Computing

Intent & Implementation
At Wingrave Church of England School, we want pupils to be masters of technology and not slaves to it. Technology is everywhere and will play a pivotal part in students' lives. Therefore, we want to model and educate our pupils on how to use technology positively, responsibly and safely. We want our pupils to experience a broad curriculum encompassing computer science, information technology and digital literacy. We want our pupils to understand that there is always a choice with using technology and as a school we utilise technology, including social media to model positive use. We recognise that the best prevention for a lot of issues we currently see with technology/social media is through education. We recognise that technology can allow pupils to share their learning in creative ways. We also understand the accessibility opportunities technology can provide for our pupils. Our rich curriculum has to be balanced with the opportunity for pupils to apply their knowledge creatively which will in turn help our pupils become skilful computer scientists. We encourage staff to try and embed computing across the whole curriculum to make learning creative and accessible. We acknowledge that young people are often far more confident in their use of technology that their teachers or parents and therein lies an opportunity to learn, coach and collaborate together. We want our pupils to be fluent with a range of tools to best express their understanding and hope by Upper Key Stage 2, children have the independence and confidence to choose the best tool to fulfil the task and challenge set by teachers. We know that computing is best taught in context within the wider curriculum and therefore teach a combination of discrete skills lessons alongside regular use in the other subjects. We deliberately moved away from static computing lessons to mobile technology across the school so we could use it in context and when it was most valuable as a tool.




Knowledge & Skills Progression							
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Summary	Children recognise that technology is used in places such as home and school, they	Key stage 1 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 Multimedia 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.		Key stage 2 Pupils should be taught to: • 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.		
Uses of IT beyond		Skills: • talk about some of the IT uses in their own home Resources: • Home learning opportunities	Skills: • know how technology is used in school and outside of school Resources: • Home learning opportunities				

Coding		Skills: • create a series of instructions and plan a journey for a programmable toy Resources: • Human Robots • b-bots http://code-it.co.uk/beebot • b-bots app • Lightbot (Levels 1-2) http://lightbot.com/flash.html Lightbot app • https://code.org/	Skills: • understand that algorithms are used on digital devices • write a simple program and test it • predict what the outcome of a simple program will be (logical reasoning). • understand that programs require precise instructions Resources: • Scratch Junior on ipads • Scratch website, creating simple algorithms with inputs and outputs) https://scratch.mit.edu/ • Lightbot (Levels 1-2)http://lightbot.com/flash.html • https://code.org/	Skills: • write programs that accomplish specific goals • design a sequence of instructions, including directional instructions Resources: • Scratch https://scratch.mit.edu/ • Code.org • Lightbot (Levels 2-3) http://lightbot.com/flash.html	Skills: • give an 'on-screen' robot specific instructions that takes them from A to B • experiment with variables to control models • make an accurate prediction and explain why they believe something will happen Resources: • Scratch https://scratch.mit.edu/ • Code.org • Lightbot (Levels 2-3) http://lightbot.com/flash.html	Skills: • use technology to control an external device • develop a program that has specific variables identified • analyse and evaluate information reaching a conclusion that helps with future developments Resources: Scratch https://scratch.mit.edu/ • micro.bit https://microbit.org/code/ app on cloudbooks	Skills: • write a program that combines more than one attribute • develop a sequenced program that has repetition and variables identified • design algorithms that use repetition and 2-way selection Resources: • Scratch https://scratch.mit.edu/ • Micro.bit https://microbit.org/code/ app on cloudbooks

Using Technology (KS1) & Programs (KS2)		Skills: • use a website and a camera • record sound and play back • create, store and retrieve digital content Resources: • Green screen • Puppet Pals • Garageband-app • Ipad/cloudbooks to look at websites and find information	Skills: • talk about some of the IT uses in their own home Resources: • Home learning opportunities	Skills: • discern when it is best to use technology and where it adds little or no value • navigate the web to complete simple searches • use a range of software for similar purposes • collect and present information • understand what computer networks do and how they provide multiple services Resources: • Ipads/cloudbooks • Imovie app • Green screen • Popplet • Garageband- app • PowerPoint • Keynote-app	Skills: • know how to search for specific information and know which information is useful and which is not • select and use software to accomplish given goals • produce and upload a podcast Resources: • Ipads/cloudbooks • Imovie app • Green screen • Popplet • PowerPoint • Keynote-app • Garageband-app	Skills: • understand how search results are selected and ranked • combine sequences of instructions and procedures to turn devices on and off Resources: • Imovie app • Green screen • Popplet • PowerPoint • Keynote-app • Garageband-app • Spreadsheets (Excel/numbers on iapds)	Skills: • be aware that some search engines may provide misleading information • present the data collected in a way that makes it easy for others to understand Resources: • Imovie app • Green screen • Popplet • PowerPoint • Keynote-app • Garageband-app • Spreadsheets (Excel/numbers on iapds)

Safe Use		Skills: • use technology safely • keep personal information priv ate Resources: https://www.childnet.com/resources/smartie-the-penguin https://www.thinkuknow.co.uk/5_7/	Skills: • know where to go for help if concerned. Resources: https://www.thinkuknow.co.uk/5_7/ https://www.childnet.com/resources/digiduck-stories/digiducks-big-decision	Skills: • use technology respectfully and responsibly • Know different ways they can get help if concerned Resources: https://www.childnet.com/resources/the-adventures-of-kara-winston-and-the-smart-crew https://www.thinkuknow.co.uk/5_7/hectorsworld/	Skills: • recognise acceptable and unacceptable behaviour using technology Resources: https://www.thinkuknow.co.uk/8_10/ Drama: https://www.childnet.com/resources/only-a-game	Skills: • understand that they have to make choices when using technology and that not everything is true and/or safe Resources: https://www.thinkuknow.co.uk/8_10/ Becky- Social media: https://www.youtube.com/watch?v=599I1E-rWTU Google's e-safety game: https://beinternetawesome.withgoogle.com/en_us/interland	Skills: • Be increasingly aware of the potential dangers in using aspects of IT and know when to alert someone if feeling uncomfortable Resources: https://www.thinkuknow.co.uk/8_10/ Becky- Social media: https://www.youtube.com/watch?v=599I1E-rWTU Google's e-safety game: https://beinternetawesome.withgoogle.com/en_us/interland