



BISHOP LONSDALE CHURCH OF ENGLAND PRIMARY SCHOOL AND NURSERY

SCIENCE END POINTS

Computer science and programming

Reception End Points	Year 1 End Points	Year 2 End Points
<p>To know that repeat means to do it again.</p> <p>To know that a pattern is something we can see repeating.</p> <p>To know how to spot simple patterns.</p> <p>To know that instructions are a list of things to do in order, to help you make or do something.</p> <p>To know that rules are things we have to do in a certain way.</p> <p>To know how to follow a simple set of oral instructions or a set of rules (algorithm).</p> <p>To know how to sequence simple, familiar tasks.</p>	<p>To know that sequence means arranging instructions for algorithms and programs in a particular order.</p> <p>To know that an algorithm is a set of rules or a precise sequence of instructions for performing a task.</p> <p>To know that a command is an action or order carried out as a step within a program.</p> <p>To know how to identify similarities between objects and groups of objects and sort them.</p> <p>To know how to create and repeat patterns.</p> <p>To know how to give, follow and write a simple set of instructions and begin to spot errors.</p>	<p>To know that programming is designing and writing programs for a computer.</p> <p>To know that a program is an algorithm expressed in language that a computer understands (a code).</p> <p>To know how to follow and give instructions in an accurate sequence.</p> <p>To know how to predict and describe what an algorithm or simple program will do.</p> <p>To know how to create an algorithm or simple program and explain its purpose.</p> <p>To know how to spot patterns and how we can repeat commands in a program (repetition).</p> <p>To know that debugging means finding and fixing errors in a program or algorithm.</p> <p>To know how to spot errors in an algorithm or program and fix them (debugging).</p> <p>To know that tinkering is where you explore, play with, or make changes to a program, to see what happens and find out how it works.</p>



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SCIENCE END POINTS

Computer systems and networks

Reception End Points	Year 1 End Points	Year 2 End Points
<p>To know that a machine is something with moving parts, made by people.</p> <p>To know that technology includes machines that we use to help us do things.</p> <p>To know that there is technology all around us that we can use to help us with everyday tasks.</p> <p>To know that electronic means a machine that is powered by electricity and has electrical parts inside.</p> <p>To know that digital devices are electronic machines such as computers, laptops, tablets, games consoles, smartphones.</p> <p>To know that we can use digital devices and technology to talk, share and find things out.</p> <p>To know how to use simple features of technology or digital devices (e.g. pressing buttons, saying commands).</p>	<p>To know that technology is a machine or object that has been designed to help us do something more easily.</p> <p>To know that a computer is a digital device that can be given instructions to carry out tasks, calculate and store information</p> <p>To know how to locate examples of computers or digital devices at home, in school and in the wider world.</p> <p>To know how to identify the common parts of a personal computer or digital device and what they are used for (e.g. hard drive, memory stick, monitor, keyboard, mouse/touchpad, printer, scanner, touchscreen.)</p> <p>To know that we can talk, share and find things out online, using digital devices such as a computer, tablet, phone, games console, voice-control assistant (e.g. Alexa), search engine (e.g. Google).</p> <p>To know that data is how a computer understands and stores information, facts and numbers in its memory.</p> <p>To know that being online means connecting to the internet with a digital device, to find out information or to communicate with others.</p>	<p>To know that information is the useful knowledge or understanding that we can find out from data.</p> <p>To know that the World Wide Web is a global collection of information and digital media, shared using websites, that can be accessed online.</p> <p>To know that to be 'online' means to access the World Wide Web using a digital device that is connected to it.</p> <p>To know that when we are online, we are connecting our device to other devices all over the world.</p> <p>To know that a website is used to share information online.</p> <p>To know that searching is to look for specific information stored online using key words.</p> <p>To know that a search engine is a program that searches the WWW for key words, to quickly find the most useful websites.</p> <p>To know that there are different search engines and that some are more "child-friendly" (e.g. swiggle.org.uk)</p> <p>To know how to choose useful or relevant words for a search.</p>



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	<p>To know that a keyword is an important word that we can use to search online for information.</p>	<p>To know that links are website objects that can be clicked to take you to another website.</p> <p>To know that there are many devices in the home could be connected to the internet.</p>
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SCIENCE END POINTS

Information technology (1)

Reception End Points	Year 1 End Points	Year 2 End Points
<p>To know how to use buttons or a touchscreen on a digital device to make marks, text or pictures appear on a screen.</p> <p>To know that to type means to write by pressing keys on a computer keyboard.</p> <p>To know that a keyboard is a device with keys (buttons) for typing letters and numbers.</p> <p>To know how to type letters and numbers on a tablet or computer keyboard.</p> <p>To know that a touchscreen is used to control or type on a screen of a digital device.</p>	<p>To know how to switch on/off and to log on/off a device or software.</p> <p>To know that to 'log on' means to type in a special name and/or password, so that a device or software can check who is using it.</p> <p>To know that an app (application) is a computer program that you use for a particular task.</p> <p>To know that a mouse / touchpad is a device for moving a pointer around and choosing things on a computer screen.</p> <p>To know how to use a mouse / touchpad / touchscreen on computer or device, to launch and control apps.</p> <p>To know that a file is a copy of work done on a computer, that is stored in its memory and can be reopened later.</p> <p>To know that to save means to store a copy of work done on a computer, in its memory.</p> <p>To know how to save and open work in an app or on a computer.</p> <p>To know that text is writing on a computer.</p> <p>To know that an image is a picture on a computer.</p>	<p>To know that digital media is audio, video, images, text or data documents that are created and stored as files.</p> <p>To know that a folder is a storage space used to group and organise files saved on a computer.</p> <p>To know that the cursor is the pointer that shows the current position of the mouse/pad.</p> <p>To know that icons are small pictures that represent a file, folder or app.</p> <p>To know that print means to send a computer file to a printer, which makes a copy using ink on paper.</p> <p>To know that a printer is a device that makes copies of computer files on paper.</p> <p>To know that windows are boxes that represent folders that are open or apps that are running.</p> <p>To know how to use the cursor, icons and windows to find/open/close files or folders.</p> <p>To know how to save work using an appropriate filename and explain why this is useful.</p> <p>To know that a browser is an app for accessing the WWW and viewing websites.</p>



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SCIENCE END POINTS

	<p>To know that a menu is a list of options to choose from on a computer.</p> <p>To know how to type simple sentences using a keyboard.</p> <p>To know that format means how text looks.</p> <p>To know how to use simple text formatting.</p>	<p>To know how to navigate the WWW using a browser, including typing in a search, clicking links and using the home, back and forward buttons.</p> <p>To know that there are different search engines and that some are more "child-friendly" (e.g. swiggle.org.uk).</p> <p>To know how to choose useful or relevant words for a search.</p> <p>To know how to use a blog (e.g. Seesaw) safely and responsibly to share work and comments.</p> <p>To know how to type complete sentences, with punctuation.</p> <p>To know how to add images to a document.</p> <p>To know that format means how text looks or what type of file it is.</p> <p>To know how to change a text format to improve the appearance of a document.</p>
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SCIENCE END POINTS

Information technology (2)

Reception End Points	Year 1 End Points	Year 2 End Points
<p>To know how to make a simple digital picture using an app, with help.</p> <p>To know that a chart is a visual way of recording how many or much of something there is.</p> <p>To know how to take a picture and record a short video using a digital device.</p> <p>To know how to collect simple data in a chart.</p>	<p>To know how to take pictures or record a video of your work.</p> <p>To know that it is important to think carefully before sharing a photo or video online.</p> <p>To know that text, audio, video or images can be created or viewed using a computer.</p> <p>To know that digital photos are any images created, viewed and shared using digital devices.</p> <p>To know how to take digital photos for art and download or view them on a computer.</p> <p>To know how to collect, record and present data in a simple chart or graph.</p>	<p>To know that digital media is audio, video, images, text or data documents that are created and stored as files.</p> <p>To know that PowerPoint is an app for creating presentations with text, images and other digital media.</p> <p>To know that a presentation is a set of slides with text and images, used to explain about a topic.</p> <p>To know how to create a simple PowerPoint presentation including text and images.</p> <p>To know how to take safe pictures of work to be shared on a blog.</p> <p>To know that we must only upload photos that are safe to share and for which we have permission, explaining why.</p> <p>To know how to collect, sort and present data or information in a range of charts or graphs.</p> <p>To know that digital art is artwork created using an app.</p> <p>To know that to edit means to make changes to the original media.</p>



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SCIENCE END POINTS

		<p>To know how to take selected digital photos and make simple changes using an editing app.</p> <p>To know how to create simple digital art using an app.</p>
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SCIENCE END POINTS

Digital literacy and e-safety

Reception End Points	Year 1 End Points	Year 2 End Points
To know that people can be kind or unkind, face-to-face and online.	To know some simple rules to keep us safe when we are using technology both in and beyond the home.	To know that online bullying is where someone is bullied through comments made online or through messages sent to them on a device (e.g. mobile phone).
To know that a trusted adult is someone we know who we can go to for help when we are worried.	To know how to behave online in ways that do not upset others.	To know how online bullying can happen and explain how and where to get help.
To know who our trusted adults are.	To know that considerate means being kind and thinking about how others would feel if we did something.	To know how to respond when private information is shared online mistakenly or without permission.
To know how being unkind online can make someone feel.	To know that it is important to be considerate, kind and respectful to others when communicating online.	To know that content on the internet may belong to other people.
To know that we should tell a trusted adult if we are worried about anything.	To know that different people may have different feelings to me about different things online.	To know that we should not share other people's information or content online without their permission.
To know that to communicate means how we can talk to other people.	To know that permission means you have asked someone if you can do something involving them or use something of theirs.	To know how to keep our personal information private and to explain why this is important.
To know that we can use devices communicate online.	To know that we should ask a trusted adult if we are not sure whether we should share something online.	To know that we should always ask a trusted adult before clicking 'yes', 'agree' or 'accept' online.
To know that information is what we know someone or something.	To know that sharing online means that anything we say, share or do online may be seen with people all over the world.	To know that we have a right to say 'no' or 'I will have to ask someone' if we feel under pressure to agree to something we are unsure about or don't want to do.
To know that online means something that can be seen on a computer/device by anyone in the world.	To know what information we should and should not be sharing online.	To know that anything we share online can be copied by others and may stay there forever.
To know that information can be put online.		
To know that work we create belongs to us.		
To know that private means something that belongs only to us.		



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<p>To know that we have personal information about ourselves (e.g. where we live) that we should keep private and only share with people we know and trust.</p> <p>To know some simple rules that help keep us safe at home when using technology.</p> <p>To know that we can say 'no' to things that make us feel worried.</p>	<p>To know that we should talk to a trusted adult about any problems or worries about being online.</p> <p>To know that there may be people online who could make us feel sad, embarrassed or upset.</p> <p>To know how to safely find things out online, with adult help.</p> <p>To know that any digital work we create belongs to us and should not be shared without our permission.</p> <p>To know that any digital work others have created does not belong to us even if we have a copy of it.</p> <p>To know that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke.</p> <p>To know that a password is a special word or code that only you know to help you get into something.</p> <p>To know that passwords can be used to protect information and devices by stopping others getting in to them.</p>	<p>To know simple rules and guidance when we are using technology both in and beyond the home, and explain why they keep us safe.</p> <p>To know that there are many devices in the home could be connected to the internet.</p> <p>To know what voice-activated searching is and that it is not always correct.</p> <p>To know how to make passwords stronger.</p> <p>To know that an online identity is how someone describes or presents themselves online, and that this can be very different to their real-life identity.</p> <p>To know that an avatar is an image or icon used to represent you online and may not look like you.</p> <p>To know how and when to get help from a trusted adult, when given examples of problems about being online.</p> <p>To know that we can communicate with people we do not know online, so we must always be careful what we say and do.</p>
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