text. • Identify that the look of text can be changed on a computer. 	<ul style="list-style-type: none"> • Identify technology. • Identify a computer and its main parts. • Use a mouse in different ways. • Use a keyboard to type on a computer and edit text. 	<ul style="list-style-type: none"> • Create rules for using technology responsibly and safely. • Identify what to do if something makes us uncomfortable.
By the end of KS1	<ul style="list-style-type: none"> • Describe a series of instructions as a sequence with a start and an outcome. • Explain what happens when we change the order of instructions. • Identify the effect of changing a value. • Use logical reasoning to predict the outcome of a program. • Explain that programming projects can have code and artwork. • Modify and create programs, including writing an algorithm and making design choices. • Create and debug a program that I have written. 	<p>Photography</p> <ul style="list-style-type: none"> • Use a digital device to take a photograph. • Make choices when taking a photograph. • Recognise that photos can be changed. • Use digital tools to change an image. <p>Music & Audio</p> <ul style="list-style-type: none"> • Identify that there are patterns in music. • Create music using digital technologies. • Review and refine musical compositions. <p>Data</p> <ul style="list-style-type: none"> • Enter data into a computer program. • Ascribe different properties to objects. • Group objects in more than one way. • Use a computer to visualise data as a pictogram. • Select objects by attribute and make comparisons. • Decide how to group objects to answer a question. 	<ul style="list-style-type: none"> • Recognise the uses and features of information technology. • Identify information technology in school and beyond. • Explain how information technology helps us. 	<ul style="list-style-type: none"> • Explain how to use information technology safely. • Recognise that choices are made when using information technology. • Give simple examples of when data should and should not be shared.

KS2 Outcomes	<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. 	<ul style="list-style-type: none"> - 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. 	<ul style="list-style-type: none"> - 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. 	<ul style="list-style-type: none"> - Use technology safely, respectfully and responsibly - Recognise acceptable/unacceptable behaviour - Identify a range of ways to report concerns about content and contact.
Year 3	<ul style="list-style-type: none"> • Identify that a sequence of commands has a start and outcome. • Identify that different sequences can have the same outcome. • Identify the need to work consistently and carefully • Predict the outcome of given code. • Modify existing programming to produce a given outcome. • Add new features to existing code. 	<p>Art & Images</p> <ul style="list-style-type: none"> • Relate animated movement with a sequence of images. • Use a range of tools to create a sequence of images. • Plan, create, review and evaluate a digital animation. <p>Written Information</p> <ul style="list-style-type: none"> • Recognise that text and layout can be edited. • Choose appropriate page settings. • Add content to a desktop publishing publication. • Consider how different layouts can suit different purposes. • Consider the benefits of desktop publishing. <p>Photography</p>	<ul style="list-style-type: none"> • Identify input and output devices. • Explore how digital devices can be connected. • Recognise the physical components of a network. • Describe how networks physically connect to other networks. • Describe the internet as a network of networks. • Describe how content can accessed on the World Wide Web. 	<ul style="list-style-type: none"> • Understand that there are rules which protect content (copyright). • Know that content on the internet is created by a range of people with different beliefs and motives. • Know that content on the internet may not be honest, accurate or legal. • Recognise that images can be modified, and begin to explain the effect that this can have. <p>Relevant Skills from RSHE SCARF Curriculum:</p> <ul style="list-style-type: none"> • To recognise potential risks associated with browsing online. • To recognise and describe appropriate behaviour online as well as offline.
By the end of year 4	<ul style="list-style-type: none"> • Decompose a task into small steps. • Identify that accuracy in programming is important. • Identify and fix bugs in given code. • Design and create my own program to achieve a given outcome. • Iteratively add new features to my code. <ul style="list-style-type: none"> • Explain the relationship between and event and an action. • Explain what 'repeat' means • Know the definition of and difference between infinite loops and count controlled loops • Create programs using one or more loops and event/action combinations. 	<ul style="list-style-type: none"> • Explain that digital images can be changed. • Change the composition of an image. • Describe how images can be changed for different purposes. • Recognise that not all images are real. <p>Music & Audio</p> <ul style="list-style-type: none"> • Identify that sound can be digitally recorded. • Use a digital device to record sound. • Explain that a digital recording is stored as a file. • Explain that audio can be changed through editing. • Show that different types of audio can be combined and played together. <p>Data & Data Logging</p> <ul style="list-style-type: none"> • Collect, store and input relevant data. • Explain why it is helpful for a database to be well structured. • Create a branching database and use it to identify objects. • Compare the information shown in a pictogram with a branching database. • Use a digital device to collect data automatically. • Use data collected over a long duration to answer questions. 	<ul style="list-style-type: none"> • Identify the inputs, processes and outputs of digital devices. • Explain how a computer network can be used to share information. • Know how the physical components of a network are linked. • Recognise how networked devices connect to their network. • Demonstrate how information is shared across the internet. • Understand where content is stored on the internet. 	<ul style="list-style-type: none"> • Suggest and discuss who owns the content on websites. • Understand the need to think carefully before sharing content on the internet. • Explain why content on the internet may not be honest, accurate or legal. • Consider why a person may want to alter an image. • Evaluate the positive and negative effects of modifying an image. <p>Relevant Skills from RSHE SCARF Curriculum:</p> <ul style="list-style-type: none"> • To know and explain strategies for safe online sharing. • To understand and explain the implications of sharing images online without consent.

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Year 5	<ul style="list-style-type: none"> • Control a simple circuit connected to a computer. • Write a program that includes count-controlled loops. • Explain that a loop can stop when a condition is met. • Explain that a loop can be used to repeatedly check whether a condition has been met. 	<p>Art & Images</p> <ul style="list-style-type: none"> • Identify that drawing tools can be used to produce different outcomes. • Create a vector drawing by combining shapes. • Use digital tools to achieve a desired effect. • Recognise that vector drawings consist of layers. • Group objects to make them easier to work with. <ul style="list-style-type: none"> • Use a computer to create and manipulate three-dimensional (3D) digital objects. • Compare working digitally with 2D and 3D graphics. • Construct a digital 3D model of a physical object. • Identify that physical objects can be broken down into a collection of 3D shapes. • Design a digital model by combining 3D objects. 	<p>Networks and the Internet</p> <ul style="list-style-type: none"> • Explain that computers can be connected together to form systems. • Recognise how information is transferred over the internet. • Explain how sharing information online lets people in different places work together. • Contribute to a shared project online. • Evaluate different ways of working together online. <p>Search Technologies</p> <ul style="list-style-type: none"> • Identify how to use a search engine. • Describe how search engines select results. • Explain how search results are ranked. • Recognise why the order of results is important, and to whom. 	<ul style="list-style-type: none"> • To consider the impact of the choices made when making and sharing a video • To consider the ownership and use of images (copyright) • To recognise the implications of linking to content owned by other people <p>Relevant Skills from RSHE SCARF Curriculum:</p> <ul style="list-style-type: none"> • To recognise the features of face to face and online bullying and the strategies that deal with it.
By the end of KS2	<ul style="list-style-type: none"> • To create a program that controls a physical computing project. • Understand that a conditional statement connects a condition to an outcome. • Explain how selection controls and directs the flow of a program. • Design, create and evaluate a program which uses selection. <ul style="list-style-type: none"> • Define a 'variable' as something that is changeable. • Explain why a variable is used in a program. • Update a variable with a user input. • Use a conditional statement to compare a variable to a value. 	<p>Written Information - Websites</p> <ul style="list-style-type: none"> • Review an existing website and consider its structure. Recognise the need to preview pages • Outline the need for a navigation path <p>Photography – Video</p> <ul style="list-style-type: none"> • Identify digital devices that can record video. • Capture video using a range of techniques. • Improve video by reshooting and editing. <p>Data & Data Logging</p> <ul style="list-style-type: none"> • Use a form to record information. • Compare paper and computer-based databases. • Explain that tools can be used to select specific data. • Explain that computer programs can be used to compare data visually. Explain that formulas can be used to produce calculated data. • Apply formulas to data, including duplicating. • Apply my knowledge of a database to ask and answer real-world questions. • Choose suitable ways to present data. 		<p>Relevant Skills from RSHE SCARF Curriculum:</p> <ul style="list-style-type: none"> • To explore the risks and legality of communicating and sharing online. • To describe and explain how easily images can be spread online. • To identify the risks of sharing images online and understand how online influences can cause people to take unsafe risks.

Notes:

Internet safety objectives have strong links to our RSHE curriculum. Relevant skills from the RSHE progression document have been combined here with strands from the Computing curriculum.

As the national curriculum is defined by key stage, and due to our mixed-age teaching environment, some skill areas are developed across a two-year cycle.