Woodham Burn Primary
Computing

Technology is developing and is a huge part of today's society. Pupils will develop many skills such as problem solving, using logical reasoning, communicating through technology, presenting their work using various software, creating charts and navigating the online world safely and confidently.

Digital Literacy

Skills/Knowledge			
At Key Stage One:	**At Lower Key Stage Two:**		**At Upper Key Stage Two:**
• How did people communicate before computers, laptops and ipads. • How do you keep yourself safe? • D1 To recognise common uses and purposes of technology beyond school. • D2 Use Technology safely and respectfully • D3 Keep information privately • D4 Identify where to go for help / support when they have concerns	• Who invented the email? When was the first email sent? • Who invented the internet? • How are websites and search engines different? • D1 Understand how internet offers opportunities for communication and collaboration. • D2 Use videoconferencing across the curriculum to explain world view as well as understanding of technology. • D3 Follow a simple search to find specific information from a web site safely. • D4 Appreciate how results are selected and ranked. • D5 Find and use appropriate information. Identify how different web pages are organised e.g. graphics, hyperlinks, text		• What impact does emailing have on today's society? • How has the internet changed over time? • How do you know data is accurate? • D1 Share and exchange their ideas using e-mail and electronic communication- inside the school environment. • D2 Talk about the different forms of electronic communication and web tools and discuss appropriateness of using different tools in different contexts and their advantages and disadvantages. • D3 Recognise that the Internet may contain material that is irrelevant, bias, implausible and inappropriate. • D4 Understand issues of copyright and how they apply to their own work. • D5 To demonstrate knowledge of e-safety and the consequences of inappropriate online activity • D6 Use a range of sources to check validity and recognise different viewpoints and the impact of incorrect data. • D7 Pupils collaborate on a project using a range of web tools to support their work- including, but not limited to google docs / sites / wikis.

technology
purposes
E-safety
cyberbullying
personal information
private
	Internet, communicate, results, website, address	World Wide Web (WWW)
		navigate
		web page
		dynamics
		search engine
		trustworthy
		digital
		advert
		browser
		secure
		plagiarism
		privacy
		citation/cite
			Previous vocabulary LKS2.
			
			communication electronic communication
			environment implausible
			sources copyright
			validity web tools
			data authority
			viewpoints sponsored link
			collaborate advertising
			    publish
			    spam
			    virus

Computer Science

Skills/Knowled		
At Key Stage One:	**At Lower Key Stage Two:**	**At Upper Key Stage Two:**
• C1 Understand the purpose of a range of different technology, e.g. tablets, laptops, microphones, cameras etc. • C2 To understand what algorithms are and how we use them • C3.Create and debug simple programs. (Beebots). • C4 Create precise and unambiguous instructions	• C1 Design and create a range of programs, systems and content • C2 Design, write and debug programs that accomplish specific goals. (Scratch) • C3 To use logical reasoning to explain how some simple algorithms work.	• C1 Develop understanding of how technology works; how computers process instructions and commands, including the use of coding languages. (Scratch) • C2 Deconstruct and investigate the effect of changing variables in simulations. (Scratch and Program)

• C5 Use logical reasoning to predict behaviour of simple programmes	• C4 Create, edit and refine more complex sequences of instructions for a variety of programmable devices. (Scratch) • C5 Use templates on a computer to create a game, which can be controlled by external inputs, changing parameters and algorithms and investigating the effect this has on the response. (Scratch) • C6 Work with various forms of input and output. • C7 Understand that ICT allows for situations to be modelled which it would be impractical to try out in real life and investigate the effect of changing variables in these simulations		• C3 Use assisted programing software, then more complex programing software which interacts with external controllers, and elements on screen, creating algorithms and using logic and calculations. (program)

| Vocabulary | Technology
tablets
laptops
microphone
Algorithms
Debug
Data
Program
precise
logical reasoning
evaluate, arrow buttons | applications
platform
variables
investigation
clear screen (sc) variable
rotate
sprite
block
background/backdrop | pros, cons,
decompose
logical sequence
flowchart
sprite
variables
input
output
variables
simulations,
impractical
inappropriate
investigate | script
gradient
animate
animation
iteration
transition |

Information Technology

| Skills/Knowledge | At Key Stage One:
• I1 To use technology purposefully to create digital content, begin to save and retrieve pictures and text (PowerPoint, Microsoft Word – children will need to already have prior knowledge of login on to a laptop, locating and launching the programs needed)
• I4 Begin to use an appropriate search engine supported by an adult. (google, yahoo, Bing and Kidrex)

• Use navigation skills to access appropriate parts of a website.
• Follow age-appropriate links provided by the teacher to research information. | At Lower Key Stage Two:
• I1 Know that ICT enables access to a wider range of information & tools to help find specific information quickly
• I2 Produce work using a computer, using more advanced features of programs and tools. (Microsoft, Publisher) - Use desk top publishing tools effectively and understand the differences between a word processor and desk top publisher.
• I3 Work collaboratively to create documents, including simple presentations | | At Upper Key Stage Two:
• I2 Use technology to present their work, showing an increasing degree of skill and using advanced features of software and tools. (publisher, iMovie etc)
• Select tools which they can use to help them achieve a specific aim and justify these choices to others.
• I3 Understand the importance of evaluation and adaptation of individual features to enhance the overall product. Pupils continue to use, search, enter data into and create their own databases. |

| Vocabulary | Word processor
launch
type
shift key
caps lock
undo, redo,
bold, italic, edit,
backspace, arrow keys,
format, font,
print,
layout, insert. | Search
engine
search
engine
browser
toolbar
research,
layout
appropriate
link, | webpage
digital
footprint
trail
online
website
content
keywords. | Search
browsers,
align
copyright
bullets
review
spelling
spellcheck
add to dictionary
highlight,
theme
slide | production
audio and video segments
timeline
transitions
publish
convert |

		audio embed	
		2. Support	
	https://www.stem.org.uk/resources/search?f[0]=field_subject:92	STEM: Computing resources linked to NC objectives. Teaching notes, activities and worksheet to enable to complete objectives not just on digital devices.	
	https://www.twinkl.co.uk/resources/planit-primary-teaching-resources/planit-computing-primary-teaching-resources	Planit Computing scheme of work (Twinkl) for help with resources/planning/progression.	
	http://www.sketchnation.com/lesson_ideas_storytelling.html	Sketch nation	
	https://www.childnet.com/	Childnet International, a non-profit organisation working with others to help make the internet a great and safe place for children.	

Computing Key Stage One				
Year 1/2				
	E safety	**Information technology**	**programming**	**Key vocab**
Year 1	★ Know what devices I can use to access the internet ★ Know that internet can be accessed all over the world ★ Know we must always ask adult permission when using devices ★ Know they should keep passwords private ★ Agree to follow e-safety rules ★ Talk about why it is important to be kind ★ Know that many apps require the internet to work	★ Turn on, log on, log off and shut down a computer ★ Navigate screen using the mouse ★ Begin to type ★ Use space bar to separate words ★ Use enter to begin a new line ★ Independently open an app/program on a device ★ Save and retrieve work with support	★ Give and follow directional instructions ★ Know what each button represents on a device ★ Program a robot to move forwards and make two turns ★ Explain the steps needed to reach a point ★ Predict if I will be successful ★ Make changes to my program	Tower Screen Keyboard mouse Online Word processer App Direction Retrieve Load Internet Device program
Year 2	★ Know that the internet allows direct communication between people via text and images ★ Know what personal information is and that it shouldn't be shared with anyone they don't know ★ Know that they should tell a trusted adult if they are upset or worried about anything online ★ Explain what things that happen that must be shared with an adult ★ Explain why passwords and personal information should be kept private	★ Save, retrieve and print work independently ★ Format text – size, font, colour, position on the page ★ Caps lock for capital letters ★ Inset a picture ★ Place images within text for purpose ★ Become increasingly confident with the keyboard and typing	★ Explain what debug means ★ Program a robot to sequence 6/7 instructions – mazes/ point collecting ★ Order instructions successfully ★ Look at a simple sequence and explain what will happen ★ Begin to use block programs such as scratch JR ★ Spot where a program goes wrong so I can debug it	Format Text Font Tool bar Caps lock Search engine Browser Digital footprint Webpage Insert Back space Bold italic Debug Sequence Block program
Year 3	★ Know some people on the internet shouldn't be trusted and that not everyone is who they say they are ★ Know concerns about anything online should be shared with a trusted adult ★ Identify an appropriate search engine for their age and find information using keywords (junior safe search) ★ Know how to log in and out of websites used at school independently ★ Use and remember a simple password ★ Ask an adult before downloading games or files ★ Make good choices about how long to spend online ★ Explain what makes a password secure	★ Find and open files on your personal drive and shared drive ★ Format picture position ★ Insert text box ★ Use columns to organise text ★ Select an appropriate template on publisher for work ★ Change the page design on publisher **Power point/keynote** ✓ Add slides ✓ Organise and input information ✓ Insert a picture ✓ Change power point design	★ Use Alex to block program ★ Introduce wait command to allow success of algorithm ★ Know what an algorithm is ★ Draw 2D shapes on scratch ★ Begin to add conditionals e.g. if hit edge change direction ★ Test a program and recognise when to debug it ★ Describe the algorithm needed to complete a simple task ★ Use the repeat command	Undo Redo Launch Link Shift key Layout Arrow keys Trail Personal drive Shared drive Format Text box Publisher Template Power point Program Algorithm Conditionals Repeat command

Year 4	★ Know that information shared online may be viewed by/end up with strangers ★ Know people may not always be who they say they are ★ Help others know about how long they should spend online ★ Discuss how to keep yourself and others safe online ★ Know what key words to use to find the information you want ★ Explain why I must ask an adult before downloading games and files ★ Recognise websites and games that are age appropriate ★ Remember and use more complex passwords ★ Select useful websites from a search ★ Explain what to do if they're exposed to unpleasant material on any device	★ Save to a shared folder and retrieve it ★ Organise a personal folder into sub folders e.g autumn Y4 **Word** ✓ Use spell check ✓ Highlight text ✓ Insert and edit word art ✓ Use bullet points to present information **Publisher** ✓ Insert a border ✓ Insert word art ✓ Insert pictures, shapes and a table **PowerPoint** ✓ Insert slides between current slides ✓ Change transitions for slides ✓ Start slides from current slide and beginning ✓ Deliver slideshow to a group of peers	★ Program to sequence waits etc ★ Use conditionals and a variety of inputs and outputs ★ Explain how their program works ★ Predict how changes will affect the outcome ★ Draw repeating patters ★ Use a sensor to detect change ★ Allow two algorithms to run alongside each other – simple conversation on scratch	Slides spell check Shared folder Sub folders Boarder Highlight Bullet points Word art Transitions Inputs Output Predict Repeating patters
Year 5	★ Know to seek permission before sharing images of others online ★ Know the risks to them by using social media including knowing people aren't always who they claim to be. ★ Know how to report concerns online ★ Know that anything posted online can be seen and used by others and it may also affect others. ★ Discuss the dangers of spending too much time online ★ Use a search engine with multiple criteria/ refine a search ★ Compare information from a range of sites and know that some sites show bias ★ Explain why I should communicate kindly and respectfully ★ Explain why I need to protect my device from harm	★ Share work from their personal folder ★ Select appropriate program for work e.g. publisher for a poster word for a story ★ Add data to a prepared spread sheet ★ Insert charts to a range of programs ★ Insert hyperlinks to a range of programs **PowerPoint** ✓ Add animations ✓ Add hyperlinks ✓ Insert slide numbers ✓ Insert a video ✓ Insert chart **Word** ✓ Use hyperlinks ✓ Change line spacing ✓ Add indents ✓ Insert videos ✓ Select appropriate layout for task ✓ Use headers and footers ✓ Insert chart	★ Customise and change a working program e.g. change costumes and backgrounds is scratch to add effect ★ Use loops in scratch ★ Use conditional sentences – if/when in scratch ★ External triggers and loops – simple point scoring game	Bias Social media Criteria Share Hyperlink Animation Header Footer Indent Spread sheet Customise Loops External triggers Conditional sentences

Year 6			
★ Know how to reduce the risks posed by social media ★ Know it is illegal to post or view rude images of children ★ Know advertising and sponsorship can influence search results ★ Know how to validate information by checking other sources ★ Know some news is fake ★ Explain the consequences of sharing personal information ★ Explain the consequences of not being kind and respectful	★ Know how to edit a picture ★ Create a simple formula in a spreadsheet ★ Combine programs to complete work e.g. edit a picture then insert to a document ★ Create and sequence a video e.g. iMovie **PowerPoint** ✓ Make slides interactive using hidden hyperlinks ✓ Change arrangements of picture e.g. bring forwards/back ✓ Add timings to slides so slides automatically transition ✓ Add sound	★ Conditional sentence – when/ then – Kodu/scratch ★ Explain what might happen and accurately predict how changes will affect the outcome ★ Recognise when variables need to be used to get the required outcome ★ Create a more complex game in scratch ★ Create a game world in Kodu	Insert Formula Arrangements Timings Interactive Consequences Audio and video segments Kodu Variables