

Computing Curriculum Overview: Bushey Heath Primary School

Our carefully sequenced, high-quality computing education equips our pupils to be digitally literate and leads to embedded, continuous learning of knowledge and skills. Our outstanding digital facilities enables deep links with mathematics, science, and design and technology whilst ensuring children develop confidence and independence in the creative and practical application for future workplace and the digital world.

KS1 concepts

Pupils should be taught to:

§ understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions

§ create and debug simple programs

§ use logical reasoning to predict the behaviour of simple programs

§ use technology purposefully to create, organise, store, manipulate and retrieve digital content

§ recognise common uses of information technology beyond school

§ 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

KS1 E-safety vocabulary

Personal information: This is information about us, including our name, address, telephone number or passwords. We need to make sure that we do not put this information on the internet for people we do not know to see, as we would not do this in the real world. For example, if we are playing an online game then do not use your real name, use something else.

Sharing: The internet allows us to post photos and videos online for others to see, this is called sharing. We do not want people we do know to see personal photos of videos of us or our friends and family so we have to check with an adult we trust before sharing them online. We would not give a photo of ourselves to a stranger in the real world so we do not do it online either.

Permission: If we have taken a photo of video of someone else then we need to ask their permission before posting it online as they may not want others to see it.

Report: If we see something online that upsets us or we think is wrong then we need to tell an adult we trust, such as a parent or teacher.

Trust: Not everything that we see on the internet is correct and should be trusted. Always check the information with other websites or an adult we trust. People online can also pretend to be someone else so we need to be careful who we are talking to and only speak to people we know in the real world.

Respect: When we are talking to people online then we need to make sure we being kind and respectful, treating people as we would want to be treated ourselves. If someone is not being kind then speak to an adult you trust.

Year 1 skills

Practise throughout the year:

Practical: Logging on, Opening programs, Using the mouse, Typing skills, Use of keys and keyboard (function keys e.g. caps, shift, spacebar), Saving documents/opening saved documents, Using the internet

1. Keep personal information safe.
2. Not to give personal information online
3. To talk to an adult when they see something inappropriate or something that upsets them.

1. Move the mouse or trackpad and left click to select an object.
2. Drag and drop with mouse or trackpad to move objects around the screen.

1. Place instructions into the correct order (sequence) to make something work.
2. Use direction arrows to move an on-screen object (character/sprite) to achieve an objective.
3. Predict a route and sequence direction commands (algorithm) to achieve an objective. Correct the errors if necessary

1. Change the colour of individual pixels to accurately re-create basic artwork.
2. Make changes where required.
3. Change the colour of individual pixels to accurately re-create detailed artwork.
4. Change the colour and pattern of elements.
5. Position and rotate objects on a design.
6. Position objects in relation to each other.

<p>3. Find letters or numbers on keyboard. 4. Begin touch typing with home row keys.</p>	<p>(debug). 4. Predict a route and sequence distance commands to program an on-screen object to achieve an objective. 5. Predict and sequence movement and pen commands to program the drawing of different 2D shapes. 6. Sequence code blocks, including movements and execute (start program) blocks to write a program to achieve an objective.</p> <p>1. Create and debug simple programs by selecting code blocks, placing them in the correct sequence and executing a program. 2. Use logical reasoning to predict the behaviour of simple programs. 3. Simplify a program by using a loop.</p>	<p>7. Resize, rotate, flip and arrange objects behind/in front of each other</p>
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Autumn digital literacy:	Spring computer: science	Summer : information technology /creative application
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<p>Knowledge</p>	<p>E-safety https://www.ilearn2.co.uk/e-safety---key-stage-1.html/</p> <ol style="list-style-type: none"> To understand what personal information is and why we keep personal information private. To know why do websites want personal information. To identify when and where to go for help when concerned. <p>Link to books: Penguin Pig / Chicken Clicking</p>	<p>We are programmers! https://www.ilearn2.co.uk/year-1-programming-html/</p> <ol style="list-style-type: none"> To understand what digital devices are. To recognize that every digital device follows a sequence of instructions that the device has to follow to make it work. To know that a program is when you press a key on the keyboard and the letter or number appears on the screen, the computer has followed a program of instructions in order to write a computer. To understand that we can learn to program objects with computers inside, such as robots, traffic lights and on-screen characters. 	<p>We are artists and designers! https://www.ilearn2.co.uk/year1digitalart-html/ https://www.ilearn2.co.uk/year13ddesign-html/</p> <ol style="list-style-type: none"> To know that art often needs lots of equipment; paper, pencils, colour, paints, rubbers, rulers etc. Creating art on a computer means we can use many tools all on one device. To understand that we can change the colour quickly if we make a mistake or change our mind. To recognize that using a computer also makes some tasks quicker. For example, filling a square a colour on a computer is much quicker than painting it with a real paintbrush. To know that many artists create pictures digitally. To know that 3D design is used to design 3D objects, including buildings, furniture and transport. To understand that 3D designers use CAD software (Computer Aided Design), which
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			allows them to view 3D objects on a 2D screen by moving around the objects. To recognize that the software includes tools to add 3D objects and resize them and change how they look.
	<p>We are computer experts! https://www.ilearn2.co.uk/eyfsyear-1-mouse-and-keyboard-skills-html/</p> <ol style="list-style-type: none"> To know we can control a computer in different ways, including touching the screen on a device such as an iPad or with a keyboard for typing letters and numbers. To understand that a mouse or trackpad is used to select and move objects on the screen. To know that the computer mouse is called a mouse because when it was invented, it looks similar to a mouse with a wire (tail). To understand that we need a keyboard to type letters and numbers onto the screen. To understand that when we are typing, try to use as many of your fingers as possible to improve the speed. 	<p>We are programmers! https://www.ilearn2.co.uk/year-2-programming-html/</p> <p>Continue building on previous knowledge (above)</p> <ol style="list-style-type: none"> To understand that I must predict what will happen <i>-work out my program before I execute/run it</i> To know how to Sequence (<i>putting the code blocks in the correct order</i>) To understand how to repeat (<i>putting a code block inside a repeat code block loop, meaning you can use less blocks</i>) 	<p>Creative Application! Free choice using previously learnt skills/ knowledge. Below suggestion only.</p> <p>We are story tellers!</p> <ul style="list-style-type: none"> Children create a talking book (ebook) to share with others. https://www.ilearn2.co.uk/ebookcreationks1.html/ Comic creation https://www.ilearn2.co.uk/comiccreationteacher.html/
Vocabulary	Mouse, Trackpad, Cursor, Left button, Scroll wheel, Home row.	Sequence, Algorithm, Predict, Execute, Debug, repeat.	Pixels, Grid, Fill, Check, 3D, Rotate, Arrange, Flip
Enrichment team Digital media overview	Photography Product design – Christmas gift bags		
Year 2 skills			
Practise throughout the year: Typing skills, Saving documents/opening saved documents, Recognise and use icons in programs, Highlighting and editing text, Copy and paste images, Using the internet, Using a search engine.			
	<ol style="list-style-type: none"> Understand what makes a computer a computer. Understand computers store and follow instructions. Spot digital technology in school. Understand how different technology helps us. Use search engines 	<ol style="list-style-type: none"> Program movements. Program outputs for audio or text. Find errors in a program. Program inputs. Program selection/conditions (if one sprite hits another). 	<ol style="list-style-type: none"> Use lines and fill tools to make interesting patterns. Add a variety of shapes (outlines and fill) and label them with text. Re-create graphics using pixels with different colours
		1. Add a background and objects to a frame,	

		<p>including text.</p> <ol style="list-style-type: none"> 2. Copy/clone a frame and move objects to create an animation. Plus flip an object. 3. Create screen-recording animation. 4. Create stop-motion animation with photos. 	
Knowledge	Autumn digital literacy:	Spring computer: science	Summer : information technology /creative application
Year 2	<p>E-safety https://www.ilearn2.co.uk/e-safety-key-stage-1-html/</p> <p>(Resources 4-7)</p> <ol style="list-style-type: none"> 1. To know what are the dangers of sharing photos online. 2. People online are not always who they say they are. 3. Trusting information online. 4. Using the Internet responsibly. 5. Being respectful. <p>Linked book ‘Troll Stinks’ book</p>	<p>We are programmers! https://www.ilearn2.co.uk/year-2-scratch-jr-html/</p> <ol style="list-style-type: none"> 1. To understand that Scratch Jr is a piece of software that helps us write computer programs. 2. To recognize that it uses code blocks that all have different jobs and we sequence them (put in an order) to make something work or program a game. 3. To understand that Scratch Jr also helps us learn Scratch programming skills that we can then use in the full version of Scratch. 4. To know that a character or object in Scratch Jr and Scratch is called a sprite. 5. To be know if you make a mistake use the undo arrow to go back a step. 	<p>We are artists! https://www.ilearn2.co.uk/year-2-digital-art-html/</p> <ol style="list-style-type: none"> 1. To know that art often needs lots of equipment; paper, pencils, colour, paints, rubbers, rulers etc. Creating art on a computer means we can use many tools all on one device. 2. To understand using a computer also makes some tasks quicker. For example, filling a square a colour on a computer is much quicker than painting it with a real paint brush. 3. To recognize that drawing (e.g. a square) can be more accurate than using a pencil and ruler. 4. To know that we can also change the colour quickly on a computer if we make a mistake or change our mind.
	<p>Uses of IT: https://www.ilearn2.co.uk/year-2-uses-of-it-html/</p> <ol style="list-style-type: none"> 1. To know when we think of a computer, we often think of a laptop, desktop with a monitor and keyboard or tablet such as an iPad. 2. To understand that computers are found in many objects that we program to do tasks for 	<p>We are animators! https://www.ilearn2.co.uk/year-2-animation-html/</p> <ol style="list-style-type: none"> 1. To know that animation is used in lots of ways, including in television and film to make cartoons. 2. To understand that Stop motion animation is a process of taking a photo of objects, moving them 	<p>Creative Application! Free choice using previously learnt skills/ knowledge. Below suggestion only.</p> <p><u>We are scientists</u></p> <p>Collect / classify bugs – link to other topics in the curriculum Create spreadsheets and graphs</p>

	<p>us, such as calculators, microwaves and washing machines.</p> <p>3. To understand what different types of computers do and how they help us. https://www.ilearn2.co.uk/year-2-research.html/</p> <ol style="list-style-type: none"> To understand how a web-page displays information in different ways; text, images, videos and interactive elements. Use a web-page to answer questions using keywords. 	<p>slightly then taking another photo.</p> <ol style="list-style-type: none"> To recognize this process is repeated until there are lots of photos (frames) and when they are played one after the other, it looks like the objects in the photos move. To understand this is how films such as Wallace and Grommet were made and computer software makes it quicker to create animation digitally because we can use the same frame over and over again, changing small parts. 	https://www.ilearn2.co.uk/year-2-data-handling.html/
Vocabulary	Microprocessor, Analogue, Digital	Outputs, Loops, Inputs, Selection (sending messages), Execute, Debug, Frame, Clone, Frame rate	Pixels, Fill, Text, PNG and GIF.
Enrichment team Digital media overview		Green screen production	
Vocabulary	<p><i>Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboard</i></p> <p><i>Properties of materials – as for Year 1 plus opaque, transparent and translucent, reflective, nonreflective, flexible, rigid</i></p> <p><i>Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching</i></p>	<p><i>Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed</i></p> <p>• <i>Names of local habitats e.g. pond, woodland etc.</i></p> <p>• <i>Names of micro-habitats e.g. under logs, in bushes etc.</i></p>	
KS2 concepts			
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> § design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts § use sequence, selection, and repetition in programs; work with variables and various forms of input and output § use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs § 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 § use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content § 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 § use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 			
LKS2 E-safety vocabulary			
<p>Personal information : This is information about us, including our name, address, telephone number or passwords. We need to make sure that we do not put this information on the internet for people we do not know to see as we would not do this in the real world. For example, if we are playing an online game then do not use your real name, use something else.</p>			

Sharing: The internet allows us to post photos and videos online for others to see, this is called sharing. We do not want people we do know to see personal photos of videos of us or our friends and family so we have to check with a grown up we trust before sharing them online. We would not give a photo of ourselves to a stranger in the real world so we do not do it online either.

Permission: If we have taken a photo of video of someone else then we need to ask their permission before posting it online as they may not want others to see it.

Report: If we see something online that upsets us or we think is wrong then we need to tell an adult we trust, such as a parent or teacher.

Trust: Not everything that we see on the internet is correct and should be trusted. Always check the information with other websites or an adult we trust. People online can also pretend to be someone else so we need to be careful who we are talking to and only speak to people we know in the real world.

Respect: When we are talking to people online then we need to make sure we being kind and respectful, treating people as we would want to be treated ourselves. If someone is not being kind then speak to an adult you trust.

Year 3 skills

Practise thought the year:

Typing skills, Highlighting and editing text, Creating folders, Copy and paste text and images, Use search engines.

<ol style="list-style-type: none"> 1. What to do if something upsets you online. 2. Why and how people can be mean online. 3. Describe the term 'sharing online' and why we need to get permission to share photos and videos of other people. 4. Why people pretend to be someone else online. 5. Why we only talk to people we know in the real world, when online. 6. why we should not always trust what we read online and how to check 7. The importance of being kind in the real world and also online. <ol style="list-style-type: none"> 1. Typing skills 2. Create folders 3. Use the internet 4. Use search engines 5. Copy and Paste text and images. 6. Find and replace words. 7. Format text for a purpose. 8. Add bullet points to make lists 9. Experiment with keyboard shortcuts. 	<ol style="list-style-type: none"> 1. Design, write and debug programs that accomplish specific goals. (Including outputs) 2. Use repetition in programs. 3. Work with various form of inputs; keyboard, mouse and touch screen. 4. Write programs to simulate physical systems. <ol style="list-style-type: none"> 1. Create a 3D place using various design tools. 2. Write a program to control using keyboard inputs. 3. Write a program with conditions (selection). 4. Write a program with variables 	<ol style="list-style-type: none"> 1. 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. 2. Use 3D space on a grid. 3. Re-create or design familiar 3D models using cubes, such as tables and chairs. 4. Use chisel tool to improve and adapt models. Colour individual blocks or whole models. <ol style="list-style-type: none"> 1. Search for and add suitable graphic elements. 2. Add and format suitable titles and text. 3. Label an image using arrows.
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Knowledge	Autumn digital literacy:	Spring: computer science	Summer : information technology /creative application
Year 3	<p style="text-align: center;">e- Safety</p> <p style="text-align: center;">https://www.ilearn2.co.uk/e-safety-key-stage-2-html/</p> <ol style="list-style-type: none"> 1. To understand that the internet can be amazing, helping us learn, play games and speak to other people. 2. To know that we need to make sure we are safe 	<p style="text-align: center;">We are programmers!</p> <p style="text-align: center;">https://www.ilearn2.co.uk/y3scratch-html/</p> <ol style="list-style-type: none"> 1. To know that Scratch is a piece of software that helps us program games, quizzes, drawings and much more. 	<p style="text-align: center;">3D design</p> <p style="text-align: center;">https://www.ilearn2.co.uk/year33ddesignteacher-html/</p> <ol style="list-style-type: none"> 1. To Understand 3D spaces on a grid 2. To understand which tools to use. 3. To know that the chisel tool is to improve and adapt models.

	<p>from people upsetting us.</p> <p>3. To understand the dangers of sharing our personal information, such as our address, online.</p>	<p>2. To understand that Scratch uses code blocks that are different colours with different uses to piece together like a jigsaw to program an object (sprite) to move and interact.</p> <p>3. To recognize that Scratch helps us take a big complex task, such as programming a character to draw a square, and break it up into smaller parts (decompose) to make it easier to understand.</p>	<p>4. To understand how to colour individual blocks or whole models.</p>
	<p>Confident computer users https://www.ilearn2.co.uk/document-html/</p> <ol style="list-style-type: none"> To know what the Windows Keyboard Shortcuts are. To know that Microsoft Word can be used to create text based documents with pictures/ photos. <p>https://www.ilearn2.co.uk/touch-typing-html/</p> <ol style="list-style-type: none"> To be confident at typing 	<p>We are programmers! https://www.ilearn2.co.uk/year-3-kodu-html/</p> <ol style="list-style-type: none"> Use previously learnt knowledge to support with new skills. To know if the character touches an object it will disappear. To understand that the scoring system needs to have a programme with variables. 	<p>Creative Application! Free choice using previously learnt skills/ knowledge. Below suggestion only.</p> <p>Infographics https://www.ilearn2.co.uk/year3infographics-html/</p> <p>https://www.canva.com/infographics/templates/ or Adobe spark can be used.</p> <ol style="list-style-type: none"> To understand what an infographic is and why we use them. To understand the different tools.
<i>Vocabulary</i>	Personal information, Sharing, Permission, Report, Trust, Respect, Word processor, Find and replace, Format, Text wrapping, Bullet points, Keyboard shortcuts.	Sprite, Stage, Sequence, Debug, Loops or repetition, Inputs	3D, Rotate, Zoom, Grid, Chisel, Hammer and Trowel, Spray, Bucket.
<i>Enrichment team Digital media overview</i>	Photography Product design- Christmas book marks		
Year 4 skills			
Practise word processing skills http://code-it.co.uk/dlplanning/wordprocessing/WordProcessingSkillsandUnderstanding			
	<ol style="list-style-type: none"> Be discerning in evaluating digital content Use technology safely, respectfully and responsibly; Recognise acceptable/unacceptable behaviour; Identify a range of ways to report concerns about content and contact What to do if something upsets you online. Why and how people can be mean online. 	<ol style="list-style-type: none"> Program inputs with loops, selection and sensing for interactions. Work with variables and various forms of input and output. Debug programs that accomplish goals. (correcting errors) Use selection, data variables and 	<ol style="list-style-type: none"> Change appearance of cells in a spreadsheet (fill colour and border) then add and align text. Find and add data to a spreadsheet, resize cells and use the software to create a suitable chart with a title Use search technologies effectively Select, use and combine a variety of software (including

<ol style="list-style-type: none"> 5. Describe the term 'sharing online' and why we need to get permission to share photos and videos of other people. 6. understand the conventions for collaborative 7. online work, particularly in wikis 8. be aware of their responsibilities when editing other people's work 9. become familiar with Wikipedia, including potential problems associated with its use 10. practise research skills 11. write for a target audience using a wiki tool 12. develop collaboration skills 13. develop proofreading skills. 	<ol style="list-style-type: none"> operators. 5. Program a virtual robot using Scratch blocks. 6. Use logical reasoning to detect and correct errors in programs 1. Add scene images. 2. Add scripted voiceover audio, adjust the volume and crop clips (including splitting a clip). 3. Add more clips and use transition effects. 4. Add titles. 5. Use elements such as shapes. 6. Add music background music and adjust the volume. 7. Export a project. 8. Understand how computer networks can provide multiple services, such as the world wide web 	<p>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</p>	
Knowledge	Autumn digital literacy:	Spring: computer science	Summer : information technology /creative application

<p>Year 4</p>	<p style="text-align: center;">e- Safety</p> <p>https://www.ilearn2.co.uk/e-safety-key-stage-2-html/</p> <ol style="list-style-type: none"> 1. To understand the dangers of sharing our personal information, such as our address, online. 2. Understand what to do if something upsets you online. 3. Describe the term 'sharing online' and why we need to get permission to share photos and videos of other people. 4. Understand why people pretend to be someone else online. 5. Understand why we only talk to people we know in the real world, when online. 6. Understand why we should not always trust what we read online and how to check 7. Understand the importance of being kind in the real world and also online 	<p style="text-align: center;">We are software developers!</p> <p>https://www.ilearn2.co.uk/y4scratch-html/</p> <ol style="list-style-type: none"> 1. Know that sprites can be controlled in different ways using keyboard or touch screen inputs. 2. Know that sprites can be programmed to sense other sprites or colours then make decisions. (Eg, a car sprite could win the game if it touches a blue finish line or go back to start if it touches the green off the track.) 3. Know how to program variables, including data variable that can used to add a scoring system. 	<ol style="list-style-type: none"> 1. To understand that spreadsheets have a huge variety of uses: from completing quick calculations, helping to create budgets, organising data efficiently and effectively to producing tables, graphs and charts. To know that spreadsheets can be found in many different scenarios: databases for libraries, school registers, budgets in the home etc. 2. To recognize that Microsoft Excel is the main spreadsheet software but there is also Google Sheets and Apple Numbers, which are very similar.
	<p>https://www.commonsense.org/education/digital-citizenship/lesson/is-seeing-believing</p> <ol style="list-style-type: none"> 1. To recognize that photos and videos can be altered digitally. 2. Identify different reasons why someone might alter a photo or video. 3. To analyse altered photos and videos to try to determine why. <p>https://www.commonsense.org/education/digital-citizenship/lesson/private-and-personal-information</p> <ol style="list-style-type: none"> 1. Identify the reasons why people share information about themselves online. 2. Explain the difference between private and personal information. 3. Explain why it is risky to share private information online. 	<p style="text-align: center;">We are animators!</p> <p>https://www.ilearn2.co.uk/imovieteachers-html/</p> <ol style="list-style-type: none"> 1.To know that we watch videos everywhere. 2.To understand that these videos and movies have all been created using video editing software and it is one of the most common tasks that people use computers for. 3.To understand that videos are edited to make sure they look and sound the best they can. This includes merging together video clips that have been recorded separately, such as filming a scene from different angles. 4.To understand all of the different tools used that help us adjust the video. 	<p style="text-align: center;">Creative Application!</p> <p>Free choice using previously learnt skills/ knowledge. Below suggestion only.</p> <p>3D designers!</p> <p>https://www.ilearn2.co.uk/3ddesignteacher-html/</p> <p>Using:</p> <p>TinkerCAD website - 3D village</p> <p>Mecabricks website – Lego modelling</p>

	<p>We are co-authors https://teachwithict.weebly.com/how-to-create-a-wiki.html https://www.youtube.com/watch?v=-dnL00TdmLY.</p> <ol style="list-style-type: none"> 1. To understand how to use each processing skill. 2. To understand what a wiki page is. 3. To understand why we use information pages. 4. To understand we cannot trust all information read online. 		
<i>Vocabulary</i>	Personal information, Sharing, Permission, Report, Trust, Respect, advertising · alter · persuade · photo retouching Wiki, Research, links, save, edit, information, facts	Inputs, Selection, Sensing, Variables, Debug, Clips, Timelines, Split, Transitions, Titles, Voiceovers, Export	Spreadsheet, Cell, Pie chart, Bar Chart, Bar Chart.
<i>Enrichment team Digital media overview</i>	Photography Product design- CAD		

UKS2 E- Safety Skills

- +, AND, “ “, NOT, * wildcard Additional characters used in online searches to limit, expand or determine the search results returned by a search engine. Sometimes referred to as Boolean operators.
- Adware Software which automatically displays or downloads advertising material such as banners or pop-ups when a user is online. Designed to generate advertising revenue.
- Adware blockers Software which will stop or block unwanted banner ads or pop-ups from appearing. Some of these adware blockers are available as browser plug-ins. (See also pop-up blockers)
- Ad targeting The term covers a range of strategies used by companies to make ads more visible. This includes consideration about where on the page an ad is placed in order to get maximum visibility or clickability as well as basing the placements of ads on a user’s behaviour, profile data (e.g. gender, age, location) or purchasing history etc. Ads are targeted to audiences with specific traits.
- Age verification Age verification mechanisms allow the age of a customer or service user to be checked by the service provider using sources such as credit cards, birth records etc.
- AI (artificial intelligence) Computer programmes which can think, learn, make decisions, solve problems and mimic human cognition meaning they are able to perform tasks such as visual perception, speech recognition, decision-making, and translation between languages.
- Anonymity This describes situations where a person’s true identity is unknown. This is often achieved by adopting pseudonyms or omitting identifiable information from an online presence.
- Anonymous reporting routes A mechanism which allows users to report safeguarding issues anonymously, generally through an online facility which offers users the choice to enter contact details or not.
- Anonymous routes are often effective in engaging wider populations around online incidents, and provide support for those who want to report issues but are fearful of possible repercussions.
- App permissions When apps are downloaded the user grants certain permissions of data and information that the app is able to access. This could include access to location, camera, microphone, browsing history, contact list etc. Some are legitimate and an app will need access in order to function correctly, others less so and will be more about the acquisition of data. Users are very often unaware of the permissions that they have granted.
- Cookies Data generated by a website and saved on your web browser for the purpose of storing user preferences and login details (if selected to).
- Cloud Storing and accessing data and programs over the Internet instead of a computer’s hard drive. Cloud storage can be accessed on almost any device with an internet

connection as it is remote storage.

- Digital age of consent This is the minimum age that children can provide their own consent to the processing of their data. The UK has set this age as 13.
- Filters A form of editing used on social media and editing apps to make photos and images appear more glossy and achieve a more desired look and feel.
- Fake news Fake news is a form of news consisting of deliberate disinformation or hoaxes spread via traditional news media or online social media (See also hoax and disinformation).
- Forums An internet forum, or message board, is an online discussion site where users hold conversations in the form of posted messages. They differ from chat rooms in that messages are often longer than one line of text, and are at least temporarily archived. Depending on the access level of a user or the forum set-up, a posted message might require approval by a moderator before it becomes visible. A forum can contain a number of sub-forums, each of which may have several topics. Within a forum’s topic, each new discussion is called a thread, and can be replied to by multiple users.
- Firewalls A network security system, either hardware or software based, that uses rules to control incoming and outgoing network traffic. A firewall acts as a barrier between a trusted network and an untrusted network.
- Hacking Gaining unauthorised access to a computer system or account. Someone who does this may be referred to as a ‘hacker’. Hackers find vulnerabilities in computer systems such as poor passwords or use technical methods to ‘attack’ systems. Some companies employ ethical hackers to help them protect their systems.
- In-app purchases The purchase of additional content or services within an app or game often by using real money but sometimes in exchange for in-game money
- Malware Sometimes referred to as malicious software, malware is a program designed to damage or carry out unwanted actions on a device or computer network.
- Search engine A programme, script or tool which searches the internet for information, images or material based on keywords or content entered by a user.
- Search engine rankings The position at which a particular site appears in the results of a search engine query.

Year 5 skills

1. Keep personal information private.
2. Understand the consequences of sharing photo/videos online.
3. Understand the term digital footprint.
4. How can we check online content is trustworthy.
5. How and where and who can we report concerns we have to.
6. Understand the pitfalls of in-app purchases.
3. Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web Appreciate how [search] results are selected and ranked
4. Understand the opportunities computer networks offer for collaboration
5. Be discerning in evaluating digital content
6. Use search engines selectively
7. Use technology safely, respectfully and responsibly
8. Recognise acceptable/ unacceptable behavior

Solve problems by decomposing them into smaller parts
 Use selection in programs
 Work with variables
 Use logical reasoning to explain how some simple algorithms work
 Use logical reasoning to detect and correct errors in algorithms
 Understand computer networks

1. Program inputs for control, selection (conditions) and sensing for interaction and data variables for scoring and a game timer.
2. Program distance sensing and movement.
3. Program Inputs, outputs, loops, conditions, sensing and variables.
4. Program list variables that chooses randomly.

1. Adjust slide size to mimic a phone/tablet size.
2. Add text and images to a slide.
3. Add icons and text to use as navigation.
4. Duplicate slides to create multiple pages of the app.
5. Create hyperlinks to create navigation.

Knowledge	Autumn digital literacy:	Spring: computer science	Summer : information technology /creative application
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<p>Year 5</p>	<p style="text-align: center;">E-safety</p> <p><u>Education for a Connected World (2020) framework</u> https://www.ilearn2.co.uk/education-connected-world/ (first 4 units) Jigsaw Video https://www.ilearn2.co.uk/e-safety-key-stage-2-html/</p> <ol style="list-style-type: none"> 1. To know how to explain ways in which someone might change their identity depending on what they are doing online (e.g. gaming; using an avatar; social media) and why. 2. To understand that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this. 3. I know the importance of asking until I get the help needed. 4. To recognize examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours. 5. To be able to recognise online bullying can be different to bullying in the physical world and can describe some of those differences. 	<p>We are programmers! https://www.ilearn2.co.uk/y5scratch.html/</p> <ol style="list-style-type: none"> 1. Know that sprites can be controlled in different ways using keyboard or touch screen inputs. 2. Know that sprites can be programmed to sense other sprites or colours then make decisions. (Eg if a ball sprite touches the colour of a goal it scores a point.) 3. Know how to program variables, including random variables that can be used to make a game unpredictable. 	<p>We are App designers! https://www.ilearn2.co.uk/appdesignteacher.html/</p> <ol style="list-style-type: none"> 1. To understand that we are using apps for everything now; entertainment, shopping, education, socialising, banking and much more but before apps are made, they need to be designed. 2. To recognize that mobile apps are designed differently to websites because they are often used on a smaller screens, such as mobile phones. 3. To know that the navigation (the way to move between the different pages) is often at the bottom of the screen and the icons are bigger because the user will touch them with their finger and not a mouse cursor.
	<p>https://www.ilearn2.co.uk/year-5-computer-networks-html/</p> <ol style="list-style-type: none"> 1. To understand Computer Networks, Internet and Cloud Computing and how they help us. 2. Understand what email is and how can we use it safely. 3. Understand how and why we collaborate online (including blogging). 	<p>We are programmers! https://www.ilearn2.co.uk/year-5-sphero-programming.html/</p> <ol style="list-style-type: none"> 1. Understanding Bluetooth Technology as Input Device 2. Write programs for the Sphero using movement and repetition (loops). 3. Write a program to trace a maze/route with Sphero and De-bug. 4. Write a program with outputs. 5. Write a program with random variables 	<p>Creative Application! Free choice using previously learnt skills/ knowledge. Below suggestion only.</p> <p>We are presenters Blogging / podcasting/ vlogging Write own blog and comment on them.</p> <p>Create own 3D rooms http://code-it.co.uk/dlplanning/google/sketchup</p>
<p>Vocabulary</p>	<p>Personal information, Sharing, Permission, Report, Trust, Respect, advertising, identity, Server, Router, ip address.</p>	<p>Algorithm, Debugging, Inputs, Outputs, Process, Program, Repeat, Condition, Sequence, Variable, Random Variable, Decomposition, Manipulate, Debug.</p>	<p>Screen dimensions, Icons, Navigation, Hyperlinks, Duplicate</p>
<p><i>Enrichment team Digital media overview</i></p>	<p>Photography Product design- wallpaper/ wrapping paper</p>		

Year 6 skills

1. Understand the opportunities computer networks offer for collaboration
2. Be discerning in evaluating digital content
3. Use search engines selectively
4. Use technology safely, respectfully and responsibly
5. Recognise acceptable/ unacceptable behaviour
6. Identify a range of ways to report concerns about content and contact

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.

1. Adjust the colours, brightness and contrast to improve a photo.
2. Create a before and after slide in presentation software.
3. Take and crop a screenshot.
4. Add drawing and text layers.
5. Import new images as layers and resize them to fit.

Design and create digital content to accomplish goals.
 Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Work with various forms of input and output
 Solve problems by decomposing them into smaller parts

Use logical reasoning to detect and correct errors in algorithms

1. Program keyboard/touch screen inputs, selection (conditions), loops and random variables for unpredictability (operators).
2. Program inputs, selection, sensing, random variables, operators for direction and data variables for scoring.
3. Use inputs, selection, loops, sensing, costume changes and broadcasts.
4. Work with multiple sprites to send broadcast messages between them.

1. Add, move and resize objects in a virtual reality environment.
2. Animate objects for realism.
3. Use code blocks to add movement (with grouping) and interactions (conditions).
4. Create multiple scenes of VR environments.

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.

1. Add and format text within a website.
2. Organise sections of web-pages and multiple page with relevant titles.
3. Add and edit images.
4. Include other features such as hyperlinks, buttons and files.
5. Evaluate other websites and provide constructive feedback.
6. Make necessary changes to the website based on feedback.

Knowledge

Autumn digital literacy:

Spring: computer science

Summer : information technology /creative application

<p>Year 6</p>	<p style="text-align: center;">E-safety</p> <p><u>Education for a Connected World (2020) framework</u></p> <p><u>https://www.ilearn2.co.uk/education-connected-world/</u> (first 4 units)</p> <p>Caught in the Web <u>https://www.ilearn2.co.uk/e-safety-key-stage-2-html/</u></p> <ol style="list-style-type: none"> 1. To be able to explain the difference between a 'belief', an 'opinion' and a 'fact. and can give examples of how and where they might be shared online 2. To be able to analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others. 3. To be able to explain what is meant by fake news e.g. why some people will create stories or alter photographs and put them online to pretend something is true when it isn't. 4. To identify times or situations when someone may need to limit the amount of time they use technology. 5. To understand the strategies to help with limiting this time. 6. Identify simple strategies for creating and keeping passwords private. 7. To know what a strong password is and demonstrate how to create one. 8. To explain that if they are not sure or feel pressured then they should tell a trusted adult. 	<p>We are programmers!</p> <p><u>https://www.ilearn2.co.uk/y6scratch-html/</u></p> <ol style="list-style-type: none"> 1. To know that sprites can be controlled in different ways using keyboard or touch screen inputs. – 2. To know that sprites can be programmed to sense other sprites or colours then make decisions. (Eg if a ball sprite touches the colour of a goal it scores a point.) – 3. To know how to program variables, including random variables that can be used to make a game unpredictable. - Know how to program operators to add sums. – 4. To know how to program broadcasts, to send messages between sprites. 5. To know what virtual reality is and how it can help people. 	<p>We are web designers!</p> <p><u>https://www.ilearn2.co.uk/year-6-web-design-html/</u></p> <ol style="list-style-type: none"> 1. To understand that the websites that we use have all been designed. 2. To recognize that the people who made them have thought about the colours, text size, image size and layout to make sure they are suitable for the audience who will be using them. 3. To understand that we can use software to design, create and publish our own websites about a topic, making sure we think carefully about who will be using it.
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	<p>Image editing- photography https://www.ilearn2.co.uk/imageeditingteacher.html/</p>	<p>Virtual reality https://www.ilearn2.co.uk/virtualrealityteacher-html/ Co-spaces website</p>	<p>Creative Application! Free choice using previously learnt skills/ knowledge. Below suggestion only.</p> <p>Film production</p> <p>Photo editing https://www.ilearn2.co.uk/imageeditingteacher-html/</p>
Vocabulary	Personal information, Sharing, Permission, Report, Trust, Respect, advertising , passwords Saturation, Temperature, Vibrance,	Broadcasts, Variable, Decomposition, Manipulate, Debug, Operators. Environment resize, rotate	Drag and drop elements, Theme, Navigation and hyperlinks, Spacer, Divider, HTML Code, Domain name.
<i>Enrichment team Digital media overview</i>	Music production Product design- Christmas cards		