



Kingsholm C of E Primary School and Nursery – Computing Progression Ladder



	Nursery	Reception	End Goals	Year 1	Year 2	End Goals	Year 3	Year 4	End Goals	Year 5	Year 6	End Goals
Online Safety	See Digital Futures To identify rules that help keep us safe when using technology	See Digital Futures To identify rules that help keep us safe when using technology		See Digital Futures To explain what and why we have the smart rules. To understand how to stay safe online. To know who to tell if you see something you don't like online.	See Digital Futures To explain what and why we have the smart rules. To understand what information not to put on the internet. To identify which websites are suitable for our age. To explain what a digital footprint is.	To identify where to go for help and support. To recognise common uses for technology beyond school.	See Digital Futures To explain what and why we have the smart rules. To understand how to create and use a secure password. To explain what to do if I feel uncomfortable when communicating online.	See Digital Futures To explain what and why we have the smart rules. To act responsibly online. To explain what cyber bullying is.	To know some ways to report concerns To understand the opportunities networks offer for communication.	See Digital Futures To explain what and why we have the smart rules. To describe the dangers with SPAM mail and how to deal with it. To understand why we use secure passwords for online accounts. To understand that information online leaves a digital footprint. To understand the difference between real and fake news.	See Digital Futures To explain what and why we have the smart rules. To understand age restrictions and why they are used. To understand how to keep information private. To identify real and fake news and understand why it is used in social media.	Know a range of ways to report concerns and inappropriate behaviour, content and contact. To understand the opportunities networks offer for collaboration.
Vocabulary		SMART Online Search engine Smartie the penguin Computer Stranger Online safety Appropriate language		SMART Online Search engine Smartie the penguin Computer Stranger Online safety Appropriate language	Digital footprint Social media		Passwords			SPAM Fake news	Age restrictions Private	
Creating Media		Can create content such as a video recording, stories, and/or draw a picture on screen Develops digital literacy skills by being able to access, understand and interact with a range of technologies		To describe what different freehand tools do To use the shape tool and the line tools To make careful choices when painting a digital picture To explain why I chose the tools I used To use a computer on my own to paint a picture To use a computer on my own to paint a picture	To use a digital device to take a photograph To make choices when taking a photograph To describe what makes a good photograph To decide how photographs can be improved To use tools to change an image To recognise that photos can be changed	To understand that media and art can be manipulated by technology.	To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To plan an animation To identify the need to work consistently and carefully To review and improve an animation To evaluate the impact of adding other media to an animation	N/A	To understand that images can be sequenced to create videos and movies	To identify that drawing tools can be used to produce different outcomes To create a vector drawing by combining shapes To use tools to achieve a desired effect To recognise that vector drawings consist of layers To recognise that vector drawings consist of layers To evaluate my vector drawing	To review an existing website and consider its structure To plan the features of a web page To consider the ownership and use of images (copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people	To understand that different inputs create different outputs. To understand that media can be interactive – particularly online.



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							To recognise how text and images convey information To recognise that text and layout can be edited To choose appropriate page settings To add content to a desktop publishing publication To consider how different layouts can suit different purposes To consider the benefits of desktop publishing					
Vocabulary				Freehand Screen Explain Digital Appropriate Recreate	Capture Digital Devices Portrait Landscape Format Light-sources Identify Recognise		Animation Sequence Flip-book Stop-frame Storyboard Frame Onion-skinning Font Layout Purpose Placeholders Desktop Publishing Orientation Publication			Vector Resize Rotate Duplicate Object	HTML Webpage Media Copyright Copyright-free Navigation Hyperlinks Content Implication	
Programming	Anticipates repeated sounds, sights and actions, e.g. when an adult demonstrates an action toy several times Shows interest in toys with buttons, flaps and simple mechanisms and begins to learn to operate them Seeks to acquire basic skills in turning on and operating some digital equipment Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls	Knows how to operate simple equipment, e.g. turns on CD player, uses a remote control, can navigate touch-capable technology with support Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound,		To explain what a given command will do To act out a given word To combine forwards and backwards commands to make a sequence To combine four direction commands to make sequences To plan a simple program To find more	To explain that a sequence of commands has a start To explain that a sequence of commands has an outcome To create a program using a given design To change a given design To create a program using my own design To decide how my project can be improved	To understand that simple commands can have a simple output. To gain a basic knowledge of the key vocabulary within programming.	To explore a new programming environment To identify that commands have an outcome To explain that a program has a start To recognise that a sequence of commands can have an order To change the appearance of my project To create a project from a task description	To identify that accuracy in programming is important To create a program in a text-based language To explain what 'repeat' means To modify a count-controlled loop to produce a given outcome To decompose a task into small steps To create a program that uses count-controlled loops to produce a given outcome	To develop a greater knowledge of grouping commands to create algorithms. To develop sequences of small steps to develop understanding of programming.	To explain how selection is used in computer programs To relate that a conditional statement connects a condition to an outcome To explain how selection directs the flow of a program To design a program which uses selection To create a program which uses selection To evaluate my program	To define a 'variable' as something that is changeable To explain why a variable is used in a program To choose how to improve a game by using variables To design a project that builds on a given example To use my design to create a project To evaluate my project	To understand that there are a variety of variables that can impact a program. To successfully debug and fix a program.



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	back on a friction car	movements of new images Completes a simple program on electronic devices Uses ICT hardware to interact with age appropriate computer software										
Vocabulary				Command Outcome Predict Device Run Sequence Compare Program Solution Debug	Program Sequence Command Outcome Blocks Sprite Algorithm Features Debug		Scratch Sprite Program Commands Blocks Outcome Code Implement Identify Algorithm	Code Snippet Command Program Algorithm Text-based Template Repetition Patterns Count-controlled Value Chunks Procedure Debug		Condition Modify Outcome Infinite Loop Flow Branch Input Setup Code	Data Spread-sheet Format Cell Formula Construct Graph Table Duplicate Output Input	
Data and Information				N/A	To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes To explain that we can present information using a computer	To understand basic data collection and how we can store information using technology.	N/A	To explain that data gathered over time can be used to answer questions To use a digital device to collect data automatically To explain that a data logger collects 'data points' from sensors over time To use data collected over a long duration to find information To identify the data needed to answer questions To use collected data to answer questions	To understand how to input data and store it using technology. To understand what data shows and how to understand key points.	N/A	To identify questions which can be answered using data To explain that objects can be described using data To explain that formulas can be used to produce calculated data To apply formulas to data, including duplicating To create a spreadsheet to plan an event To choose suitable ways to present data	To understand that data can answer questions and can be used to help various jobs. To understand how data can be presented differently.
Vocabulary				N/A	Totals Tally-chart Record Represent Data Pictogram Attribute More than/less than Conclusion		N/A	Data Gathered Sensors Input Device Intervals Collect Capture Program Data-logger Interpret		N/A	Variable Program Placeholder Value Extend Share	
Computing Systems and networks –		Knows that information can be retrieved from digital devices and the internet		To identify technology To identify a computer and its main parts	N/A	To understand the basic systems of a computer and name other examples of technology.	N/A	To describe how networks physically connect to other networks	To understand the opportunities networks offer for communication.	To explain that computers can be connected together to form systems	N/A	To understand the opportunities networks offer for collaboration.



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Technology around us		Can use the internet with adult supervision to find and retrieve information of interest to them		To use a mouse in different ways To use a keyboard to type on a computer To use the keyboard to edit text To create rules for using technology responsibly				To recognise how networked devices make up the internet To outline how websites can be shared via the World Wide Web (WWW) To describe how content can be added and accessed on the World Wide Web (WWW) To recognise how the content of the WWW is created by people To evaluate the consequences of unreliable content	To understand the role computers play in the modern world.	To recognise the role of computer systems in our lives To recognise how information is transferred over the internet To explain how sharing information online lets people in different places work together To contribute to a shared project online To evaluate different ways of working together online		To understand the importance of safe use of technology.
Vocabulary				Technology Log-on Click Drag Mouse Program Create Open Keyboard Cursor Edit Text	N/A		N/A	Shared Network Internet World-wide web Content Reshare Online Accessed Unreliable		Program Evaluate Refine Algorithm System Input Output Elements Transferred Network Collaboration	N/A	