Stockton on the Forest Primary School

Skills and Knowledge Progression Ladder: Computing. Children can…

	Computing systems and networks	Creating Media	Data and Information	Programming A	Programming B
Reception	To explore technology □ to identify a mouse, to identify a keyboard □ to use a mouse, to use a keyboard	□ To draw pictures using technology □ To use the Ipad to take photos	□ Sort and count objects in different ways □ Answer questions about the way objects have been grouped and sorted	□ Explore Beebots; use beebots in guided play □ To follow simple instructions to achieve a specific goal	□ To sequence the steps to achieve a specific goal □ To enter instructions into a BeeBot and observe the outcome □ To predict what might happen when buttons on a BeeBot are pressed
Year 1	To identify technology, to identify a computer and its main parts, to use a mouse in different ways, to use a keyboard to type, to use a keyboard to edit text, to create rules for using technology safely	□ To use shape tools and 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 create a digital picture, to compare a picture on paper with one on a computer □ To use a computer to write, to add and remove text on a compute, to identify that the look of text can be changed, to make careful choices when changing text, to explain why I used the tools that I chose to compare writing on a computer with writing on paper	□ To label objects, to identiy that objects can be counted, to describe objects in different ways, to count objects with the same properties, to compare groups of objects, to answer questions about groups of objects	□ To explain what a given command will do, to act out a given word, to combine fwds & bwds commands to make a sequence, to combine 4 direct commands to make a sequence, to plan a simple program, to find more than one solution to a problem	□ To choose a command for a given purpose, to show that a series of commands can be joined together, to identify the effect of changing a value, to explain that each sprite has its own instruction, to design the parts of a project, to use my algorithm to create a program
Year 2	To recognise the use and features of information technology, to identify information technology in the home, to identify information technology beyond school, to explain how information technology benefits us, to show how to use IT safely, to recognise choice are made when using information technology	□ To know what devices can be used to take photos, to use a digital device to take a photo, to decide what makes a good photo, to decide how a photo can be improved, to use tools to change an image, to recognise that images can be changed □ To say how music can make us feel, to identify that there are patterns in music, to identify how music can be used in different ways, to show how music is made from a series of notes, to create music for a purpose, to review and refine our work	□ 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 to recognise that people can be described as attributes, to explain that we can present information using a computer	□ To describe a series of instructions as a sequence, to explain what happens when we change the order of instructions, to use logical reasoning to predict the outcome of a program (series of commands), to explain that programming projects can have code and artwork, to design an algorithm, to create and debug a program that I have written	□ 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
Year 3	To explain how digital devices function, to identify input and output devices, to recognise how digital devices can change the way we work, to explain how a physical network can be used to share work, to recognise the physical components of a network	□ 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 am animation, to evaluate the impact of adding other media to an animation □ To recognise that text and layout can be edited, to chose appropriate page settings, to add content to a DTP publication, to consider how different layouts can suit different purposes, to consider the benefits of DTP	□ To create questions with a yes/no answer, to identify the object attributes needed to collect relevant date, to create a branching database, to identify objects using a branching database, to explain why it is helpful for a database to be structures, to compare the information shown in a pictogram with a branching database	□ To explore a new programming environment, to identify that each sprite is controlled by the commands I choose, 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 explain how a sprite moves in an existing project, to create program to move a sprite in 4 directions, to adapt a program to a new context, to develop my program by adding features, to identify and fix bugs in a program, to design and create a maze based challenge
Year 4	To explain how networks physically connect to each other, to explain how networked devices make up the internet, to outline how websites can be shared via the WWW, to describe how content can be added and accessed on the WWW, to describe how content of the WWW is created by people, to evaluate the consequences of unreliable content	□ To identify that sound can be digitally recorded, to use a digital device to record sound, to explain that a digital recording is stored as a file, to explain that audio can be change through editing, to show that different types of audio can be combined and played together, to evaluate editing choices made □ To explain that digital images can be changed, to change the composition of an image, to describe how images can be changed for different uses, to make good choices when selecting different tools, to recognise that not all images are real, to evaluate how changes can improve an image	□ 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 need to answer questions, to use data collected to answer question	□ To identify that accuracy in programming is important, to create 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 program into parts, to create a program that use count controlled loops	□ To develop the use of count controlled loops in a programming environment, to explain that in programming there are infinite and count controlled loops, to develop a design which includes two or more loops which run at the same time, to modify an infinite loop in a given program, to design a project that includes repetition, to create a project that includes repetition
Year 5	To explain that computers can be connected together to form systems, 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 collaborating online	□ To recognise video as moving pictures, which can include audio, to identify digital devices can record video, to capture video using a digital device, to recognise the features of an effective video, to identify that video can be improved through reshooting and editing, to consider the impact made when making and sharing a video □ 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 group objects to make them easier to work with, to evaluate my vector drawing	□ To use a form to record information, to compare paper and computer based databases, to outline how grouping and then sorting data allows us to answer questions, to explain that tools can be used to select specific data, to explain that computer programs can be used to compare data visually	□ To control a simple circuit connected to a computer, to write a program that includes count controlled loops, to explain that a loop can stop when a condition is met eg number of times, to conclude that a loop can be used to repeatedly check whether a condition has been met, to design a physical project that includes selection, to create a controllable system that includes selection	□ 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

Year 6	To identify how to use a search engine, to describe how search engines select results, to explain how search engines are ranked, to recognise why the order of results is important, to recognise how we communicate using technology, to evaluate different methods of online communication	□ To use a computer to create ad manipulate 3D digital objects, to compare working digitally with 2D and 3D graphics, to construct a 3D model of a physical object, to identify that physical objects can be broken down into a collection of 3D shapes, to design a digital model by combining 3D objects, to develop and improve a digital 3D model □ To review an existing website an 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 link to content owned by other people	□ To identify questions which can be answered using date, to explain that objects can be described using data, to explain that formula can be used to produce calculated data, to apply formulas to data, including duplicating, to create spreadsheet to plan an event, to choose suitable ways to present data	□ To define a 'variable' as something that is changeable, to explain, why a variable is used in a program, to chose how to improve a game by using variables, to design a game by using variables, to design a project that builds on a given examples, to use my design to create a project, to evaluate my project	□ To create a program to run on a controllable device, to explain that selection can control the flow of a program, to update a variable with a user input, to use a conditional statement to compare a variable to a value, to design a project that uses input and outputs on a controllable device, to develop a program to use inputs and outputs on a controllable device

Computing Assessments and Objectives Learnt Tracker Key

Assessments are completed and then updated at the end of units of learning during the three assessment weeks throughout the year. There is one row for each year group (not one for each term – this is a live document that is updated).

Objectives highlighted in the Rainbow Continuum constitute what the children working 'at' have learnt.

Computing Assessments and Objectives learnt tracker			
Year Group	**Children working 'below'**	**Children working 'at'**	**Children working 'above'**
Year 1			
	Areas to improve on:	**To move to 'above'**	**How are they demonstrating working above?** **What further challenge do they need?**
Year 2			
	Areas to improve on:	**To move to 'above'**	**How are they demonstrating working above?** **What further challenges do they need?**
Year 3			
	Areas to improve on:	**To move to 'above'**	**How are they demonstrating working above?** **What further challenges do they need?**
Year 4			
	Areas to improve on:	**To move to 'above'**	**How are they demonstrating working above?** **What further challenges do they need?**
Year 5			
	Areas to improve on:	**To move to 'above'**	**How are they demonstrating working above?** **What further challenges do they need?**
Year 6			
	Areas to improve on:	**To move to 'above'**	**How are they demonstrating working above?** **What further challenges do they need?**