Computing
Hollywell Primary School

	Digital Literacy						
	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Skills Explain that digital technology is used in the home and at school for communication. Describe what they would do if they saw something online that made them sad, scared or worried. Talk about things that people do on digital devices, such as playing games, communicating with others and watching online videos.	Skills Explain simply that digital technology can be used to connect with others locally and globally. Recognise that some websites ask for private information and discuss how to handle these requests and where to go for help and support. Recognise that work they have created belongs to them.	Skills Use digital technology appropriately to communicate and connect with others locally and globally. Stay safe online by choosing websites that are appropriate to visit (based on the confidence you have in the author(s) of the website) and know where to go for help and support when they have concerns about content or contact on the	Skills Explain the advantages and disadvantages of communicating electronically and strategies for preventing issues. Describe simple rules for sharing images and data safely. Knowledge Advantages of communicating electronically are that it is available at any time, instant and global. Disadvantages include easier misunderstandings,	Skills Explain actions to report and prevent cyberbullying. Identify the positive and negative influences of technology on health and the environment and how to protect themselves. Identify appropriate behaviour when contributing to collaborative online projects for learning. Exchange online	Skills Demonstrate appropriate online behaviour and apply a range of strategies to protect themselves and others from potential online dangers, inappropriate behaviour and bullying. Discuss the impact that digital content can have and why it is important to discuss their use of technology with an adult.	Skills Recognise that sending intimate images and content and using offensive language online is a risk, has a permanent online trail (digital footprint) and is not appropriate behaviour. Identify the benefits and risks of devices broadcasting the user's location and of giving personal information to different organisations.

	Talk about and use digital technology with confidence and independence, giving examples of how it is used in the home, at school and beyond. Knowledge Digital technology is used in all parts of everyday life. Some technology is used to communicate with others. Know that if they see something online that makes that sad, scared or worried, they	Knowledge Digital technology is used in all parts of everyday life, such as using a tablet to play a game or a microwave to heat food. Some of this digital technology can be used to connect with others locally, such as sharing digital work in the classroom, or globally, such as using Skype on a computer to speak to a friend overseas. Private information includes names, addresses, dates of birth or	internet and other online technologies. Recognise that information put online leaves a digital footprint. Knowledge Digital technology, such as email, social media platforms or blogs, can be used by individuals to communicate and connect with others but should be used appropriately, including using language that is not hurtful or disrespectful to others, having adult supervision or following the	people pretending to be someone they are not, lack of privacy (once something is published online, it cannot be removed) and a threat to personal safety (access to personal information). Concerns should be reported to a trusted adult. Images and data should not be shared online without the permission of the owner. Personal information, such as full name, age, school and address, should not be shared online.	communications with other learners, adding and responding to comments, such as in a blog. Explain that when searching online, some web pages may contain adverts or pop-ups that encourage people to click on them. Knowledge Cyberbullying is bullying using technology, such as social media or gaming networks and can involve teasing, name calling, harassment, deliberate exclusion,	Cite all sources when researching and explain why sources should be provided. Discern where web content might originate from and recognise that this gives clues to its authenticity, reliability and security. Knowledge Working online requires a level of responsibility and strategies to stay safe, including protecting private information and accounts. This	Recognise that digital content can be edited online. Name some of the positives and negatives of communicating with others online. Exchange online communications, making use of a growing range of available features and being aware of security settings. Knowledge Knowing someone online is not the same as knowing them face to face. People online are

	should tell an adult straight away. Data can be collected and shown using digital technology. People use digital devices for many reasons, including playing games, communicating, finding information and watching videos. Digital technology is used in all parts of everyday life. Examples include smartphones, tablets, microwaves and	schools and this information should not be shared online. Any concerns or worries should be reported to a trusted adult. When work is saved electronically, it needs to have a name that identifies it and is easily remembered. Software available online, such as email, social media platforms or blogs, can be made by individuals to communicate their ideas.	school's acceptable use policy. Some websites are not age-appropriate and so it is important to tell a trusted adult about any concerns or worries. A digital footprint is the information that exists on the internet, following a user's online activity.	As with face to face communication, online communication should be done respectfully and responsibly, considering the impact on others.	threatening or being undermined. A trusted adult or child safety organisation should be contacted if there are any concerns or worries. A trusted adult can provide help and support or contact the police if needed. Technology can have positive influences on health, such as enabling people to hear using a hearing aid or helping doctors to diagnose or treat illnesses using special machines. Both mental and physical health	enables people to protect themselves and others from potential online dangers, inappropriate behaviour and bullying. Any concerns should be reported to a trusted adult, the police or child protection organisations. Digital content can affect others and be available to anyone. Digital content is traceable, which means it can be tracked to the person who created it. To stay safe, it is important to discuss technology use	not always who they say they are and may use intimate images or content inappropriately. Once something is online, it is not under the user's control and can be made public. Using offensive language can affect others negatively and is a form of bullying called 'trolling'. Privacy and personal boundaries are important when communicating with others online. The benefits of devices broadcasting the user's location and passing on

	washing machines.	To search for digital content, the user needs to know the file name, file type and folder name or keywords and search terms to find the correct information.			can be negatively influenced by technology. Technology can have positive influences on the environment, such as using systems to monitor and control energy usage. Negative influences on the environment include contributing to pollution by travelling and using a lot of power. Appropriate behaviour when contributing to collaborative online projects includes consideration towards others, awareness of	with a trusted adult. Citing sources is giving credit to the person or website that created the information. Using someone else's work without citing it is called plagiarism and is a form of cheating. Some websites have more reliable content than others and content should be verified with another independent source.	personal information include improved customer service, allowing organisations to analyse data and improving the quality of applications. Risks include identity theft, cyberstalking, victimisation and threat to privacy. Digital content may have been edited online by anyone, and so it is important to verify content against other independent or reputable sources. The positives of communicating online include

					copyright and keeping personal data safe. There are various forms of online communication, such as email, blogging, vlogging and video chatting. Online communication should be used responsibly, remembering that online actions affect other people and there are rules that need to be followed. Pop-ups or adverts are a form of online advertising that companies use to encourage users to buy something		the speed, low cost and ability to communicate globally. The negatives of communicating online include the threat to privacy, influencing of others, access to technology and anonymity. There are a wide variety of online communication platforms, such as social media, blogs, vlogs, email or messaging, which have different available features, including the option to comment. It is important to be aware of security

					or go to another website. Some pop-ups can be malicious and lead to a virus, whereas some are helpful and give information. Pop-ups can be blocked by computer software. Concerns should be reported to a trusted adult before clicking on anything.		settings, such as age restrictions or property rights.

	Computer Science						
	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Computing
Hollywell Primary School

	Skills Input simple instructions to make technological toys operate, including floor robots and onscreen sprites. Knowledge Technological toys need instructions to operate in a particular way. Errors in instructions can be checked and fixed. Technological toys need instructions to achieve an outcome.	Skills Observe and explore outcomes when buttons are pressed in sequences on a robot and identify and debug a simple algorithm. Follow a sequence of steps to solve a problem and create instructions that others can follow (for floor robots or onscreen sprites). Knowledge An algorithm is a sequence of steps, instructions or	Skills Plan and enter a sequence of instructions using a robot, specifying distance and angle of turn. Create a simple solution that tests an idea, predict the outcome and test and debug the solution to ensure that it works. Knowledge Robots can be programmed to follow a series of instructions using algorithms. Computers' behaviour can be	Skills Design, write and enter a sequence of instructions using a robot or other device to achieve specific outcomes, debugging if necessary. Identify and use repetitions or loops in a program sequence, predicting outcomes and noticing and correcting any mistakes. Knowledge Sequencing instructions is the step-by-step process that robots or other	Skills Use sensors to 'trigger' an action, such as sound or movement. Describe and demonstrate a simple program that contains a looping element and how part of a program may need repetition. Knowledge Computers interact with the world using input and output devices. An input device may include sensors that can detect changes, such as in temperature, light level, sound	Skills Use a range of sensors to control a physical system. Design, write and debug simple sequences of instructions (algorithms), including IF, THEN and OTHERWISE commands, to decide if something is true or false. Use sensing tools or apps for an investigation and interpret the findings. Knowledge Sensors can be combined to control a physical	Skills Design, write and debug a program to control a physical system, which may include output devices, such as motors, lights and buzzers. Demonstrate how programs run in an exact order by following a sequence of instructions, and test and debug programs. Knowledge Input and output devices can be combined with programming software to control a physical

		rules that is used to perform a specific task. Algorithms can be followed by people or digital equipment. For algorithms to achieve the end goal, instructions have to be accurate and followed sequentially. Mistakes are called bugs and finding and fixing them is called debugging.	predicted and the outcome tested by following the steps of an algorithm and recognising that the computer will follow instructions precisely.	devices follow to achieve specific outcomes. This can be a single algorithm or series of algorithms called a program. Repetitions or loops can be used in programming where a computer will continue to run part of a program a number of times or until a condition is met, using the term 'repeat... until'. The given feedback can be used to identify and correct any mistakes in the program.	level or movement. The input then sends the information to a computer, which tells the output device to trigger an action, such as making a sound or creating a movement. A loop is a sequence of instructions that repeats continually until a certain condition is met. A program that contains a looping element is useful for a wide range of scenarios, such as controlling traffic lights.	system, such as using motion, light and sound sensors to control a road network of traffic lights and level crossings. Sequences of instructions (algorithms) that contain IF, THEN and OTHERWISE statements are called selections. The computer will complete operations based on whether the conditions of these selections are met or not. Sensing tools or apps have features that can be used for an investigation and the findings can be interpreted.	system, such as using sensors to create a sensory station that incorporates motors, lights and buzzers. Decomposition is breaking down a problem down into smaller parts to make it easier to process and following a sequence of instructions. Decomposition is useful for checking programs and debugging because it saves time. A range of technologies can be combined to achieve a particular

						For example, a sound sensor or app can be used to investigate the pitch of instruments.	outcome. For example, sensors (input), a computing device (hardware) and lights (hardware) can be used together to create a set of traffic lights.

Computing
Hollywell Primary School

	Information Technology						
	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Skills Ask to use digital devices to create work in a safe and responsible way. Use age-appropriate software to create images and record sounds and videos. Recognise that digital work can be saved, shared and accessed from other devices. Explore how to use different computing hardware.	Skills Select appropriate software to complete given tasks using text, images, audio and video clips. Show awareness that work they create and save on a computer or tablet can be shown to others using another device. Use a range of computing hardware for different purposes. Begin to use a range of software	Skills Create and edit multimedia components for a range of tasks. Recognise that computers can be linked to share resources and digital content can be stored, organised and retrieved. Use computing hardware in different ways to collect data. Use different types of software and identify their purposes.	Skills Compose clear and appropriate messages in online communities. Combine a range of text, images, animation and audio and video clips for given purposes. Recognise that saved work can be retrieved from another device on the same network. Use familiar computer hardware to successfully complete a task.	Skills Manipulate a range of text, images, sound or video clips and animation for given purposes. Recognise that the school network links computers to allow the sharing of resources. Use new and unfamiliar computing hardware. Apply computing skills to use new computing software.	Skills Create, select and combine a range of texts, images, sound clips and videos for given purposes. Compare the ways in which work can be shared on a school network with the ways work is shared at home or in the wider world. Apply computing skills using unfamiliar hardware to solve a problem successfully.	Skills Select, use and combine a variety of software, including internet services, to meet a goal. Identify how using different hardware can increase creativity and productivity. Identify how a new piece of software or an app can increase creativity. Combine a range of technology to achieve a particular outcome.

	Use age-appropriate software independently. Notice how data can be collected and represented electronically. Navigate to find digital content, in digital folders and online, with supervision. Knowledge Smartphones, tablets, laptops, computers and floor robots are all types of computing hardware. Smartphones, tablets, laptops, computers and	for different purposes. Observe how collected data can be represented electronically. Understand that there are online tools that can help people to create content and communicate. Recognise the ways digital technology can be used in the classroom, home and community. Search for or retrieve digital content, including images and information, in digital folders	Use data handling skills to represent data digitally. Recognise some uses of the internet, in simple terms and some of its benefits and drawbacks. Recognise why digital technology is used in the classroom, home and community. Recognise and demonstrate that some information can be found online and some offline. Knowledge Multimedia components, such as text,	Use a range of different software to successfully complete a project. Use appropriate tools (software, websites and apps) to collaborate and communicate safely. Use digital technology in different ways in the classroom, home and community. Explain that the World Wide Web contains lots of web pages about different subjects that can be searched.	Use digital technology in different ways in the classroom, home and community to achieve a set goal. Knowledge Manipulating a range of text, images, sound or video clips and animation may include changing their style, size, colour, effect, shape, location or format. A school network has computers that are connected together so they can share hardware,	Apply computing skills to create content using unfamiliar programs or apps. Create an online collaborative project for a specific purpose, sharing documents and appropriately setting permissions for other group members. Select, use and combine appropriate technology to create a solution that will have an impact on others. Knowledge	Critically evaluate search engine results and identify factors that may affect ranking, such as how long the site has existed, the number of links to the site and whether the organisation has paid to have their site promoted. Knowledge A variety of software, such as word processing software, image editing software or internet services, can be selected, used and combined to meet a goal.

	floor robots are all types of computing hardware.	and online, with supervision. Knowledge Software is the programs that are used by a computer, such as word processing software, presentation software or image editing software. It can be used to create and combine digital content for different audiences and purposes. When work is saved electronically, it can be stored on a hard drive, a shared drive called a server or	images, audio and video clips, can be created, edited and combined to create content for a range of tasks. Computers and devices can be linked in different ways, such as through a network, the internet and Bluetooth. This allows for the sharing of resources. Hardware, such as cameras, scanners and data loggers, can be used to collect data. Each type of software, such as	Knowledge Text, images, animation, audio and video clips can be combined using tools within a piece of software or by using a range of software. For example, an image could be inserted into a word processing document or a video could be inserted into a presentation. When work is saved, it is stored on a storage device, such as the computer's hard drive, a USB flash drive, a shared server or online. This work	software and data. Interacting regularly with hardware enables users to recognise common features and become confident in working with new or unfamiliar hardware. New computing software commonly has features that should be familiar to users, such as icons or terminology. Digital technology can be used in different ways and settings to achieve a specific	Creating, selecting and combining a range of texts, images, sound clips and videos for given purposes could include creating a web page, slide show presentation, short film or an animation. Computer networks are made up of computers that are connected by cables, fibres or wireless links. Each network can only be accessed by computers within their network, such as in school or at home. The internet network	Some hardware is more effective than others in particular contexts, such as using virtual reality or a touchscreen rather than a mouse to meet a specific need. Choosing the right hardware can increase creativity and productivity. Some software or apps are designed to help increase creativity by saving time or making tasks easier, such as being able to combine text, images, audio or video content into one place.

		online so that it can be opened on the same device or another device at a later time. Hardware is the parts of a computer that you can touch, such as a mouse, tablet or floor robot. Software is the programs that are used by a computer, such as word processing software, presentation software or image editing software. Data can be collected manually or using digital	word processing, presentation and image editing, can be used for different purposes, including writing reports and creating slide shows or posters. Software is available that can be used to represent collected data digitally, such as in a pictogram or bar chart. The internet is used to connect computers or devices around the world. The internet is an important part of life for many people. However some people spend too much	can then be retrieved from another device (except if it is saved on the computer's hard drive). Several pieces of hardware can be used together to complete one task, such as using a camera to take a photograph, uploading it to a computer and then printing it using a printer. Several pieces of software can be used together to complete one task, such as adding a video to a word processed document.	goal, such as using data collection in the community and home to answer a classroom based question.	can be accessed by anyone. Using prior knowledge and experience of computing skills can be applied to unfamiliar hardware to solve a problem successfully. Using prior knowledge and experience of computing skills can be applied to create content using unfamiliar programs or apps. Online collaborative projects can be shared with different permission settings, such as	Search engines take many factors into account, such as the quality of the site, number of updates or number of matches to keywords. However, search engines do not consider whether the content is true, age-appropriate or relevant, and so users need to be aware of these things when searching.

		technology, such as data loggers. It can be represented in different electronic forms, including charts and tables. Technology is used in many ways to do different jobs, such as using an interactive whiteboard in the classroom, using a tablet to do online shopping at home or using scanners in a shop in the community.	time on devices, which can have a negative impact on people's mental and physical health. Digital technology is used in everyday life and can be used to support learning and connect with others. A device is online if it is connected to the internet or a network and can communicate with other devices. A device is offline if it is not connected to the internet or network and cannot connect to other devices.	Some programs or apps have special types of technology, such as a built in camera or microphone, or sensors that measure light level, temperature or sound level. Different software, websites and apps can be used to collaborate and communicate online. Each one has different terms and conditions that need to be followed to stay safe, such as age restrictions. Digital technology can		who can view, edit or comment on the documents. Privacy settings can be restricted to those who are invited, those who have access to the link or can be made open to the public. A range of technologies can be selected, used and combined, such as using different hardware and software to create a solution that will have an impact on others.	

				be used for a range of purposes in different settings, such as using a tablet in the classroom to access educational material, in the home to access entertainment and in the community to share local news. The World Wide Web is a collection of web pages that are run via the internet. The information requested can be displayed as text, images or videos.			