



Computing Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery						
Reception						
Year 1	<p>Computing systems and networks – Technology around us Identify Technology</p> <ul style="list-style-type: none"> explain technology as something that helps us locate examples of technology in the classroom explain how these technology examples help us <p>Identify a computer and its main parts</p> <ul style="list-style-type: none"> name the main parts of a computer switch on and log into a computer use a mouse to click and drag <p>Use a mouse in different ways</p> <ul style="list-style-type: none"> use a mouse to open a program click and drag to make objects on a screen use a mouse to create a picture <p>Use a keyboard to type on a computer</p> <ul style="list-style-type: none"> say what a keyboard is for type name on a computer save work to a file <p>Use the keyboard to edit text</p> <ul style="list-style-type: none"> open work from a file use the arrow keys to move the cursor delete letters <p>Create rules for using technology responsibly</p> <ul style="list-style-type: none"> identify rules to keep us safe and healthy when we are using technology in and beyond the home give examples of some of these rules discuss how we benefit from these rules 	<p>Creating Media – Digital Painting Describe what freehand tools do</p> <ul style="list-style-type: none"> make marks on screen and explain which tools to use draw lines on a screen and explain which tools to use use the paint tools to draw a picture <p>Use the shape tool and the line tools</p> <ul style="list-style-type: none"> make marks with the square and line tools use the shape and line tools effectively use the shape and line tools to recreate the work of an artist <p>Make careful choices when painting a digital picture</p> <ul style="list-style-type: none"> choose appropriate shapes make appropriate colour choices create a picture in the style of an artist <p>Explain why the tools used are chosen</p> <ul style="list-style-type: none"> explain that different paint tools do different jobs choose appropriate paint tools and colours to recreate the work of an artist say which tools were helpful and why <p>Use a computer on my own to paint a picture</p> <ul style="list-style-type: none"> make dots of colour on the page change the colour and brush sizes use dots of colour to create a picture in the style of an artist on my own <p>Compare painting a picture on a computer and on paper</p> <ul style="list-style-type: none"> explain that pictures can be made in lots of different ways 	<p>Programming A – Moving a robot Explain what a given command will do</p> <ul style="list-style-type: none"> predict the outcome of a command on a device match a command to an outcome run a command on a device <p>Act out a given word</p> <ul style="list-style-type: none"> follow an instruction recall words that can be acted out give directions <p>Combine ‘forwards’ and ‘backwards’ commands to make a sequence</p> <ul style="list-style-type: none"> compare forward and backward movements start a sequence from the same place predict the outcome of a sequence involving ‘forwards’ and ‘backwards’ commands <p>Combine four direction commands to make sequences</p> <ul style="list-style-type: none"> compare left and right turns experiment with ‘turn’ and ‘move’ commands to move a robot predict the outcome of a sequence involving up to four commands <p>Plan a simple program</p> <ul style="list-style-type: none"> explain what my program should do choose the order of commands in a sequence debug my program <p>Find more than one solution to a problem</p> <ul style="list-style-type: none"> identify several possible solutions plan two programs <p>use two different programs to get to the same place</p>	<p>Data and Information – Grouping data Label objects</p> <ul style="list-style-type: none"> describe objects using labels match objects to groups identify the label for a group of objects <p>Identify that objects can be counted</p> <ul style="list-style-type: none"> count objects group objects count a group of objects <p>Describe objects in different ways</p> <ul style="list-style-type: none"> describe an object describe a property of an object find objects with similar properties <p>Count objects with the same properties</p> <ul style="list-style-type: none"> group similar objects group objects in more than one way count how many objects share a property <p>Compare groups of objects</p> <ul style="list-style-type: none"> choose how to group objects describe groups of objects record how many objects are in a group <p>Answer questions about groups of objects</p> <ul style="list-style-type: none"> decide how to group objects to answer a question compare groups of objects record and share what is found 	<p>Creating Media – Digital Writing Use a computer to write</p> <ul style="list-style-type: none"> open a word processor recognise keys on a keyboard identify and find keys on a keyboard <p>Add and remove text on a computer</p> <ul style="list-style-type: none"> enter text into a computer use letter, number, and space keys use backspace to remove text <p>Identify that the look of text can be changed on a computer</p> <ul style="list-style-type: none"> type capital letters explain what previously taught keys do identify the toolbar and use bold, italic, and underline <p>Make careful choices when changing text</p> <ul style="list-style-type: none"> select a word by double-clicking select all of the text by clicking and dragging change the font <p>Explain why the tools used are chosen</p> <ul style="list-style-type: none"> say what tools are used to change the text decide if my changes have improved my writing use ‘Undo’ to remove changes <p>Compare typing on a computer to writing on paper</p> <ul style="list-style-type: none"> make changes to text on a computer explain the differences between typing and writing say which is preferred, typing or writing 	<p>Programming B – Programming Animations Choose a command for a given purpose</p> <ul style="list-style-type: none"> find the commands to move a sprite use commands to move a sprite compare different programming tools <p>Show that a series of commands can be joined together</p> <ul style="list-style-type: none"> use more than one block by joining them together use a Start block in a program run my program <p>Identify the effect of changing a value</p> <ul style="list-style-type: none"> find blocks that have numbers change the value say what happens when a value is changed <p>Explain that each sprite has its own instructions</p> <ul style="list-style-type: none"> show that a project can include more than one sprite delete a sprite add blocks to each of my sprites <p>Design the parts of a project</p> <ul style="list-style-type: none"> choose appropriate artwork for my project decide how each sprite will move create an algorithm for each sprite <p>Use my algorithm to create a program</p> <ul style="list-style-type: none"> use sprites that match my design add programming blocks based on my algorithm <p>test the programs I have created</p>

		<ul style="list-style-type: none"> spot the differences between painting on a computer and on paper say whether I prefer painting using a computer or using paper 				
Year 2	<p>Computing Systems and Networks – IT around us Recognise the uses and features of information technology</p> <ul style="list-style-type: none"> identify examples of computers describe some uses of computers identify that a computer is a part of IT <p>Identify the uses of information technology in the school</p> <ul style="list-style-type: none"> identify examples of IT sort school IT by what it's used for identify that some IT can be used in more than one way <p>Identify information technology beyond school</p> <ul style="list-style-type: none"> find examples of information technology sort IT by where it is found talk about uses of information technology <p>Explain how information technology helps us</p> <ul style="list-style-type: none"> recognise common types of technology demonstrate how IT devices work together say why we use IT <p>Explain how to use information technology safely</p> <ul style="list-style-type: none"> list different uses of information technology talk about different rules for using IT say how rules can help keep me safe <p>Recognise that choices are made when using information technology</p> <ul style="list-style-type: none"> identify the choices that I make when using IT use IT for different types of activities explain the need to use IT in different ways 	<p>Creating Media – Digital photography Use a digital device to take a photograph</p> <ul style="list-style-type: none"> recognise what devices can be used to take photographs talk about how to take a photograph explain what I did to capture a digital photo <p>Make choices when taking a photograph</p> <ul style="list-style-type: none"> explain the process of taking a good photograph take photos in both landscape and portrait format explain why a photo looks better in portrait or landscape format <p>Describe what makes a good photograph</p> <ul style="list-style-type: none"> identify what is wrong with a photograph discuss how to take a good photograph improve a photograph by retaking it <p>Decide how photographs can be improved</p> <ul style="list-style-type: none"> explore the effect that light has on a photo experiment with different light sources explain why a picture may be unclear <p>Use tools to change an image</p> <ul style="list-style-type: none"> recognise that images can be changed use a tool to achieve a desired effect explain choices <p>Recognise that photos can be changed</p> <ul style="list-style-type: none"> apply a range of photography skills to capture a photo recognise which photos have been changed 	<p>Programming A – Robot algorithms Describe a series of instructions as a sequence</p> <ul style="list-style-type: none"> follow instructions given by someone else choose a series of words that can be acted out as a sequence give clear instructions <p>Explain what happens when we change the order of instructions</p> <ul style="list-style-type: none"> use the same instructions to create different algorithms use an algorithm to program a sequence on a floor robot show the difference in outcomes between two sequences that consist of the same instructions <p>Use logical reasoning to predict the outcome of a program</p> <ul style="list-style-type: none"> follow a sequence predict the outcome of a sequence compare my prediction to the program outcome <p>Explain that programming projects can have code and artwork</p> <ul style="list-style-type: none"> explain the choices that made for a mat design identify different routes around my mat test the mat to make sure that it is usable <p>Design an algorithm</p> <ul style="list-style-type: none"> explain what algorithm should achieve create an algorithm to meet a goal use algorithm to create a program <p>Create and debug a written program</p> <ul style="list-style-type: none"> test and debug each part of the program plan algorithms for different parts of a task put together the different parts of program 	<p>Data and information – Pictograms Recognise that we can count and compare objects using tally charts</p> <ul style="list-style-type: none"> record data in a tally chart represent a tally count as a total compare totals in a tally chart <p>Recognise that objects can be represented as pictures</p> <ul style="list-style-type: none"> enter data onto a computer use a computer to view data in a different format use pictograms to answer simple questions about objects <p>Create a pictogram</p> <ul style="list-style-type: none"> organise data in a tally chart use a tally chart to create a pictogram explain what the pictogram shows <p>Select objects by attribute and make comparisons</p> <ul style="list-style-type: none"> tally objects using a common attribute create a pictogram to arrange objects by an attribute answer 'more than'/'less than' and 'most/least' questions about an attribute <p>Recognise that people can be described by attributes</p> <ul style="list-style-type: none"> choose a suitable attribute to compare people collect the data needed create a pictogram and draw conclusions from it <p>Explain that we can present information using a computer</p> <ul style="list-style-type: none"> use a computer program to present information in different ways share findings using a computer give simple examples of why information should not be shared 	<p>Creating Media – Digital Music Say how music can make us feel</p> <ul style="list-style-type: none"> identify simple differences in pieces of music describe music using adjectives say likes and dislikes about a piece of music <p>Identify that there are patterns in music</p> <ul style="list-style-type: none"> create a rhythm pattern play an instrument following a rhythm pattern explain that music is created and played by humans <p>Experiment with sound using a computer</p> <ul style="list-style-type: none"> connect images with sounds use a computer to experiment with pitch relate an idea to a piece of music <p>Use a computer to create a musical pattern</p> <ul style="list-style-type: none"> identify that music is a sequence of notes explain how my music can be played in different ways refine musical pattern on a computer <p>Create music for a purpose</p> <ul style="list-style-type: none"> create a rhythm which represents an animal I've chosen create an animal's rhythm on a computer add a sequence of notes to rhythm <p>Review and refine our computer work</p> <ul style="list-style-type: none"> review work explain how work was changed listen to music and describe how it makes me feel 	<p>Programming B – Programming Quizzes Explain that a sequence of commands has a start</p> <ul style="list-style-type: none"> identify the start of a sequence identify that a program needs to be started show how to run program <p>Explain that a sequence of commands has an outcome</p> <ul style="list-style-type: none"> predict the outcome of a sequence of commands match two sequences with the same outcome change the outcome of a sequence of commands <p>Create a program using a given design</p> <ul style="list-style-type: none"> work out the actions of a sprite in an algorithm decide which blocks to use to meet the design build the sequences of blocks needed <p>Change a given design</p> <ul style="list-style-type: none"> choose backgrounds for the design choose characters for the design create a program based on the new design <p>Create a program using own design</p> <ul style="list-style-type: none"> choose the images for own design create an algorithm build sequences of blocks to match own design <p>Decide how own project can be improved</p> <ul style="list-style-type: none"> compare own project to own design improve own project by adding features debug own program

- identify which photos are real and which have been changed

SEATON ACADEMY