

# Subject: Computing

Year Group	National Curriculum Objectives	Progression of Skills
<b>One</b>	<ul style="list-style-type: none"> <li>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> </ul>	<ul style="list-style-type: none"> <li>I can give instructions to my friend and follow their instructions to move around.</li> <li>I can describe what actions I will need to do to make something happen and begin to use the word algorithm.</li> </ul>
	<ul style="list-style-type: none"> <li>create and debug simple programs</li> </ul>	<ul style="list-style-type: none"> <li>I can begin to use software/apps to create movement and patterns on a screen.</li> <li>I can use the word debug when I correct mistakes when I program.</li> </ul>
	<ul style="list-style-type: none"> <li>use logical reasoning to predict the behaviour of simple programs</li> </ul>	<ul style="list-style-type: none"> <li>I can describe what happens when I press buttons on a robot.</li> <li>I can press the buttons in the correct order to make my robot do what I want..</li> <li>I can begin to predict what will happen for a short sequence of instructions.</li> </ul>
	<ul style="list-style-type: none"> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> </ul>	<ul style="list-style-type: none"> <li>I can be creative with different technology tools.</li> <li>I can use technology to create and present my ideas.</li> <li>I can use the keyboard or a word bank on my device to enter text.</li> <li>I can save information in a special place and retrieve it again.</li> <li>I can use technology to collect information, including photos, video and sound.</li> <li>I can sort different kinds of information and present it to others.</li> </ul>

		<ul style="list-style-type: none"> <li>I can add information to a pictograph and talk to you about what I have found out</li> </ul>
	<ul style="list-style-type: none"> <li>recognise common uses of information technology beyond school</li> </ul>	<ul style="list-style-type: none"> <li>I can recognise the ways we use technology in our classroom.</li> <li>I can recognise ways that technology is used in my home and community.</li> <li>I can use links to websites to find information.</li> <li>I can begin to identify some of the benefits of using technology.</li> <li>I can talk about the different ways in which information can be shown.</li> <li></li> </ul>
	<ul style="list-style-type: none"> <li>use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</li> </ul>	<ul style="list-style-type: none"> <li>I can keep my password private.</li> <li>I can tell you what personal information is.</li> <li>I can tell an adult when I see something unexpected or worrying online.</li> <li>I can talk about why it's important to be kind and polite.</li> <li>I can recognise an age appropriate website.</li> <li>I can agree and follow sensible e-Safety rules.</li> </ul>
Year Group	National Curriculum Objectives	Progression of Skills
<b>Two</b>	<ul style="list-style-type: none"> <li>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> </ul>	<ul style="list-style-type: none"> <li>I can give instructions to my friend (using forward, backward and turn) and physically follow their instructions.</li> <li>I can tell you the order I need to do things to make something happen and talk about this as an algorithm.</li> <li>I can program a robot or software to do a particular task.</li> </ul>
	<ul style="list-style-type: none"> <li>create and debug simple programs</li> </ul>	<ul style="list-style-type: none"> <li>I can use programming software to make objects move.</li> </ul>

		<ul style="list-style-type: none"> <li>• I can watch a program execute and spot where it goes wrong so that I can debug it.</li> </ul>
	<ul style="list-style-type: none"> <li>• use logical reasoning to predict the behaviour of simple programs</li> </ul>	<ul style="list-style-type: none"> <li>• I can look at my friend's program and tell you what will happen.</li> </ul>
	<ul style="list-style-type: none"> <li>• use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> </ul>	<ul style="list-style-type: none"> <li>• I can use technology to organise and present my ideas in different ways.</li> <li>• I can use the keyboard on my device to add, delete and space text for others to read.</li> <li>• I can tell you about an online tool that will help me to share my ideas with other people.</li> <li>• I can save and open files on the device I use.</li> <li>• I can make and save a chart or graph using the data I collect.</li> <li>• I can talk about the data that is shown in my chart or graph.</li> <li>• I am starting to understand a branching database.</li> <li>• I can tell you what kind of information I could use to help me investigate a question.</li> </ul>
	<ul style="list-style-type: none"> <li>• recognise common uses of information technology beyond school</li> </ul>	<ul style="list-style-type: none"> <li>• I can tell you why I use technology in the classroom.</li> <li>• I can tell you why I use technology in my home and community.</li> <li>• I am starting to understand that other people have created the information I use.</li> <li>• I can identify benefits of using technology including finding information, creating and communicating.</li> <li>• I can talk about the differences between the Internet and things in the physical world. I talk about the different ways I use technology to collect information, including a camera, microscope or sound recorder.</li> <li>•</li> </ul>
	<ul style="list-style-type: none"> <li>• use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have</li> </ul>	<ul style="list-style-type: none"> <li>• I can explain why I need to keep my password and personal information private.</li> <li>• I can describe the things that happen online that I must tell an adult about.</li> <li>• I can talk about why I should go online for a short amount of time.</li> </ul>

	<p>concerns about content or contact on the internet or other online technologies.</p>	<ul style="list-style-type: none"> <li>• I can talk about why it is important to be kind and polite online and in real life.</li> <li>• I know that not everyone is who they say they are on the Internet.</li> </ul>
<b>Year Group</b>	<b>National Curriculum Objectives</b>	<b>Progression of Skills</b>
<b>Three</b>	<ul style="list-style-type: none"> <li>• design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> </ul>	<ul style="list-style-type: none"> <li>• I can break an open-ended problem up into smaller parts.</li> <li>• I can put programming commands into a sequence to achieve a specific outcome.</li> <li>• I keep testing my program and can recognise when I need to debug it.</li> <li>• I can use repeat commands.</li> <li>• I can describe the algorithm I will need for a simple task.</li> <li>• I can detect a problem in an algorithm which could result in unsuccessful programming.</li> </ul>
	<ul style="list-style-type: none"> <li>• use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> </ul>	
	<ul style="list-style-type: none"> <li>• use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> </ul>	

	<ul style="list-style-type: none"> <li>● 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</li> </ul>	<ul style="list-style-type: none"> <li>● I can save and retrieve work on the Internet, the school network or my own device.</li> <li>● I can talk about the parts of a computer.</li> <li>● I can tell you ways to communicate with others online.</li> <li>● I can describe the World Wide Web as the part of the Internet that contains websites.</li> <li>● I can use search tools to find and use an appropriate website.</li> <li>● I think about whether I can use images that I find online in my own work.</li> </ul>
	<ul style="list-style-type: none"> <li>● use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> </ul>	<ul style="list-style-type: none"> <li>● I can create different effects with different technology tools.</li> <li>● I can combine a mixture of text, graphics and sound to share my ideas and learning.</li> <li>● I can use appropriate keyboard commands to amend text on my device, including making use of a spellchecker.</li> <li>● I can evaluate my work and improve its effectiveness.</li> <li>● I can use an appropriate tool to share my work online.</li> </ul>
	<ul style="list-style-type: none"> <li>● 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</li> </ul>	<ul style="list-style-type: none"> <li>● I can talk about the different ways data can be organised.</li> <li>● I can search a ready-made database to answer questions.</li> <li>● I can collect data help me answer a question.</li> <li>● I can add to a database.</li> <li>● I can make a branching database.</li> <li>● I can use a data logger to monitor changes and can talk about the information collected.</li> </ul>
	<ul style="list-style-type: none"> <li>● use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of</li> </ul>	<ul style="list-style-type: none"> <li>● I can talk about what makes a secure password and why they are important.</li> <li>● I can protect my personal information when I do different things online.</li> <li>● I can use the safety features of websites as well as reporting concerns to an adult.</li> </ul>

	ways to report concerns about content and contact.	<ul style="list-style-type: none"> <li>• I can recognise websites and games appropriate for my age.</li> <li>• I can make good choices about how long I spend online.</li> <li>• I ask an adult before downloading files and games from the Internet.</li> <li>• I can post positive comments online.</li> </ul>
<b>Year Group</b>	<b>National Curriculum Objectives</b>	<b>Progression of Skills</b>
<b>Four</b>	<ul style="list-style-type: none"> <li>• design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> </ul>	<ul style="list-style-type: none"> <li>• I can use logical thinking to solve an open-ended problem by breaking it up into smaller parts.</li> <li>• I can use an efficient procedure to simplify a program.</li> <li>• I can use a sensor to detect a change which can select an action within my program.</li> <li>• I know that I need to keep testing my program while I am putting it together.</li> <li>• I can use a variety of tools to create a program.</li> <li>• I can recognise an error in a program and debug it.</li> <li>• I recognise that an algorithm will help me to sequence more complex programs.</li> <li>• I recognise that using algorithms will also help solve problems in other learning such as Maths, Science and Design and Technology</li> </ul>
	<ul style="list-style-type: none"> <li>• use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> </ul>	
	<ul style="list-style-type: none"> <li>• use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> </ul>	
	<ul style="list-style-type: none"> <li>• understand computer networks including the internet; how they can provide multiple services, such as the</li> </ul>	<ul style="list-style-type: none"> <li>• I can use photos, video and sound to create an atmosphere when presenting to different audiences.</li> <li>• I am confident to explore new media to extend what I can achieve.</li> </ul>

	<p>world wide web; and the opportunities they offer for communication and collaboration</p>	<ul style="list-style-type: none"> <li>● I can change the appearance of text to increase its effectiveness.</li> <li>● I can create, modify and present documents for a particular purpose.</li> <li>● I can use a keyboard confidently and make use of a spellchecker to write and review my work.</li> <li>● I can use an appropriate tool to share my work and collaborate online.</li> <li>● I can give constructive feedback to my friends to help them improve their work and refine my own work.</li> </ul>
	<ul style="list-style-type: none"> <li>● use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> </ul>	<ul style="list-style-type: none"> <li>● I can tell you whether a resource I am using is on the Internet, the school network or my own device.</li> <li>● I can identify key words to use when searching safely on the World Wide Web.</li> <li>● I think about the reliability of information I read on the World Wide Web.</li> <li>● I can tell you how to check who owns photos, text and clipart.</li> <li>● I can create a hyperlink to a resource on the World Wide Web.</li> <li>● I can recognise that websites use different methods to advertise products.</li> </ul>
	<ul style="list-style-type: none"> <li>● 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</li> </ul>	<ul style="list-style-type: none"> <li>● I can organise data in different ways.</li> <li>● I can collect data and identify where it could be inaccurate.</li> <li>● I can plan, create and search a database to answer questions.</li> <li>● I can choose the best way to present data to my friends.</li> <li>● I can use a data logger to record and share my readings with my friends</li> </ul>
	<ul style="list-style-type: none"> <li>● use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of</li> </ul>	<ul style="list-style-type: none"> <li>● I choose a secure password and appropriate screen name when I am using a website.</li> <li>● I can talk about the ways I can protect myself and my friends from harm online.</li> <li>● I use the safety features of websites as well as reporting concerns to an adult.</li> <li>● I know that anything I share online can be seen by others.</li> </ul>

	ways to report concerns about content and contact.	<ul style="list-style-type: none"> <li>• I choose websites, apps and games that are appropriate for my age.</li> <li>• I can help my friends make good choices about the time they spend online.</li> <li>• I can talk about why I need to ask a trusted adult before downloading files and games from the Internet.</li> <li>• I comment positively and respectfully online and through text messages.</li> </ul>
Year Group	National Curriculum Objectives	Progression of Skills
<b>Five</b>	<ul style="list-style-type: none"> <li>• design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> </ul>	<ul style="list-style-type: none"> <li>• I can decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program.</li> <li>• I can refine a procedure using repeat commands to improve a program.</li> <li>• I can use a variable to increase programming possibilities.</li> <li>• I can change an input to a program to achieve a different output.</li> <li>• I can use 'if' and 'then' commands to select an action.</li> <li>• I can talk about how a computer model can provide information about a physical system.</li> <li>• I can use logical reasoning to detect and debug mistakes in a program.</li> <li>• I use logical thinking, imagination and creativity to extend a program.</li> </ul>
	<ul style="list-style-type: none"> <li>• use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> </ul>	
	<ul style="list-style-type: none"> <li>• use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> </ul>	

	<ul style="list-style-type: none"> <li>● 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</li> </ul>	<ul style="list-style-type: none"> <li>● I can use text, photo, sound and video editing tools to refine my work.</li> <li>● I can use the skills I have already developed to create content using unfamiliar technology.</li> <li>● I can select, use and combine the appropriate technology tools to create effects that will have an impact on others.</li> <li>● I can select an appropriate online or offline tool to create and share ideas.</li> <li>● I can review and improve my own work and support others to improve their work.</li> </ul>
	<ul style="list-style-type: none"> <li>● use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> </ul>	<ul style="list-style-type: none"> <li>● .</li> </ul>
	<ul style="list-style-type: none"> <li>● 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</li> </ul>	<ul style="list-style-type: none"> <li>● I can use a spreadsheet and database to collect and record data.</li> <li>● I can choose an appropriate tool to help me collect data..</li> <li>● I can present data in an appropriate way.</li> <li>● I can search a database using different operators to refine my search.</li> <li>● I can talk about mistakes in data and suggest how it could be checked.</li> </ul>
	<ul style="list-style-type: none"> <li>● use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<ul style="list-style-type: none"> <li>● I can choose a secure password and screen name.</li> <li>● I protect my password and other personal information.</li> <li>● I can explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult.</li> <li>● I know that anything I post online can be seen, used and may affect others.</li> <li>● I can talk about the dangers of spending too long online or playing a game.</li> <li>● I can explain the importance of communicating kindly and respectfully.</li> </ul>

		<ul style="list-style-type: none"> <li>• I can discuss the importance of choosing an age-appropriate website, app or game.</li> <li>• I can explain why I need to protect my computer or device from harm</li> </ul>
Year Group	National Curriculum Objectives	Progression of Skills
<b>Six</b>	<ul style="list-style-type: none"> <li>• design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> </ul>	<ul style="list-style-type: none"> <li>• I can deconstruct a problem into smaller steps, recognising similarities to solutions used before.</li> <li>•</li> <li>• I can evaluate the effectiveness and efficiency of my algorithm while I continually test the programming of that algorithm.</li> <li>•</li> <li>• I can use a variable and operators to stop a program.</li> <li>• I can use different inputs (including sensors) to control a device or onscreen action and predict what will happen.</li> <li>• I can use logical reasoning to detect and correct errors in a algorithms and programs.</li> </ul>
	<ul style="list-style-type: none"> <li>• use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> </ul>	<ul style="list-style-type: none"> <li>• I can recognise when I need to use a variable to achieve a required output.</li> </ul>
	<ul style="list-style-type: none"> <li>• use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> </ul>	<ul style="list-style-type: none"> <li>• I can explain and program each of the steps in my algorithm.</li> </ul>
	<ul style="list-style-type: none"> <li>• use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> </ul>	<ul style="list-style-type: none"> <li>• I can talk about audience, atmosphere and structure when planning a particular outcome.</li> <li>• I can confidently identify the potential of unfamiliar technology to increase my creativity.</li> <li>• I can combine a range of media, recognising the contribution of each to achieve a particular outcome.</li> </ul>

		<ul style="list-style-type: none"> <li>● I can tell you why I select a particular online tool for a specific purpose.</li> <li>● I can be digitally discerning when evaluating the effectiveness of my own work and the work of others. <ul style="list-style-type: none"> <li>● I can tell you the Internet services I need to use for different purposes.</li> <li>● I can describe how information is transported on the Internet.</li> <li>● I can select an appropriate tool to communicate and collaborate online.</li> <li>● I can talk about the way search results are selected and ranked.</li> <li>● I can check the reliability of a website.</li> <li>● I can tell you about copyright and acknowledge the sources of information that I find online.</li> <li>● I know that websites can use my data to make money and target their advertising.</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>● 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</li> </ul>	<ul style="list-style-type: none"> <li>● I can plan the process needed to investigate the world around me.</li> <li>● I can select the most effective tool to collect data for my investigation.</li> <li>● I can check the data I collect for accuracy and plausibility.</li> <li>● I can interpret the data I collect.</li> <li>● I can present the data I collect in an appropriate way.</li> <li>● I use the skills I have developed to interrogate a database.</li> </ul>
	<ul style="list-style-type: none"> <li>● use technology safely, respectfully and responsibly; recognise</li> </ul>	<ul style="list-style-type: none"> <li>● I protect my password and other personal information.</li> <li>● I can explain the consequences of sharing too much about myself online.</li> </ul>

	<p>acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<ul style="list-style-type: none"><li>• I support my friends to protect themselves and make good choices online, including reporting concerns to an adult.</li><li>• I can explain the consequences of spending too much time online or on a game.</li><li>• I can explain the consequences to myself and others of not communicating kindly and respectfully.</li><li>• I protect my computer or device from harm on the Internet.</li></ul>
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