

Computing: progression document



Nursery	Reception	
Year 1	Year 2	Year 3
Knowledge and Skills	Knowledge and Skills	Knowledge and Skills
<p>Nursery</p> <ul style="list-style-type: none"> Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. Begin to describe a sequence of events, real or fictional, using words such as ‘first’, ‘then...’ <p>Year 1</p> <p>Vocabulary Instruction, algorithm, program, debug, click, drag, save, search, personal information, private, safety</p> <p>Knowledge/ Skills</p> <p>Algorithms and programming</p> <ul style="list-style-type: none"> Children can give a set of instructions orally Children can use symbols to represent actions (e.g. forward, backwards, left, right) Children can give instructions to make a programmable toy move <p>Information Technology</p> <ul style="list-style-type: none"> Children can decide how to group objects to answer a question Children can compare groups of objects <p>Digital Literacy</p> <ul style="list-style-type: none"> Children can click and drag with a mouse or trackpad. Children can launch an application by double clicking it Children can use art software to create images. <p>Online Safety</p> <ul style="list-style-type: none"> Children understand the meaning of personal information Children know to speak to an adult if they are unsure/upset about something they see online 	<p>Reception</p> <ul style="list-style-type: none"> understand that we need to be safe online understand that we should not buy things online before checking with a trusted adult discuss why we need to be open and honest with trusted adults explain that we should never arrange to meet someone we have met online <p>Year 2</p> <p>Vocabulary Algorithm, debug, tinker, precise, software, images, edit, content, pictogram</p> <p>Knowledge/ Skills</p> <p>Algorithms and programming</p> <ul style="list-style-type: none"> Children understand the need for precise instructions. Children know how to program a Beebot and debug errors in their algorithms. Children can make predictions using logical reasoning. <p>Information Technology</p> <ul style="list-style-type: none"> Children can enter data onto a computer Children can use a computer program to present information in different ways Children can use pictograms to answer simple questions <p>Digital Literacy</p> <ul style="list-style-type: none"> Children can use software to edit photographs. Children can use technology to create, store, manipulate, and retrieve digital music content Children can use search engines to locate specific information. <p>Online Safety</p> <ul style="list-style-type: none"> Children can identify uses of technology both inside and outside of school. Children know and understand the school online safety rules. Children can explain what to do if they are concerned about online content. 	<p>Year 3</p> <p>Vocabulary Algorithm, debug, Input, output, research, software, video, cut, paste, safety</p> <p>Knowledge/ Skills</p> <p>Algorithms and programming</p> <ul style="list-style-type: none"> Children know how to write an algorithm to control an online sprite. Children can match a piece of code to an outcome. Children understand the role of debugging and can modify an algorithm following a test <p>Information Technology</p> <ul style="list-style-type: none"> Children can collect information by designing questions and content. Children can create and use branching databases <p>Digital Literacy</p> <ul style="list-style-type: none"> Children can explain the difference between text and images Children can recognise that text and images can communicate messages clearly Children can identify use of desktop publishing in the real world. Children can use software to design and create a stop motion animation. Children know the difference between inputs (video cameras and microphones) and outputs (the video images and sound) <p>Online Safety</p> <ul style="list-style-type: none"> Children can explain and demonstrate how to use technology safely. Children know what to do when they encounter a problem online.

Year 4	Year 5	Year 6
Knowledge and Skills	Knowledge and Skills	Knowledge and Skills
<p>Vocabulary Algorithm, debug, tinkering, decomposition, variable, data, input, output</p> <p>Knowledge/ Skills</p> <p>Algorithms and programming</p> <ul style="list-style-type: none"> Children can explain the meaning of a variable within coding. Children can write algorithms to accomplish specific tasks. Children can use computational thinking to make predictions. Children can identify errors in their code and take steps to correct it. <p>Information Technology</p> <ul style="list-style-type: none"> Children can collect, analyse, evaluate and present data and information in a variety of forms. Children can collect data using a data logger and interpret the data that has been collected. <p>Digital Literacy</p> <ul style="list-style-type: none"> Children can select, use and combine a variety of software (including internet services) on a range of digital devices, including inputs and outputs. Children can combine text, images and audio. Children can develop key questions and use key words to search for specific information when carrying out research. <p>Online Safety</p> <ul style="list-style-type: none"> Children can identify ways to stay safe online. Children can explain why certain online behaviours are acceptable/unacceptable. 	<p>Vocabulary Algorithm, debug, tinker, decomposition, code, selection, cell, formula, sort, filter, function, data, vector drawing</p> <p>Knowledge/ Skills</p> <p>Algorithms and programming</p> <ul style="list-style-type: none"> Children can design, write, and debug programs that accomplish specific goals, including controlling or simulating physical systems – Crumble bots. Children can use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Children can use selection (an ‘if...then...’ statement) to direct the flow of a program <p>Information technology</p> <ul style="list-style-type: none"> Children can explain what a field and a record is in a database. Children can navigate a real-world flat-file database to answer questions. Children can explain how ‘AND’ and ‘OR’ can be used to refine data selection <p>Digital literacy</p> <ul style="list-style-type: none"> Children can identify that drawing tools can be used to produce different outcomes Children can create a vector drawing by combining shapes. Children can capture video using a range of techniques. Children understand how a green screen works Children can turn a storyboard into a video Children can combine video, sound effects and music <p>Online safety</p> <ul style="list-style-type: none"> Children can explain how to apply online safety rules to given scenarios. Children understand that not everything they see online is true. 	<p>Vocabulary algorithm, debug, decomposition, tinkering, computational thinking, procedure, field, record, flat-file database, hyperlink, navigation path</p> <p>Knowledge/ Skills</p> <p>Algorithms and programming</p> <ul style="list-style-type: none"> Children can design a solution by breaking the problem up. Children can create procedures to use within algorithms. Children can use logical reasoning to detect and debug errors in algorithms. Children can control an external device. Children recognise that different solutions can exist for the same problem. <p>Information Technology</p> <ul style="list-style-type: none"> Children can use Excel to build a spreadsheet. Children understand that a spreadsheet is presented in rows and columns and that individual boxes are called cells. Children understand that a formula is a calculation based on the contents of cells or a total of a combination of cells. Children understand that information can also easily be sorted and filtered by a spreadsheet. Children identify uses for spreadsheets in real life and understand how they can be useful tools. <p>Digital Literacy</p> <ul style="list-style-type: none"> Children can use a wide range of word processing skills. Children can combine text and images on a range of devices. Children can make multiple pages and link them using hyperlinks. Children can create and explain the importance of navigation paths. <p>Online Safety</p> <ul style="list-style-type: none"> Children can review their personal use of technology and online activity. Children develop understanding of T&C of social media apps. Children consider the pros and cons of social media use. Children recognise the impact of social media use on mental well-being. Children can identify how to minimise risks online.