

## Computing Progression and Core Knowledge 2022-2023

At Newlands, we aim to give our pupils the life-skills that will enable them to utilise new technology in a safe way and be responsible digital citizens within a world heavily shaped by technology. We understand our children use technology on a daily basis at home therefore our curriculum needs to support and transfer the skills children have learnt at home to meet the needs of the National Curriculum.

We intend for our children, in all year groups, to develop their speaking and listening skills, within the computing curriculum, by using a range of different programmes to support children presenting ideas, analysing, researching and evaluating. We also use programmes to encourage and build on a progression of skills so children are able to decode, programme, design and evaluate.

E Safety is a focus of ours and something we are passionate about due to the digital world we live in. We aim for children to apply the skills and knowledge from school to further education, future careers and their home life, ensuring they are safe in a rapidly changing digital world.

We want to use technology to support learning across the curriculum so it is accessible to every child. Through the teaching of computing we aim for pupils to be digitally literate and competent users of technology and develop creativity, resilience, problem solving and critical thinking skills.

	Year 1	Year 2
To understand concepts of computer science	<ul style="list-style-type: none"> <li>● Use technology purposefully to create, organise, store, manipulate and retrieve digital content.               <ul style="list-style-type: none"> <li>○ Explain the different ways in which information can be shown.</li> <li>○ Use technology to collect information, including photos, video and sound.</li> <li>○ Sort different kinds of information and present it to others.</li> <li>○ Add information to a pictograph and explain it.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Use technology purposefully to create, organise, store, manipulate and retrieve digital content.               <ul style="list-style-type: none"> <li>○ Explain the different ways technology is used to collect information, including a camera, microscope or sound recorder.</li> <li>○ Create and save a chart or graph using the data collected.</li> <li>○ Explain the data that is shown in the created chart or graph.</li> <li>○ Understand a branching database.</li> <li>○ Explain what kind of information could be used to help me investigate a question.</li> </ul> </li> </ul>
To analyse problems in computational terms	<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> <li>● Create and debug simple programs.</li> </ul>	<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> <li>● Create and debug simple programs.</li> <li>● Use logical reasoning to predict the behaviour of simple programs.</li> </ul>

	<ul style="list-style-type: none"> <li>● Use logical reasoning to predict the behaviour of simple programs. <ul style="list-style-type: none"> <li>○ Give instructions to a friend and follow their instructions to move around.</li> <li>○ Describe what happens when buttons are pressed on a robot.</li> <li>○ Press buttons in the correct order to make a robot move in a specific way.</li> <li>○ Describe what actions are needed to make something happen and begin to use the word 'algorithm'.</li> <li>○ Begin to predict what will happen for a short sequence of instructions.</li> <li>○ Begin to use software/apps to create movement and patterns on a screen.</li> <li>○ Use the word 'debug' when correcting mistakes when programming.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>○ Give instructions to a friend (using forward, backward and turn) and physically follow their instructions.</li> <li>○ Explain the order things need to be done in order to make something happen and talk about this as an algorithm.</li> <li>○ Program a robot or software to do a particular task.</li> <li>○ Review a peer's program and explain what will happen.</li> <li>○ Use programming software to make objects move.</li> <li>○ Watch a program execute and spot where it goes wrong and debug it.</li> </ul>
To apply information technology	<ul style="list-style-type: none"> <li>● Recognise common uses of information technology beyond school <ul style="list-style-type: none"> <li>○ Recognise the way that technology is used in the classroom.</li> <li>○ Recognise ways that technology is used in homes and the community.</li> <li>○ Use links to websites to find information.</li> <li>○ Begin to identify some of the benefits of using technology.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Recognise common uses of information technology beyond school <ul style="list-style-type: none"> <li>○ Explain why we use technology in the classroom.</li> <li>○ Explain why we use technology in homes and in the community.</li> <li>○ Understand that other people have created the information we use.</li> <li>○ Identify the benefits of using technology including finding information, creating and communicating.</li> <li>○ Explain about the differences between the internet and things in the physical world.</li> </ul> </li> </ul>
To be responsible users of information and communication technology	<ul style="list-style-type: none"> <li>● To 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. <ul style="list-style-type: none"> <li>○ Keep passwords private.</li> <li>○ Explain what personal information is.</li> <li>○ Know to tell an adult when they see something unexpected or worrying online.</li> <li>○ Explain why it's important to be kind and polite.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● To 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. <ul style="list-style-type: none"> <li>○ Explain why we need to keep passwords and personal information private.</li> <li>○ Describe the types of things that can happen online that we must tell an adult about.</li> <li>○ Explain why we should go online for a short amount of time.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Recognise an age appropriate website.</li> <li>○ Agree and follow sensible e-safety rules.</li> </ul>	<ul style="list-style-type: none"> <li>○ Explain why it is important to be kind and polite online and in real life.</li> <li>○ Understand that not everyone is who they say they are on the internet.</li> </ul>
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**Learning Outcomes Years 1 & 2**

	<ul style="list-style-type: none"> <li>● Control motion by specifying the number of steps to travel, direction and turn.</li> <li>● Add text strings, show and hide objects and change the features of an object.</li> <li>● Select sounds and control when they are heard, their duration and volume.</li> <li>● Control when drawings appear and set the pen colour, size and shape.</li> <li>● Specify user inputs (such as clicks) to control events.</li> <li>● Specify the nature of events (such as a single event or a loop).</li> <li>● Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?).</li> </ul>
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**Core Knowledge Years 1&2**

Term 1	<p><u>Computing systems and networks</u></p> <ul style="list-style-type: none"> <li>● Technology is anything made by people that helps us.</li> <li>● Technology in the classroom could be chromebook, ipad, computer, interactive whiteboard, scissors, pencil.</li> <li>● Mouse, keyboard and screen are parts of a computer.</li> </ul>
Term 2	<p><u>Computing systems and networks</u></p> <ul style="list-style-type: none"> <li>● Writing on a keyboard is called typing.</li> <li>● You can use a computer mouse to click and drag.</li> <li>● I know that I shouldn't share my password with others unless it's a parent or teacher.</li> </ul>
Term 3	<p><u>Creating media- Digital painting</u></p> <ul style="list-style-type: none"> <li>● Tools in Paintz all have different jobs.</li> <li>● The pencil tool lets me draw lines.</li> <li>● The rubber tool lets me erase</li> </ul>

Term 4	<u>Creating media- Digital painting</u> <ul style="list-style-type: none"> <li>● The paint pot can be used for filling in block shapes.</li> <li>● Using the shape tool creates different shapes.</li> <li>● Using the brush tool lets me choose different styles.</li> </ul>
Term 5	<u>Programming A- Moving a robot</u> <ul style="list-style-type: none"> <li>● Buttons can control what a robot does.</li> <li>● Pressing the 'x' button clears all commands.</li> <li>● The 'go' button makes the robot start its programme.</li> </ul>
Term 6	<u>Programming A- Moving a robot</u> <ul style="list-style-type: none"> <li>● The arrows make the robot go forwards and backwards, left and right.</li> <li>● A command is an instruction.</li> <li>● I can get to the same destination with different routes.</li> </ul>

	Year 3	Year 4
To understand concepts of computer science	<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. <ul style="list-style-type: none"> <li>○ Explain the different ways data can be organised.</li> <li>○ Search a ready-made database to answer questions.</li> <li>○ Collect data to help answer a question.</li> <li>○ Add to a database.</li> <li>○ Make a branching database.</li> <li>○ Use a data logger to monitor changes and discuss the information collected.</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. <ul style="list-style-type: none"> <li>○ Organise data in different ways.</li> <li>○ Collect data and identify where it could be inaccurate.</li> <li>○ Plan, create and search a database to answer questions.</li> <li>○ Choose the best way to present data.</li> <li>○ Use a data logger to record and share readings with peers.</li> </ul> </li> </ul>
To analyse problems in computati	<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>● 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>

<p>onal terms</p>	<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> <li>● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. <ul style="list-style-type: none"> <li>○ Break an open-ended problem up into smaller parts.</li> <li>○ Put programming commands into a sequence to achieve a specific outcome.</li> <li>○ Test a program and recognise when to debug it.</li> <li>○ Use repeat commands.</li> <li>○ Describe the algorithm needed for a simple task.</li> <li>○ Detect a problem in an algorithm.</li> </ul> </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> <li>● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. <ul style="list-style-type: none"> <li>○ Use logical thinking to solve an open-ended problem by breaking it up into smaller parts.</li> <li>○ Use an efficient procedure to simplify a program.</li> <li>○ Use a sensor to detect a change which can select an action within a program.</li> <li>○ Understand the need to keep testing a program while putting it together.</li> <li>○ Use a variety of tools to create a program.</li> <li>○ Recognise an error in a program and debug it.</li> <li>○ Recognise that an algorithm will aid when sequencing more complex programs.</li> <li>○ Recognise that using algorithms will also help solve problems in other learning such as maths, science and design technology.</li> </ul> </li> </ul>
<p>To apply information technology</p>	<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> <li>● Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. <ul style="list-style-type: none"> <li>○ Save and retrieve work on the internet, the school network or own device.</li> <li>○ Explain the parts of a computer.</li> <li>○ Explain ways to communicate with others online.</li> <li>○ Describe the World Wide Web as the part of the internet that contains websites.</li> <li>○ Use search tools to find and use an appropriate website.</li> <li>○ Reflect on the use of images found online in your own work.</li> </ul> </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> <li>● Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. <ul style="list-style-type: none"> <li>○ Describe whether a resource being used is on the internet, the school network or your own device.</li> <li>○ Identify key words to use when searching safely on the World Wide Web.</li> <li>○ Evaluated the reliability of information read on the World Wide Web.</li> <li>○ Explain how to check who owns photos, text and clipart.</li> <li>○ Create a hyperlink to a source on the World Wide Web.</li> </ul> </li> </ul>

<p>To be responsible users of information and communication technology</p>	<ul style="list-style-type: none"> <li>● To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. <ul style="list-style-type: none"> <li>○ Explain what makes a secure password and why they are important.</li> <li>○ Explain how to protect my personal information when doing different things online.</li> <li>○ Use the safety features of websites as well as reporting concerns to an adult.</li> <li>○ Recognise websites and games appropriate for the age group.</li> <li>○ Make good choices about how long to spend online.</li> <li>○ Understand that an adult needs to be asked before downloading files and games from the internet.</li> <li>○ Post positive comments online.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. <ul style="list-style-type: none"> <li>○ Choose a secure password when using a website.</li> <li>○ Explain ways to protect yourself and friends from harm online.</li> <li>○ Use the safety features of websites as well as reporting concerns to an adult.</li> <li>○ Understand that anything posted online can be seen by others.</li> <li>○ Choose websites and games that are appropriate for the age group.</li> <li>○ Help friends make good choices about the time they spend online.</li> <li>○ Explain why a trusted adult needs to be asked before downloading files and games from the internet.</li> <li>○ Comment positively and respectfully online.</li> </ul> </li> </ul>
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**Learning Outcomes Year 3 & 4**

	<ul style="list-style-type: none"> <li>● Participate in class social media accounts.</li> <li>● Understand online risks and the age rules for sites.</li> <li>● Use a range of applications and devices in order to communicate ideas, work and messages.</li> <li>● Use simple databases to record information in areas across the curriculum.</li> <li>● Use specified screen coordinates to control movement.</li> <li>● Set the appearance of objects and create sequences of changes.</li> <li>● Create and edit sounds. Control when they are heard, their volume, duration and rests.</li> <li>● Control the shade of pens.</li> <li>● Specify conditions to trigger events.</li> <li>● Use IF THEN conditions to control events or objects.</li> <li>● Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions).</li> <li>● Use variables to store a value.</li> <li>● Use the functions define, set, change, show and hide to control the variables.</li> <li>● Use the Reporter operators <ul style="list-style-type: none"> <li>○ <math>() + ()</math></li> <li>○ <math>() - ()</math></li> </ul> </li> </ul>
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	<p style="text-align: center;">() * () () / ()</p> <p>to perform calculations.</p> <ul style="list-style-type: none"> <li>● Contribute to blogs that are moderated by teachers.</li> <li>● Give examples of the risks posed by online communications.</li> <li>● Understand the term 'copyright'.</li> <li>● Understand that comments made online that are hurtful or offensive are the same as bullying.</li> <li>● Understand how online services work.</li> <li>● Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.</li> <li>● Devise and construct databases using applications designed for this purpose in areas across the curriculum.</li> </ul>
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Core Knowledge Years 3&4	
Term 1	<p><a href="#">Connecting computers</a></p> <ul style="list-style-type: none"> <li>● Digital devices must have an input, a process (which acts on the input), and an output (which is produced by the process).</li> <li>● Computers can be connected to each other on a network.</li> <li>● The physical components of a network are switch, server, wireless access point (home router), cables.</li> </ul>
Term 2	<p><a href="#">Creating media - Audio production</a></p> <ul style="list-style-type: none"> <li>● Sound can be digitally created, recorded and stored on a computer.</li> <li>● A digital recording is stored as a file.</li> <li>● Audio can be changed through editing.</li> </ul>
Term 3	<p><a href="#">Creating media - Photo editing</a></p> <ul style="list-style-type: none"> <li>● Digital images can be manipulated and changed for different reasons.</li> <li>● Not all images are real.</li> <li>● Different tools can be used to change the composition of a photograph.</li> </ul>

Term 4	<p><a href="#">Data and information - Data logging</a></p> <ul style="list-style-type: none"> <li>● Some data can be gathered over time, it can be used to answer questions.</li> <li>● A data logger captures 'data points' automatically from sensors over time</li> <li>● A sensor can be used as an input device for data collection</li> </ul>
Term 5	<p><a href="#">Repetition in shapes</a></p> <ul style="list-style-type: none"> <li>● Accuracy in programming is important</li> <li>● A loop command is used in a program to repeat instructions</li> <li>● You can program a loop to stop after a specific number of times. An indefinite loop will run until the program is stopped.</li> </ul>
Term 6	<p><a href="#">Repetition in games</a></p> <ul style="list-style-type: none"> <li>● In programming there are infinite loops and count-controlled loops.</li> <li>● Instruction order in a loop is very important.</li> <li>● Not all tools enable more than one process to be run at once</li> </ul>

	Year 5	Year 6
To understand concepts of computer science	<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. <ul style="list-style-type: none"> <li>○ Use a spreadsheet and database to collect and record data.</li> <li>○ Choose an appropriate tool to help collect data.</li> <li>○ Present data in an appropriate way.</li> <li>○ Search a database using different operators to refine the search.</li> <li>○ Discuss mistakes in data and suggest how it could be checked.</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. <ul style="list-style-type: none"> <li>○ Plan the process needed to investigate the world around us.</li> <li>○ Select the most effective tool to collect data for an investigation.</li> <li>○ Check the data collected for accuracy and plausibility.</li> <li>○ Interpret the data collected.</li> <li>○ Present the data collected in an appropriate way.</li> <li>○ Use skills to interrogate a database.</li> </ul> </li> </ul>

<p>To analyse problems in computational terms</p>	<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> <li>● Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</li> <li>● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. <ul style="list-style-type: none"> <li>○ Decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program.</li> <li>○ Refine a procedure using repeat commands to improve a program.</li> <li>○ Use a variable to increase programming possibilities.</li> <li>○ Change an input to a program to achieve a different output.</li> <li>○ Use 'if' and 'then' commands to select an action.</li> <li>○ Discuss how a computer model can provide information about a physical system.</li> <li>○ Use logical reasoning to detect and debug mistakes in a program.</li> <li>○ Use logical thinking, imagination and creativity to extend a program.</li> </ul> </li> </ul>	<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> <li>● Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</li> <li>● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. <ul style="list-style-type: none"> <li>○ Deconstruct a problem into smaller steps, recognising similarities to solutions used before.</li> <li>○ Explain and program each of the steps in an algorithm.</li> <li>○ Evaluate the effectiveness and efficiency of an algorithm while continually testing the programming of that algorithm.</li> <li>○ Recognise when to use a variable to achieve a required output.</li> <li>○ Use a variable and operators to stop a program.</li> <li>○ Use different inputs (including sensors) to control a device or onscreen action and predict what will happen.</li> <li>○ Use logical reasoning to detect and correct errors in algorithms and programs.</li> </ul> </li> </ul>
<p>To apply information technology</p>	<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> <li>● Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. <ul style="list-style-type: none"> <li>○ Describe different parts of the internet.</li> <li>○ Use different online communication tools for different purposes.</li> </ul> </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> <li>● Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. <ul style="list-style-type: none"> <li>○ Explain the internet services needed for different purposes.</li> <li>○ Describe how information is transported on the internet.</li> <li>○ Select an appropriate tool to communicate and collaborate online.</li> <li>○ Explain the way search results are selected and ranked.</li> <li>○ Check the reliability of a website.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Use a search engine to find appropriate information and check its reliability.</li> <li>○ Recognise and evaluate different types of information found on the World Wide Web.</li> <li>○ Describe the different parts of a webpage.</li> <li>○ Find out who the information on a webpage belongs to.</li> </ul>	<ul style="list-style-type: none"> <li>○ Explain copyright and acknowledge the sources of information that are found online.</li> </ul>
To be responsible users of information and communication technology	<ul style="list-style-type: none"> <li>● To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. <ul style="list-style-type: none"> <li>○ Protect passwords and other personal information.</li> <li>○ Explain why the need to protect yourself and your friends and the best ways to do this, including reporting concerns to an adult.</li> <li>○ Understand that anything posted online can be seen, used and may affect others.</li> <li>○ Explain about the dangers of spending too long online or playing a game.</li> <li>○ Explain the importance of communicating kindly and respectfully online.</li> <li>○ Understand and explain the importance of choosing an age-appropriate website or game.</li> <li>○ Explain the need to protect your computer or device from harm.</li> <li>○ Understand which resources on the internet can be downloaded and used.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. <ul style="list-style-type: none"> <li>○ Protect passwords and other personal information.</li> <li>○ Explain the consequences of sharing too much information about yourself online.</li> <li>○ Support friends to protect themselves and make good choices online, including reporting concerns to an adult.</li> <li>○ Explain the consequences of spending too much time online or on a game.</li> <li>○ Explain the consequences of not communicating kindly and respectfully.</li> <li>○ Explain the need to protect your computer or device from harm on the internet.</li> </ul> </li> </ul>
Learning Outcomes Years 5 & 6		
	<ul style="list-style-type: none"> <li>● <i>Participate in class social media accounts.</i></li> <li>● <i>Understand online risks and the age rules for sites.</i></li> <li>● <i>Use a range of applications and devices in order to communicate ideas, work and messages.</i></li> <li>● <i>Use simple databases to record information in areas across the curriculum.</i></li> <li>● Set IF conditions for movements. Specify types of rotation giving the number of degrees.</li> <li>● Change the position of objects between screen layers (send to back, bring to front).</li> <li>● Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.</li> </ul>	

- Combine the use of pens with movement to create interesting effects.
- Set events to control other events by 'broadcasting' information as a trigger.
- Use IF THEN ELSE conditions to control events or objects.
- Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.
- Use lists to create a set of variables.
- Use the Boolean operators
  - () < ()
  - () = ()
  - () > ()
  - ()and()
  - ()or()
  - Not()
 to define conditions.
- Use the Reporter operators
  - () + ()
  - () - ()
  - () \* ()
  - () / ()
 to perform calculations.
  - Pick Random () to ()
  - Join () ()
  - Letter () of ()
  - Length of ()
  - () Mod () This reports the remainder after a division calculation
  - Round ()
  - () of ().
- Collaborate with others online on sites approved and moderated by teachers.
- Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems.
- Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder.
- Understand the effect of online comments and show responsibility and sensitivity when online.
- Understand how simple networks are set up and used.
- Choose the most suitable applications and devices for the purposes of communication.
- Use many of the advanced features in order to create high quality, professional or efficient communications.
- Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.

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## Core Knowledge Years 5&6

Term 1	<p><a href="#">Communication and collaboration</a></p> <ul style="list-style-type: none"><li>● Data is transferred across networks using agreed protocols (methods).</li><li>● The internet allows people in different places to work together. This communicating and collaboration can be public or private.</li><li>● Connections between computers allow access to shared stored files. Different types of media can be shared.</li></ul>
Term 2	<p><a href="#">Selection in quizzes</a></p> <ul style="list-style-type: none"><li>● A condition can only be true or false</li><li>● A condition-controlled loop will stop when a condition is met</li><li>● A loop can be used to repeatedly check whether a condition has been met</li></ul>

Term 3	<p><a href="#">Data and information - Spreadsheets</a></p> <ul style="list-style-type: none"><li>● the data type determines how a spreadsheet can process the data</li><li>● formulas can be used to produce calculated data</li><li>● a cell's value automatically updates when the value in a linked cell is changed</li></ul>
Term 4	<p><a href="#">Creating media - Video production</a></p> <ul style="list-style-type: none"><li>● Video is the recording, reproducing, or broadcasting of moving visual images.</li><li>● filming techniques can be used to create different effects</li><li>● videos can be improved through reshooting or editing.</li></ul>
Term 5	<p><a href="#">Selection in physical computing</a></p> <ul style="list-style-type: none"><li>● a condition can only be true or false</li><li>● a condition-controlled loop will stop when a condition is met</li><li>● A simple circuit can be controlled</li><li>● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li></ul>
Term 6	<p><a href="#">Sensing movement</a></p> <ul style="list-style-type: none"><li>● selection can control the flow of a program</li><li>● A program can be set to run on a controllable device</li><li>● A conditional statement can be used to compare a variable to a value.</li></ul>