

Whole School Computing Overview

Intent:

Throughout this computing curriculum, we intend to provide a holistic and creative computing curriculum, which promotes computational thinking and inspires children to be creative. This curriculum is designed so that knowledge is built up over the years and each year builds from the knowledge of its predecessors. The curriculum has been split into three parts. Autumn covers Digital Literacy. This details internet safety, as well as how technology can be used safely and responsibly. The Spring term covers Information Technology. This details the use of computers to create and alter media and information. Here they will create videos, comic strips, music spreadsheets and posters. Summer Term focuses on Computer Science. This will focus on algorithms and debugging in a child friendly and practical way. This will also look at the uses of the internet and how networks are important in the world we live in today. Throughout all the stands, children will be taught how to stay safe when using electronic devices, as well as internet etiquette. They will learn how to evaluate content they find on the internet and appreciate how search engines rank their results. By teaching these units, we hope to create well-rounded children that are conscientious digital citizens.

CONTENT

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	See separate document.					
Year 1	<p>Keep personal information private – Links with who am I, where am I from?</p> <p>Discuss pictures that may be taken while wearing uniform, telling passwords etc.</p>	<p>Use technology safely</p> <p>Create a video/poster about how we should treat our equipment/ not taking pictures of people without their permission.</p>	<p>Recognise common uses of information technology beyond school (linked with keeping warm)</p> <p>Cameras, phones, tablets, sky etc. Technology used in digital thermometers, weather equipment.</p>	<p>Understand what algorithms are (linked with fairy tales)</p> <p>Create a set of instructions. Instructions on 'how to dress as a grandma'. Which piece of clothing would go on first? Why?</p>	<p>Create simple programs</p> <p>Program a friend to move around an obstacle course. Change the code when wrong.</p>	<p>Use technology purposefully to create, store and retrieve digital content (linked to holidays)</p> <p>Create a document telling someone their favourite holiday destination on a laptop/iPad. Save it. How would we find this again?</p>
Year 2	<p>Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies</p> <p>CEOP, reporting concerns to administrators etc.</p>	<p>Use technology respectfully</p> <p>Create a video/poster about how we should treat our equipment/ not taking pictures of people without their permission.</p>	<p>Use technology purposefully to organise digital content (Links with DT)</p> <p>Use MSpaint to create draw an Easter egg in the style of 'pointillism'</p> <p>Use technology purposefully to manipulate digital content</p> <p>Teacher opens up a word document (diary). Can they change errors so that the document is now a diary? E.g. add an address or sign off line.</p>	<p>Understand that algorithms are implemented as programs on digital devices</p> <p>Show the children that in order to turn on a computer, it has to recognised buttons have been pressed, send power to the right places, load up information etc.</p>	<p>Understand that programs execute by following precise and unambiguous instructions</p> <p>Play 'Human Cranes' What happens when the algorithm is wrong?</p>	<p>Debug simple programs</p> <p>BeeBots</p> <p>Use logical reasoning to predict the behaviour of simple programs</p> <p>BeeBots</p>

Year 3	<p>Identify a range of ways to report concerns about contact</p> <p>Reporting on CEOP, adults/guardians.</p>	<p>Use technology responsibly</p> <p>How should we treat our devices?</p> <p>Design and create content</p> <p>Use Strip Design to create their own comic about going back in time to ancient Egypt.</p>	<p>Use search technologies effectively</p> <p>Compare Bing, google and ask Jeeves. Look at googles special commands that help narrow search results.</p> <p>Use a variety of software to accomplish given goals (links with Greece)</p> <p>Combine iMovie, Garage band and book creator to create an interactive persuasive book on Greece.</p>	<p>Collect/ Present information (linked with geography)</p> <p>Use a graph creating software to collect information about where different plants/fruits/veg etables grow. Turn this into a graph.</p>	<p>Work with various forms of input</p> <p>Keyboards, mouse, fingerprint, touch screen, bluetooth</p> <p>Work with various forms of output</p> <p>Printer, screen, beebots, speakers.</p>	<p>Write programs that accomplish specific goals</p> <p>Use apps such as A.L.E.X, Daisy the Dino, Kodable/Robot School</p> <p>Use sequence in programs (links with theme and science)</p> <p>Use Scratch Jr to create a game based on space.</p>
Year 4	<p>Identify a range of ways to report concerns about content</p> <p>Create a comic on STRIP DESIGN showing a child reporting a concern</p> <p>Recognise acceptable/unacceptable behaviour</p> <p>Create an iMove showing people making wrong choices (cyber bullying, putting personal information on line, playing games rated above your ang range, accessing social media when underage)</p>	<p>Understand the opportunities computer networks offer for communication (links to English)</p> <p>Understand how computer networks can provide multiple services, such as the World Wide Web (links to English)</p> <p>Define what a network is by drawing a bird's eye view of a city. The buildings are computers, roads are wires and the cars are pieces of information. Together they make a network.</p> <p>Create e-mail accounts. Create an email- code of conduct.</p> <p>Create a Padlet on James and the Giant Peach.</p>	<p>Select a variety of software to accomplish given goals (links to historical tales)</p> <p>Create an iBook on historical tales, using Book Creator. Within this, add pictures and a video review of one of the tales.</p> <p>Select, use and combine internet services</p> <p>Collect facts using Google and use them to make a quiz on Kahoot about one of the tales.</p>	<p>Appreciate how search results are selected</p> <p>Look at tips and tricks for using Google effectively:</p> <p>http://motto.time.com/4116259/google-search/</p> <p>Type in a question such as 'Best poem ever?' into goodle. Compare this with answers from Bing, Ask Jeeves, Google Jr. Why are these search results different?</p>	<p>Evaluate and analyse information</p> <p>Collect and present data (Links to Vikings)</p> <p>Create your own poll, detailing everyone's favourite Viking God. Collect information in as a tally chart.</p> <p>Turn chart into meaningful graph using 2Graph</p>	<p>Create and design and debug programs that accomplish specific goals.</p> <p>Use repetition in programs</p> <p>Use logical reasoning to detect and correct errors in programs</p> <p>Create your own collision/avoidance games using Scratch.</p> <p>Use apps such as codable and hopscotch</p>
Year 5	<p>Be discerning in evaluating digital content (Links to Tudors)</p> <p>Is everything we find on the internet the truth?</p> <p>Wikipedia can be edited by anyone. Should we trust this?</p> <p>Create your own 'Fakebook' and 'Fake News' stories about/got Henry VIII.</p> <p>Accurate looking stories can be easily made using generator sites online. Make your own.</p>	<p>Combine a variety of software to accomplish given goals</p> <p>Create an information document on Romeo and Juliet.</p> <p>Include: Movie (review of what they have read) Facts about play Pictures of freeze frames from play.</p>	<p>Analyse/ evaluate data (link to Aztecs)</p> <p>Ask the question 'What is your favourite chocolate'. Collect in data. How can we use this data? How would we know if the data was incorrect (move name that wasn't chosen, wrong number of responses). How can we make sure data is correct?</p>	<p>Use logical reasoning to explain how some simple algorithms work</p> <p>Use logical reasoning to detect and correct errors in algorithms</p> <p>Changing premade code to do something else. Can be done online through 'Code Combat'</p>	<p>Use selection in programs</p> <p>Work with variables</p> <p>Use apps like lightbot and cargobot</p>	<p>Create a purposeful program combining more complex algorithms (links to English)</p> <p>Create your own Scratch based game on Harry Potter . (See Rising Stars)</p>

Year 6	<p>Understand the opportunities computer networks offer for collaboration</p> <p>Recap: Email</p> <p>Set up a Skype call with other teachers. Children to discuss how they might see this in other ways (face time, email, MSN)</p> <p>How has being able to communicate with others from across the world I seconds changed the world?</p> <p>Film/write a persuasive letter to the president, who wants to block access the internet.</p>	<p>Understand computer networks, including the internet</p> <p>Define what a network is by drawing a bird's eye view of a city. The buildings are computers, roads are wires and the cars are packets of data</p> <p>Appreciate how search results are ranked</p> <p>Explain Google is a business and that many businesses pay to have their website moved to the top of a search result. Is it fair? Film a debate.</p>	<p>Select, use and combine software on a range of digital devices (links to theme)</p> <p>Create your own presentation to the rest of the class on the theme of Victorians</p> <p>iPad – Garage Band make your own theme song)</p> <p>iMovie – Film</p> <p>Camera- Pictures</p> <p>Interactive whiteboard – show presentation. are pieces of information. Together they make a network.</p>	<p>Design and create systems (links to Science)</p> <p>Program a working set of traffic lights</p> <p>https://www.tes.com/teaching-resource/programming-a-traffic-lights-sequence-in-scratch-11052188</p> <p>or</p> <p>Create a flowchart to explain main reasons why a circuit in science might not be working. Use poplet'</p>	<p>Solve problems by decomposing them into smaller parts</p> <p>(See Rising Stars)</p>	<p>Create a purposeful program combining more complex algorithms, variables and sequences – using abstraction to streamline code. (links to science)</p> <p>Create your own Scratch based game on dinosaurs</p> <p>(See Rising Stars)</p>
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Links to Curriculum

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Abstraction, logic, algorithms, representation	Create simple programs					
Write computer programs to solve problems	Create simple programs					
Evaluate and apply IT to solve problems						
Predict the behaviour of programs	Create simple programs					
Create, store, organise, manipulate, retrieve content						
Uses of IT beyond school						
Online safety						
Use sequence, selection and repetition in programs, work with variables						
Understand computer networks						
Use search technologies						
Combine software						

Whole School Computing Overview

SKILLS

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1						
Year 2						
Year 3						
Year 4						
Year 5						
Year 6						