



East Stanley School Computing Curriculum Overview

	Autumn Term	Spring Term	Summer Term
1	<p>Computer Science: understand simple algorithms. Create simple programs</p> <p>Digital Literacy: keeping safe online</p> <p>IT: Sound - use technology purposely</p> <p>Create/store/ retrieve</p>	<p>Computer Science: use digital devices to program simple journeys Make sets of simple instructions Correct obvious errors (debug).</p> <p>Digital Literacy: keeping personal information private</p> <p>IT: use technology purposely</p> <p>Create/store/retrieve</p>	<p>IT: use technology purposely</p> <p>Digital Literacy: Use technology safely</p> <p>Computer Science:</p>
2	<p>Computer Science: understand that algorithms are implemented as programs on digital devices Make routes using precise instructions Debug simple programs</p> <p>Digital Literacy:</p> <p>IT: Databases</p>	<p>Computer Science: understand that algorithms are implemented as programs on digital devices</p> <p>Digital Literacy</p> <p>IT - use technology purposely to organise & manipulate digital content</p>	<p>Computer Science: use logical reasoning to predict the behaviour of simple programs</p> <p>Digital literacy: Use technology safely</p> <p>IT: use technology purposely to manipulate digital content</p>
3	<p>Computer Science: write programs that accomplish specific goals.</p> <p>IT:</p> <p>Digital Literacy:</p>	<p>IT: use a variety of software packages, collect Information,</p> <p>Digital Literacy:</p> <p>Computer Science:</p>	<p>Computer Science: work with various forms of input/output</p> <p>IT: effective searching</p> <p>Presentation</p> <p>Digital Literacy</p>
4	<p>Computer Science: design, write and debug programs that accomplish specific goals. Use repetition in programs. Use logical reasoning to detect and correct errors in programs</p> <p>IT: collect data, analyse and evaluate information, select a variety of software to accomplish given goals</p> <p>Understand opportunities that computer networks offer for communication</p> <p>Digital Literacy: identify a range of ways to report concerns about content</p>	<p>Computer Science: Use repetition in programs</p> <p>IT: Presentation</p> <p>Digital Literacy: recognise acceptable / unacceptable behaviour</p>	<p>Computer Science: control or simulate physical systems</p> <p>IT: Select a variety of software to accomplish given goals, select, use, combine internet services</p> <p>Digital Literacy: Understand how computer networks can provide multiple services, such as the World Wide Web and appreciate how search results are selected</p>
5	<p>Computer Science: use logical reasoning to explain how some simple algorithms work</p> <p>IT: select, use and combine software on a range of digital devices</p> <p>Digital Literacy: appreciate how search results are ranked</p>	<p>Computer Science: solve problems by decomposing them into smaller parts, use selection Use logical reasoning to detect and correct errors In algorithms</p> <p>IT: use and combine software Digital Literacy</p> <p>Digital Literacy: be discerning in evaluating digital content and condition</p>	<p>Computer Science: work with variables</p> <p>IT: combine a variety of software to accomplish given goals, analyse and evaluate data, design system</p> <p>Digital Literacy: understand the opportunities computer networks offer for collaboration</p>

6	<p>Computer Science: solve problems by decomposing them into smaller parts; use logical reasoning to detect and correct errors in algorithms</p> <p>IT: combine a variety of software to accomplish given goals and select, use, combine software.</p> <p>Digital Literacy: appreciate how search results are ranked</p>	<p>Computer Science: ??</p> <p>IT: use and combine software on a range of digital devices</p> <p>Design and create systems</p> <p>Digital Literacy: be discerning in evaluating digital content</p>	<p>Computer Science: use selection in programs; work with variables; use logical reasoning to explain how some simple algorithms work;</p> <p>IT: analyse & evaluate data select, use and combine software Understand the opportunities computer networks offer for collaboration</p> <p>Digital Literacy: be discerning in evaluating digital content</p>
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	Autumn Term	Spring Term	Summer Term
1	<p>Computer Science:</p> <ul style="list-style-type: none"> Understand simple algorithms. Create simple programs e.g (Beebot) - forward / backwards - use pictures of ourselves/ animals/plants <p>Digital Literacy: Use technology safely</p> <ul style="list-style-type: none"> SWGFL website Keeping safe online: finding ourselves sites safely <p>IT: Use technology purposely</p> <ul style="list-style-type: none"> Sound Using IPADS/Eaispeaks to record/ playback (talk about me/retell stories) Use cameras (Me) - looking at family photos/old photos Graphics <ul style="list-style-type: none"> me/ my family - Beginnings of WP All about me Create/store/ retrieve digital content <p>SWGFL Website - http://www.digital-literacy.org.uk/Curriculum-Overview.aspx#yr1</p>	<p>Computer Science: Use digital devices (e.g Beebot) to program simple journeys</p> <ul style="list-style-type: none"> Use map / photos of local area. Make sets of simple instructions - fd/bk left/right. Correct obvious errors (debug) <p>Digital Literacy: Keeping personal information private</p> <ul style="list-style-type: none"> look at local environment for common uses of ICT outside school <p>IT Use technology purposely</p> <ul style="list-style-type: none"> Simple branching database - materials Cameras - take photos of local area Add to simple photo story/IPhoto record thoughts IPAD/Eaispeak playback /use in writing Create/store/ retrieve digital content 	<p>IT: Use technology purposely</p> <ul style="list-style-type: none"> nonfiction texts - George / animals. Use photos from visit e.g. Shildon in WP / book Book creator IPAD - WP software on PC – Create/store/ retrieve Talk about animals/famous person to camera/video <p>Digital Literacy: Use technology safely</p> <ul style="list-style-type: none"> Real and fictional characters - what is real? Lee & Kim resources - animal masks. Communicating with real people. Who do we tell if concerned? Teacher led email - for a purpose e.g. arrange a visit <p>Computer Science:</p> <ul style="list-style-type: none"> iPad apps writing precise and unambiguous instructions. - Daisy the dinosaur/Kodables/Beebot app
2	<p>Computer Science: Understand that algorithms are implemented as programs on digital devices</p> <ul style="list-style-type: none"> send Beebot to match animal cards/ identify families of animals make routes using precise instructions - animals/ weather symbols/ oceans continents - using sets of arrow cards to make instructions Debug simple programs - did it reach the right place? Use of Probot for more complex instructions and programs <p>Digital Literacy: Use technology safely</p> <ul style="list-style-type: none"> SWGFL website - Staying safe online - choosing appropriate websites. Leaving a digital trail/footprint <p>IT: Database</p> <ul style="list-style-type: none"> Branching database/database sorting and identifying animals 	<p>Computer Science Understand that algorithms are implemented as programs on digital devices</p> <ul style="list-style-type: none"> use of programming IPAD apps - Catos Hike Hopscotch ALEX- Using direction / map symbols (G) – treasuremap <p>Digital Literacy: Use technology respectfully</p> <ul style="list-style-type: none"> Cyberbullying - using technology respectfully. Effective searching <p>IT: Use technology purposely to organise & manipulate digital content</p> <ul style="list-style-type: none"> Database of solids / liquids and gases. Publisher/WP Advert for a job as an explorer/astronaut/- poster to advertise job. Hot seating as e.g. Christopher Columbus/Neil Armstrong - use eaispeaks to prepare - video to record 	<p>Computer Science: Use logical reasoning to predict the behaviour of simple programs</p> <ul style="list-style-type: none"> Use food chain pictures/ geographical features/holiday pictures - predict sets of instructions - did it reach the correct place? If not debug. Use of Probot for more complex instructions and programs <p>Digital Literacy: Use technology safely</p> <ul style="list-style-type: none"> Hectors World safety button - who to tell? Privacy <p>IT: Use technology purposely to manipulate digital content</p> <ul style="list-style-type: none"> WP - nonfiction texts / posters / information leaflets – habitats Publisher/PowerPoint photo story physical geography/ memories
3	<p>Computer Science: Write programs that accomplish specific goals.</p> <ul style="list-style-type: none"> Use iPad apps (ALEX, lightwood - (higher levels) or websites to learn about programs and sequencing <p>IT: Create comic strip</p> <ul style="list-style-type: none"> Strips (Strip Designer app) Books (Creative Book Builder app). Rewrite stories/ character descriptions (Morfo app) as character from story. Design book covers <p>Digital literacy: Use technology safely</p> <ul style="list-style-type: none"> Powerful passwords/storing safely. Communicating online safely and responsibly 	<p>IT use a variety of software packages to complete a project on Me and My UK.</p> <ul style="list-style-type: none"> Collect information, identify key elements and present findings Opportunity to use drawing packages, image editing, draw graphs or tables in spreadsheet, presentation software. <p>Digital Literacy:</p> <ul style="list-style-type: none"> product websites that encourage us to buy - Advertising. Who should you tell? Reporting concerns 	<p>Computer Science: work with various forms of input/output</p> <ul style="list-style-type: none"> Turtle/probot/scratch onscreen turtle - use to draw some shape Turtle on screen software e.g. Textease - routes between Egyptian pictures - record program. Draw shapes in onscreen turtle/letters/ pictures e.g a house <p>IT: Effective searching</p> <ul style="list-style-type: none"> Make leaflet/museum guide/ catalogue of artefacts/newspaper article e.g. Tutankhamen' tomb/a guide to mummification for beginners Interview a tomb builder. Compose Egyptian music. Photograph artefacts Egyptian adventure programs

			<ul style="list-style-type: none"> ○ Presentation on an aspect of ancient Egypt <p>Digital literacy: showing respect online</p> <ul style="list-style-type: none"> ○ Writing good emails - thank you to museum for visit
4	<p>Computer Science: Design programs that accomplish specific goals.</p> <ul style="list-style-type: none"> ○ Design and create programs. ○ Debug programs that accomplish specific goals. ○ Use repetition in programs. ○ Use logical reasoning to detect and correct errors in programs ○ Use Scratch to create an animation, linked to sport/literacy <p>IT Collect data, analyse and evaluate intimation, select a variety of software to accomplish given goals</p> <ul style="list-style-type: none"> ○ Survey on Health/Fitness. ○ Take photos of what they are doing re health and fitness. ○ Create promotional materials to advertise health/fitness/new gym opening in the area. ○ Make a fitness video/TV advert to promote fitness <p>Understand opportunities that computer networks offer for communication</p> <ul style="list-style-type: none"> ○ Class blog about their health and fitness topic, (kidblog.org). ○ Collate results and produce graphs to show findings. ○ Put graphs, photos and findings into movie/presentation/ebook <p>Digital Literacy: Identify a range of ways to report concerns about content.</p> <ul style="list-style-type: none"> ○ SWGFL website - Rings of Responsibility. ○ New Class - Netiquette. ○ Personal & Private Information 	<p>Computer Science: Use repetition in programs.</p> <ul style="list-style-type: none"> ○ Scratch - produce game with reference to Roman topic. ○ Include repetition and loops. ○ Turtle - create/design simple patterns using procedures <p>IT: Presentation to an audience of an aspect of Roman life.</p> <ul style="list-style-type: none"> ○ Create a menu for a Roman http://cookit.e2bn.org/historycookbook/ ○ Create a cookbook of recipes. ○ Interview with a Roman God/character - IPADS/Morpho - record what they might say <p>Digital Literacy: Recognise acceptable and unacceptable behaviour</p> <ul style="list-style-type: none"> ○ SWGFL website - The Power of Words ○ Bullying 	<p>Computer Science: Control or simulate physical systems.</p> <ul style="list-style-type: none"> ○ Use Flowol/Go or other flowcharting software to create control software to model an object e.g. lighthouse/ traffic lights <p>IT: Select a variety of software to accomplish given goals, elect, use and combine internet services.</p> <ul style="list-style-type: none"> ○ Research the local area to produce a website/e-book or brochure for tourists explain the attractions of their area/region <p>Digital Literacy: Understand how computer networks can provide multiple services, such as the World Wide Web and appreciate how search results are selected</p> <ul style="list-style-type: none"> ○ SWGFL website - Keywords - learning to search (For information on the NE), ○ Whose is It, Anyway - Plagiarism
5	<p>Computer Science: Use logical reasoning to explain how some simple algorithms work.</p> <ul style="list-style-type: none"> ○ Use Flowol or Go to control an on-screen simulation. ○ Using a control box use this to control their DT Moonbuggy Model <p>IT: Select, use and combine software on a range of digital devices</p> <ul style="list-style-type: none"> ○ Produce a storyboard and animation about the solar system. Evaluate. ○ Use Video software (Photostory, imovie etc) to create a short documentary about the 1969 Moon landings <p>Digital Literacy: SWGFL website</p> <ul style="list-style-type: none"> ○ Digital Citizenship Pledge (Start of year - online rules), ○ <i>You've Won a Prize Appreciate how search results are ranked</i> Use the TASK test so that children search for a website a planet, and can explain why they have chosen it. (Title, Author, Summary, (K)Child Friendly) SWGFL How to Cite a Site. Use this to produce an information sheet about the planet 	<p>Computer Science: Solve problems by decomposing them into smaller parts.</p> <ul style="list-style-type: none"> ○ Use selection. Use logical reasoning to detect and correct errors in algorithms. ○ Create simple repeating pattern (spirograph) by using nested loops (Scratch logo/Textease turtle). ○ Solve problems by using loops e.g. Cargobot App, create game using loops e.g. whack a witch. ○ Use the "Peter Packet" activity to start to understand how data flows around the world, (warning - includes reference to AIDS) <p>IT : Use and combine software</p> <ul style="list-style-type: none"> ○ Use GPS/QR codes to plot a journey around the school site to make, then follow a maths trail. ○ Search a database (eg national rail) to plan a journey <p>Digital Literacy: Be discerning in evaluating digital content and conditions.</p> <ul style="list-style-type: none"> ○ SWGFL website - strong passwords ○ Work with a class from another area of the world to produce a blog on their school day. ○ Use Skype to discuss 	<p>Computer Science: Work with variables</p> <ul style="list-style-type: none"> ○ Create a simple game in Kodu with a basic scoring system <p>IT - Combine a variety of software to accomplish given goals, analyse and evaluate data, design system</p> <ul style="list-style-type: none"> ○ Create and use spreadsheet to calculate food miles for a meal. ○ Create a poster/website to advertise their athletes meal along with explanatory text ○ Use image editing software to enhance their pictures. <p>Digital Literacy: Be discerning in evaluating digital content</p> <ul style="list-style-type: none"> ○ SWGFL website - Picture perfect - linked to enhancing pictures of food <p>Understand the opportunities computer networks offer for collaboration</p> <ul style="list-style-type: none"> ○ Create class wiki or blog explaining the design of their healthy meal
6	<p>Computer Science: Solve problems by decomposing them into smaller parts; Use logical reasoning to detect and correct errors in algorithms</p> <ul style="list-style-type: none"> ○ Design and create a simple rainforest game in for example Kodu e.g. planting trees v excavators <p>IT: Combine a variety of software to accomplish given goals and Select, use, combine software</p> <ul style="list-style-type: none"> ○ Create an animation or video about the threats to the rainforest using websites evaluated for bias. ○ Write a news report on creating a survival structure (Print/Audio/Video) ○ Design a website to promote understanding of rainforest 	<p>Computer Science:</p> <p>IT: Use and combine software on a range of digital devices.</p> <ul style="list-style-type: none"> ○ Use a device to record a non-reversible reaction and create an "encyclopedia" entry about it. ○ Plan, produce and edit a short instructional video on how to bake bread. <p>Design and create systems</p> <ul style="list-style-type: none"> ○ Create a spreadsheet model to calculate quantities for bread recipes <p>Digital Literacy: Be discerning in evaluating digital content</p>	<p>Computer Science : Use selection In programs; Work with variables; Use logical reasoning to explain how some simple algorithms work;</p> <ul style="list-style-type: none"> ○ Design a racing game in Scratch/Kodu that includes a scoring system. ○ Print out code and annotate <p>IT: Analyse & Evaluate data</p> <ul style="list-style-type: none"> ○ Use an online Olympic database to research an athlete. Use to create Wikipedia type report. <p>Select, use and combine software</p> <ul style="list-style-type: none"> ○ Use photo editing software or pixlr to create digital pop art image. <p>Understand the opportunities computer networks offer for collaboration</p>

	<p>Digital Literacy: Appreciate how search results are ranked find and evaluate websites for bias</p> <ul style="list-style-type: none"> ○ search for info on Rainforests and evaluate sites for bias. 	<ul style="list-style-type: none"> ○ Talking safely online. ○ What is cyberbullying? (SWGfI) 	<ul style="list-style-type: none"> ○ Construct questionnaire in google forms about sports they play. ○ Complete then analyze results to produce a report for governors include graphs/charts/tables <p>Digital Literacy: Be discerning in evaluating digital content</p> <ul style="list-style-type: none"> ○ Selling Stereotypes - how images are manipulated. ○ Privacy Rules - what information should you share ○ Super Digital Citizen (SWGfI)
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