Hollinswood Primary School and Nursery

Our Computing curriculum gives children the skills, knowledge and understanding of computing they will need for the rest of their lives. They will learn how computers and computer systems work, design and build programs, develop their ideas using technology and create a range of content. Our main aim is that as learners they will be creative, confident and safe.

Computer Science: the core of computing – greatest weight should be given. <mark>See video links in information sheet for inspiration.</mark>

What is it? Information and computation how digital systems work, and programming.

	EYFS/NC ref.	Ideas and software	Vocabulary
EYFS	**3-4:** Explore how things work (Understanding of the World) **YR:** Develop their small motor skills so that they can use a range of tools competently, safely and confidently. (Physical Development) **YR:** Show resilience and perseverance in the face of a challenge. (PSED) **ELG:** Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. (PSED)	BeeBots/BlueBots Remote Control Cars Torches Walkie talkies Cubetto Robot Mouse Noisy Things Beep Beep IWB Sphero Purple Mash Coding (summer term YR) **Nursery:** Computer Discovery activities 1 - 3 https://www.ilearn2.co.uk/computerdiscoveryfree.html **YR:** Mouse and Keyboard Skills Activities 1 – 7 https://www.ilearn2.co.uk/eyfsyear-1-mouse-and-keyboard-skills.html **YR:** Early Programming https://www.ilearn2.co.uk/early-programming---early-years.html	Button, switch, forwards, backwards, on, off, left, right, up, down. Coding: Program, code, instructions, input.
Year 1	**NC:** Create and debug simple programs	Scratch Junior (iPads) https://www.scratchjr.org/teach.html BeeBots/BlueBots BeeBot/BlueBot app on iPads Purple Mash Coding Scratch online Sphero Cubetto Robot Mouse Code-it.co.uk BeeBot planning: http://codeit.co.uk/ks1/turtle/ks1turtle Scratch Jr plans: http://code-it.co.uk/scratchjrdance Code.org lessons: https://studio.code.org/s/coursea-2018 Introduce Programming: https://www.ilearn2.co.uk/year-1-programming.html	Forwards, backwards, on, off, left, right, up, down. Coding: Program, code, instructions, input, bug, debug, order, sequence, first, last.
Year 2	**NC:** Understand what algorithms are; how they are implemented as programs on digital devices; and that	Code-it.co.uk BeeBot planning: http://code-it.co.uk/ks1/turtle/ks1turtle	Coding: Program, code, instructions, input, bug,

	programs execute by following precise and unambiguous instructions **NC:** Use logical reasoning to predict the behaviour of simple programs	Code-it.co.uk Scratch Jr plans http://code-it.co.uk/mystory http://code-it.co.uk/sjmovinggame Purple Mash Coding iMovie Code.org lessons: https://studio.code.org/s/courseb-2018 2Count, 2Graph, 2Question Also revisit Y1 apps/programs <mark>Develop Programming: https://www.ilearn2.co.uk/year-2-programming.html</mark> <mark>Scratch Jr: https://www.ilearn2.co.uk/year-2-scratch-jr.html</mark>	debug, order, sequence, first, last, action, algorithm, object
Year 3	**NC:** Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts	Purple Mash Coding BeeBots/BlueBots Dash and Dot robots Wonder apps on iPads Algorithm design plan: http://code-it.co.uk/unplugged/gettingup Using loops plan: http://code-it.co.uk/cs/loops2dshapes Scratch sample plans: http://code-it.co.uk/sampleKS2plan 2Simple 2Animate Scratch Junior on iPads BeeBots Code.org lessons: https://studio.code.org/s/coursec-2018 <mark>Y3 Pupil Activities for Scratch:</mark> <mark>https://www.ilearn2.co.uk/y3scratch.html</mark>	Coding: Action, Algorithm, Bug, Code Block, Code design, Command, Control, Debug/Debugging, Event, If, Input, Output, Object, Properties, Repeat, Selection, Timer, Variable
Year 4	**NC:** Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; **NC:** Use sequence, selection, and repetition in programs;	Book Creator Purple Mash Coding BeeBots/BlueBots Dash and Dot robots Wonder apps on iPads Scratch sample plans: http://code-it.co.uk/sampleKS2plan Sandwich making algorithm: http://code-it.co.uk/wp-content/uploads/2015/05/sandwich_algorithm1.pdf Code.org lessons: https://studio.code.org/s/coursed-2018 <mark>Y4 Pupil Activities for Scratch:</mark> <mark>https://www.ilearn2.co.uk/y4scratch.html</mark>	Coding: Action, Alert, Algorithm, Bug, Command, Control, Debug/Debugging, Event, Get input, If, If/Else, Input, Output, Object, Repeat, Selection, Timer, Variables
Year 5	**NC:** Use sequence, selection and repetition in programs; work with variables and various forms of input and output	Movie making (iMovie). Link to Literacy (importance of ordering) Use Scratch to complete an animation (link to topic or Literacy) <mark>Y5 Pupil Activities for Scratch:</mark> <mark>https://www.ilearn2.co.uk/y5scratch.html</mark>	Coding- Action, Alert, Algorithm, Bug, Code Design, Command, Control, Debug/ Debugging, Design Mode, Event, Get input, If, If/Else,

		Y6 Pupil Activities for Scratch: https://www.ilearn2.co.uk/y6scratch.html	Input, Output, Object, Repeat, Sequence, Selection, Timer, Variable
Year 6	**NC:** Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Green screen movie linked to topic (Do ink app) Code.org lessons: https://studio.code.org/s/coursee-2018 Raspberry Pi USE OF SPHERO: https://www.ilearn2.co.uk/year-5-sphero-programming.html	Coding- Action, Alert, Algorithm, Bug, Code Design, Command, Control, Debug/Debugging, Event, Function, Get Input, If, If/Else, Input, Output, Object, Repeat, Sequence, Selection, Timer, Variable

Information technology – pupils are equipped to use information technology to create programs, systems and a range of content.
KS2: See information sheet for links to influential tech leaders

EYFS	**3-4:** Match their developing physical skills to tasks and activities in the setting. (Physical Development) **YR:** Explore, use and refine a variety of artistic effects to express their ideas and feelings. (Expressive Art and Design) **YR:** Develop their small motor skills so that they can use a range of tools competently, safely and confidently. (Physical Development) **ELG:** Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. (PSED) **ELG:** Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. (PSED)	Discovery Education Pre-load websites and videos for pupils to use. Talking to pupils about collecting information. Direct comparisons between real and digital worlds. Uploading photos to website/twitter Noisy Things Beep Beep Purple Mash	Website, computer, screen, mouse, keyboard

Year 1	**NC:** Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Discovery Education 2Animate 2Paint a Picture 2Publish 2DIY 2Simple 2Connect Word Book Creator (PC or iPad) Espresso Code-it.co.uk planning: http://code-it.co.uk/ks1/library/library Comic Creation: https://www.ilearn2.co.uk/year-1-comic-creation.html Music Creation: https://www.ilearn2.co.uk/4400.html Design: https://www.ilearn2.co.uk/year13ddesign.html	Log in, Username, password, Avatar, Log out, Save, Notification Videos, Sounds, Image bank Word bank, Space bar
Year 2	**NC:** Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Code-it.co.uk planning: http://code-it.co.uk/ks1/supermarket/supermarket http://code-it.co.uk/ks1/bank/bank Presentation planning (Powerpoint): http://code-it.co.uk/dlplanning/presentationmedia/presentationmedia2 See also Y1 ideas Data Handling: https://www.ilearn2.co.uk/year-2-data-handling.html Animation: https://www.ilearn2.co.uk/year-2-animation.html Typing: https://www.ilearn2.co.uk/touch-typing.html Digital Art: https://www.ilearn2.co.uk/year-2-digital-art.html	Log in, Username, password, Avatar, Log out, Save, Notification Typing: keyboard, keys, shift key, Caps lock, space bar, home keys Internet: search, search engine, sharing, appropriate, suitable, copy, paste Paint effects Templates Animation Documents Index finger typing Enter/return Caps lock Backspace
Year 3	**NC:** 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 presenting data and information	Word Publisher Powerpoint Book Creator (PC or iPad) IT skills checklist: http://code-it.co.uk/dlplanning/generalictskills/generalictskills	Typing: keyboard, keys, shift key, Caps lock, space bar, home keys Internet: search, search engine, sharing,

		Word processing checklist (Part 1): http://code-it.co.uk/dlplanning/wordprocessing/WordProcessingSkillsandUnderstanding	appropriate, suitable, copy, paste
			Microsoft: text box, clip art, resize, save, slide, page, font, size, cut and paste
		Document creation and editing https://www.ilearn2.co.uk/document.html	
Year 4		Word Publisher Powerpoint Book Creator (PC or iPad) Desktop publishing key skills: http://code-it.co.uk/dlplanning/desktoppublishing/desktoppublishingskillsunderstanding Word processing checklist (Part 1): http://code-it.co.uk/dlplanning/wordprocessing/WordProcessingSkillsandUnderstanding Comic Creation (word processing, presenting work) https://www.makebeliefscomix.com/Comix/ https://www.ilearn2.co.uk/comiccreationteacher.html	Internet: search, search engine, sharing, appropriate, suitable, copy, paste Multimedia Presentations Alignment, Brush size, Repeats, Reflections Green screening Microsoft: text box, clip art, resize, save, slide, page, font, size, cut and paste
Year 5 Year 6	**NC:** Create and design a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information **NC:** Appreciate how (search) results are selected and ranked and be discerning in evaluating digital content **NC:** Understand computer networks including the internet; how they provide multiple services, such as the World Wide Web and the	Word Publisher Powerpoint 'How the internet works' planning: http://code-it.co.uk/wp-content/uploads/2015/05/connectingtheinternet.pdf Word processing checklist: http://code-it.co.uk/dlplanning/wordprocessing/WordProcessingSkillsandUnderstanding Design your own/class web page: http://code-it.co.uk/dlplanning/sites/googlesitesplanning https://www.ilearn2.co.uk/year-6-web-design.html Checklist of key skills for web research: http://code-it.co.uk/dlplanning/webresearch/internet-research-skills App Design https://www.ilearn2.co.uk/appdesignteacher.html	Networks- Internet, World Wide Web, Network, Local Area Network (LAN), Wide area Network (WAN), Router, Network Cable, Wireless Databases- Avatar, Branching Database, Charts, Collaborative, Data, Database, Find, Record, Sort, Group, Arrange, Reports, Table Online sharing Multimedia effects Multimedia modification Transitions Hyperlinks Editing tools

		Use of Padlet/understanding Computer Networks https://www.ilearn2.co.uk/year-5-computer-networks.html	Refining Online sharing

Digital Literacy (inc. online safety)

Digitally literate pupils are able to develop their ideas via ICT – ready for the future workplace and as active participants in a digital world.

Emphasise this PSHE objective to all year groups to contrast any negative sides to the internet: 7a) that for most people the internet is an integral part of life and has many benefits.

See information sheet for inspiring videos (most suitable for Y5/6)

EYFS	**3-4:** Increasingly follow rules, understanding why they are important. (PSED) **YR:** Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'. (PSED) **YR:** Explore, use and refine a variety of artistic effects to express their ideas and feelings. (Expressive Art and Design)	2Publish, 2Create a Story, 2Paint Discovery Education iPad apps Internet Explorer challenges CEOP – ThinkUKnow **https://www.thinkuknow.co.uk/5_7/** **Nursery and YR:** E-Safety page: https://www.ilearn2.co.uk/e-safety---early-years.html Literacy and Numeracy links: https://www.ilearn2.co.uk/digital-numeracy-and-literacy---early-years.html **YR:** Art and Design: https://www.ilearn2.co.uk/digital-art---early-years.html	Button, switch, forwards, backwards, on, off, left, right, up, down.

	ELG: Explain the reasons for rules, know right from wrong and try to behave accordingly. (PSED)	Photos and Videos: https://www.ilearn2.co.uk/digital-photos-and-videos---early-years.html Music Creation: https://www.ilearn2.co.uk/year1musiccreation.html	
Year 1	**NC**: Use technology safely and respectfully, keeping personal information private; PSHE:4a) that people sometimes behave differently online, including by pretending to be someone they are not. PSHE: 4b) that the same principles apply to online relationships as to face-to face relationships, including the importance of respect for others online including when we are anonymous.	PSHE link – cyberbullying Teach safe searching -Kiddle and Kidrex Internet Explorer challenges CEOP – ThinkUKnow **https://www.thinkuknow.co.uk/5_7/** E-Safety: https://www.ilearn2.co.uk/e-safety---key-stage-1.html	Internet, google chrome, google, password, private, safe, personal information, online.
Year 2	**NC:** Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies PSHE:4a) that people sometimes behave differently online, including by pretending to be someone they are not. PSHE: 4b) that the same principles apply to online relationships as to face-to face relationships, including the importance of respect for others online including when we are anonymous. PSHE: 7d) why social media, some computer games and online gaming, for example, are age restricted.	Rules for – what to share/not to share eCadet challenges CEOP – ThinkUKnow https://www.thinkuknow.co.uk/5_7/ SMART rules for surfing the net Teach safe searching -Kiddle and Kidrex Skills list: http://code-it.co.uk/dlplanning/webresearch/internet-research-skills Word processing – key skills list: http://code-it.co.uk/dlplanning/wordprocessing/WordProcessingSkillsandUnderstanding E-Safety: https://www.ilearn2.co.uk/e-safety---key-stage-1.html Recognise uses of IT: https://www.ilearn2.co.uk/year-2-uses-of-it.html	Internet, google chrome, google, password, private, safe, personal information, online.
Year 3	**NC:** Use search technologies effectively, **NC:** Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour;	Web research plan: http://code-it.co.uk/dlplanning/webresearch/internet-research-skills Passwords plan: http://code-it.co.uk/dlplanning/digitalcitizenship/passwords Cyber People plan: http://code-it.co.uk/dlplanning/digitalcitizenship/cyberpeople	Internet, google chrome, google, password, private, safe, personal information, online.
Year 4	PSHE: 4c) the rules and principles for keeping safe online, how to recognise risks, harmful content and contact, and how to report them.		Age range, age appropriate, suitable, restrictions, PEGI rating, advice, gaming, violence,

	PSHE: 4a) that people sometimes behave differently online, including by pretending to be someone they are not. PSHE: 7d) why social media, some computer games and online gaming, for example, are age restricted 7g) where and how to report concerns and get support with issues online.	Make Powerpoint of online safety rules Explore https://www.thinkuknow.co.uk/8_10/ Present what you have found out in your choice of program Internet Explorer challenges Look also at Safer Internet Day resources saved in L: drive Safe Internet Research https://www.ilearn2.co.uk/year-4-research.html E-safety teaching ideas (Look at LKS2 resourcess) https://www.ilearn2.co.uk/e-safety---key-stage-2.html	language, unsuitable, Report abuse button, Gaming Blogs

| Year 5 Year 6 | **NC:** Use technology safely, respectfully and responsibly.

NC: Identify a range of ways to report concerns about content and contact

PSHE:4a) that people sometimes behave differently online, including by pretending to be someone they are not.
4d) how to critically consider their online friendships and sources of information including awareness of the risks associated with people they have never met.
4e) how information and data is shared and used online.

PSHE: 7b) about the benefits of rationing time spent online, the risks of excessive time spent on electronic devices and the impact of positive and negative content online on their own and others' mental and physical wellbeing.

7f) how to be a discerning consumer of information online including understanding that information, including that from search engines, is ranked, selected and targeted

7c) how to consider the effect of their online actions on others and know how to recognise and display respectful behaviour online and the importance of keeping personal information private.
7e) that the internet can also be a negative place where online abuse, trolling, bullying and harassment can take place, which can have a negative impact on mental health. (Snapchat) | Digital images plan: http://code-it.co.uk/dlplanning/digitalcitizenship/images

Identity plan: http://code-it.co.uk/dlplanning/digitalcitizenship/Keeping_our_identity_private

Mobile phones plan: http://code-it.co.uk/dlplanning/digitalcitizenship/mobilephones

Cyberbullying plan: http://code-it.co.uk/dlplanning/digitalcitizenship/cyberbullying

https://www.thinkuknow.co.uk/8_10/

Internet Explorer challenges

Look also at Safer Internet Day resources saved in L: drive

E-safety teaching ideas (Look at UKS2 resources)
https://www.ilearn2.co.uk/e-safety---key-stage-2.html | Age range, age appropriate, suitable, restrictions, PEGI rating, advice, gaming, violence, language, unsuitable
Responsible online communication
Informed choices
Virus threats
Blogs
Messaging |