St Paul's C of E Academy
Computing Skills - Reception

National Curriculum Statement	Expected Skills for the end of the unit
Recognise common uses of information technology beyond school	• Identify technology • Explain technology as something that helps us • Identify a computer and its main parts (screen, track pad, keyboard) • Use a track pad in different ways • Use a keyboard to type on a computer • Save my work • Identify an iPad as a type of computer
Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. Skills Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs	• I can identify algorithms used in everyday life • I can sequence instructions • I can recognise a string or instructions can create a simple program • I can record a program used using symbols • I can describe what I think a program will do
Use technology purposefully to create, organise, store, manipulate and retrieve digital content	• I can use the paint tool. • I can change colour and brush styles. • I can make careful choices when painting a digital painting. • I can take photos using a tablet

St Paul's C of E Academy
Computing Skills – Year One

National Curriculum Statement	Expected Skills for the end of the unit
Use technology purposefully to create, organise, store, manipulate and retrieve digital content	• Use a digital device to take a photograph • Take photos landscape and portrait • Explore the effect of light on a photo • Recognise that images can be altered • Use tools to change an image
Recognise common uses of information technology beyond school	• Identify technology • Explain technology as something that helps us • Identify a computer and its main parts (screen, track pad, keyboard) • Use a track pad in different ways • Use a keyboard to type on a computer • Save my work • Identify an iPad as a type of computer
Use technology purposefully to create, organise, store, manipulate and retrieve digital content	• Label objects • Identify that objects can be counted • Describe properties • Count and group objects
Use technology purposefully to create, organise, store, manipulate and retrieve digital content	• I can type words with increasing confidence on a digital device. • I can use the space bar to make space and delete to delete letters/words •I can change the style, size and font of text. • I can make a new line using enter/return

St Paul's C of E Academy
Computing Skills – Year One

Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. Skills Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs	• I can follow an instruction • Recognise that the order of instructions in an algorithm is important • Combine four direction commands to make sequences • Control a floor robot • Debug my program • Plan a simple program • Predict the outcome of a command on a device • Predict the outcome of a sequence involving forwards and backwards commands • Predict the outcome of a sequence involving up to four commands
Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. Skills Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs	• Create algorithms for sprites • Plan a simple program • Use commands to move a sprite • Use a Start block in a program • Explain that each sprite has its own instructions • Add programming blocks based on my algorithm • Test the programs I have created • Explain what my program should do
Use technology purposefully to create, organise, store, manipulate and retrieve digital content	• I can use the freehand, shapes, fill and line tools. • I can change colour and brush styles. • I can make careful choices when painting a digital painting. • I can use a paint/drawing app to create a digital image

St Paul's C of E Academy
Computing Skills – Year Two

National Curriculum Statement	Expected Skills for the end of the unit
Use technology purposefully to create, organise, store, manipulate and retrieve digital content	• Use a digital device to take a photograph • Use a keyboard to create written content • Use a pencil tool to create drawings • Use a combination of different tools to create a book • Evaluate a book and make changes
Recognise common uses of information technology beyond school	• Recognise the uses and features of information technology • Identify that a computer is a part of IT • Identify the uses of information technology in the school • Talk about uses of information technology beyond school e.g. in a shop
Use technology purposefully to create, organise, store, manipulate and retrieve digital content	• Label objects • Recognise that objects can be represented as pictures • Create a pictogram • Select objects by attribute • Explain that we can present information using a computer
Use technology purposefully to create, organise, store, manipulate and retrieve digital content	• I can type words with increasing confidence on a digital device. • I can use the space bar to make space and delete to delete letters/words. •I can change the style, size and font of text. • I can make a new line using enter/return

St Paul's C of E Academy
Computing Skills – Year Two

Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. Skills Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs	• Recognise the importance of giving clear instructions • Use an algorithm to program a sequence on a floor robot • Plan algorithms for different parts of a task • Identify that a program needs to be started • Create an algorithm to meet my goal • Test and debug each part of the program • Predict the outcome of a sequence • Compare my prediction to the program outcome • Predict the outcome of a sequence of commands
Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. Skills Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs	• Create an algorithm to meet my goal • Test and debug each part of the program • Decide which blocks to use to meet the design • Build the sequences of blocks I need • Create a program based my own design • Compare my project to my design • Debug my program • Explain what my algorithm should achieve • Compare my prediction to the program outcome • Predict the outcome of a sequence of commands • Work out the actions of a sprite in an algorithm
Use technology purposefully to create, organise, store, manipulate and retrieve digital content	• Create rhythm patterns on a computer • Experiment with pitch and duration • Create a musical pattern using three notes • Create music for a purpose • Review and refine content

St Paul's C of E Academy
Computing Skills – Year Three

National Curriculum Statement	Expected Skills for the end of the unit
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	• Explain how digital devices function (input, output, process) • Identify input and output devices • Explain how a computer network can be used to share information • Recognise the physical components of a network (switch, sever, wireless access point)
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	• Identify object attributes needed to collect relevant data • Create a branching database • Identify objects using a branching database • Compare branching database structures and comment on their effectiveness • Compare information shown in a pictogram with a branching database Explain that data can be used to answer questions
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	• Successfully modify a program • Create a sequence of commands using a block language to produce a given outcome • Explain the order (sequence) of commands can effect the outcome (same commands, different order -> same or different outcome) Identify different sequences can achieve the same outcome

St Paul's C of E Academy
Computing Skills – Year Three

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	• Successfully modify a program • Create a sequence of commands using a block language to produce a given outcome • Use an event block to start a program • Debug errors to accomplish specific goals • Explain the order (sequence) of commands can effect the outcome (same commands, different order -> same or different outcome) • Identify different sequences can achieve the same outcome Work with others to decompose a problem into smaller steps in planning a project
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	• Identify the advantages and disadvantages of using text and images • Change font style, size and colour for a given purpose • Consider how different layouts can suit different purposes • Define the term 'page orientation' • Type with increased confidence and speed using age appropriate punctuation • Recognise a document can be formatted with placeholders • Identify the use of desktop publishing in the real world
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	• Understand how animation works • Plan an animation • Use onion skinning to create small changes between frames • Review and improve an animation Add and evaluate the impact of adding other media to an animation

St Paul's C of E Academy
Computing Skills – Year Four

National Curriculum Statement	Expected Skills for the end of the unit
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	• Describe how networks physically connect to other networks • Describe the internet as a network or networks • Describe how the world wide is part of the internet • Describe how content can be added and accessed on the World Wide Web • Recognise how the content of the WWW is created and shared by people • Use a standard search engine to find information
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	• Collect data using a digital device • Recognise that a sensor can be used as an input device for data collection • Use a larger data set to find information • Use a computer program to sort data by one attribute • Export information and present data in a table and a graph • Interpret data that has been collected and draw conclusions
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	• Debug errors in increasingly complex programs to accomplish specific goals • Evaluate the effectiveness of a program • Identify patterns (repetition) in a sequence • Understand repetition in programming is also called looping • Identify a loop in a program
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical	• Plan a program using a block language which includes repetition • Debug errors in increasingly complex programs to accomplish specific goals

St Paul's C of E Academy
Computing Skills – Year Four

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	• Evaluate the effectiveness of a program • Understand, identify and justify when to use 'infinite' or 'count - controlled' loops • Explain the importance in instruction order in a loop • Independently decompose a problem into smaller steps in planning a project
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	• Press/tap buttons to start and stop recordings • Recognise recorded audio is stored as a file • Edit and alter recorded audio • Layer sounds • Save/export an audio file • Consider the results of editing choices made
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	• Use a computer to (further) manipulate images • Change the composition of an image • Recognise images can be changed for different purposes • Describe positive and negative effects that retouching can have on an image • Use the most appropriate tool for a particular purpose

St Paul's C of E Academy
Computing Skills – Year Five

National Curriculum Statement	Expected Skills for the end of the unit
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	• Explain that computers can be connected together to form systems • Describe a computer system • Recognise the role of computer systems in our lives • Recognise how information is transferred over the internet using packets • 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
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	• Explain 'fields' and 'records' • Navigate a flat -file database • Apply knowledge of a database to ask and answer real -world questions • Design a structure for a flat -file database • Choose tools to select and analyse data to answer questions • Use 'AND' and 'OR' to refine data selection • Select an appropriate graph to visually compare data
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	• Plan a program which includes selection to produce a given outcome • Debug errors in increasingly complex programs to accomplish specific goals • Evaluate the effectiveness of a program and ways it could be improved • Define that conditional statements (selection) are used in computer programs • Program a microcontroller to control lights and a motor • Explain a loop can stop when a condition is met (number of times or event) • Use a condition in an if…then… statement to produce a given outcome • Plan a solution to a problem using decomposition

St Paul's C of E Academy
Computing Skills – Year Five

detect and correct errors in algorithms and programs	
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	• Plan a program which includes selection to produce a given outcome • Debug errors in increasingly complex programs to accomplish specific goals • Evaluate the effectiveness of a program and ways it could be improved • Define that conditional statements (selection) are used in computer programs • Explain a loop can stop when a condition is met (number of times or event) • Explain a that program flow can branch according to a condition • Use a condition in an if…then… statement to produce a given outcome • Plan a solution to a problem using decomposition
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	• Identify the features of a good video • Plan a video production using a story board • Use a computer to make a video • Make edits to a video to improve the outcome • Consider the impact of changes made on the quality of the video

St Paul's C of E Academy
Computing Skills – Year Six

National Curriculum Statement	Expected Skills for the end of the unit
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	• Describe different ways people communicate online • Choose a method of communication to suit a particular purpose Use of a range of search engines appropriate to finding information that is required • Understand that search engines rank pages based on the number and quality of inbound links
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	• Identify questions that can be answered using data • Create a spreadsheet for a purpose • Apply a formula that can be used to produce calculated data • Recognise data can be calculated using different operations • Evaluate results in comparison to the question asked • Choose suitable ways to presents data such as a graph
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	• Solve problems using decomposition, tackling each part separately • Define 'variable' as something that is changeable • Explain that a variable has a name and a value • Identify a variable in an existing program • Use a variable in a conditional statement to control the flow of a program • Plan a program which includes variable to produce a given outcome • Use a range of approaches to debug errors in increasingly complex programs to accomplish specific goals

St Paul's C of E Academy
Computing Skills – Year Six

detect and correct errors in algorithms and programs	
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	• Solve problems using decomposition, tackling each part separately • Define 'variable' as something that is changeable • Explain that a variable has a name and a value • Identify a variable in an existing program • Use a variable in a conditional statement to control the flow of a program • Program a microcontroller with selection and variables • Test programs on an emulator • Use a range of approaches to debug errors in increasingly complex programs to accomplish specific goals
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	• Recognise components of a webpage layout • Create a webpage including text, images, hyperlinks and embedded content • Understand the need for a navigation path