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| **Intent:**  At Strike lane, we aim to provide children with a broad and encuriching Computing curriculum in which they become confident, life long learners who have a good understanding of how technology has advanced and has changed our lives, and have an awareness of how technology could evolve in the future.  Our intention is to enable children to find, explore, anaylse, communicate and present information through collabortive projects which link to all areas of the curriculum, particularly maths, science and technology. Children will be provided with practical opportunities to use computational thinking and creativity to solve problems, express themselves and develop ideas so that they leave primary school computer literate. Computing skills are important factors in enabling children to be confident and independent learners, whilst contributing to the development other lifelong learning skills such as: resilience; risk taking; reflection and respect for themselves and others as they learn to use information technology in a safe, effective manner.  We intend to design a curriculum which builds on children’s previous learning by organising the units of learning in a way which increases in terms of challenge and acquisition of computing skills year on year within online safety, information technology, computational thinking and digital literacy. The units of study link closely with other subject areas so that children have the opportunity to apply their knowledge and skills within different project. As part of our creative curriculum, iPads are a core part of many lessons as children learn to use them safely so that they are prepared to live safely in an increasingly digital society. It is our intention to provide all children with the knowledge, skills, confidence andthe opportunity to achieve this. |

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|  | | Knowledge | Skills | | | Vocabulary/Resources |
|  | | Connect | Code | Collect | Communicate |  |
| EYFS | Learning Objectives | • Ask an adult when wanting to use the internet  • Tell an adult when something worrying or unexpected happens whilst using the internet  • Be kind to friends  • Talk about the amount of time spent using a device  • Be careful with devices  • Discuss technology that is used at home and school  • Operate simple equipment  • Use a safe part of the internet to play and learn | • Make patterns with beads  • Read familiar stories  • Make a robot/sphero/bepob move  • Use simple software to make something happen  • Make choices about buttons | • Discuss different kinds of information such as: pictures, video, text and sound | • Move objects on a screen  • Create shapes and text on an iPad  • Use an iPad to communicate learning | Technology, purpose, use, school home, Online, computer, Internet, technology, devices, safe  **iPad/ Apps**  Camera – mark Up  Epic  Chatterkid  Digimaps  Google maps  Top marks game  Epic  Pages (modelled writing by teachers)  Chatterkid  Book Creator  Everyone Can Create  Show Me  Showbie  Letterjoin  Kaliog  **Coding**  BeeBot  Daisy dinosaur  **Kit (Desired)**  Lego Coding Express  Lego Community people set  Lego Community starter set  Lego fantasy mini-figure set  Creative Lego brick set  Lego space and airport set  Lego build me emotions  Lego tubes experiment set with storage  Steam park |
| Curriculum Links | Autumn Term |  | Reading animated books | UTW - People Who Help Us  UTW- Maps | UTW - People Who Help  W - Letter formation  A&E - Drawing skills |
| Spring term |  | Beebots – Maths / UTW |  | Use technology to show my learning |
| Summer Term |  | Daisy Dinosaur – Maths / UTW |  |  |

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| Year 1 | Learning Objectives | • Keep passwords private  • Discuss what personal information is  • Tell an adult when they see something worrying or unexpected online  • Talk about why it’s important to be kind and polite  • Recognise an age appropriate website  • Agree and follow sensible e-Safety rules  • Recognise how technology is used in the classroom  • Recognise ways that technology is used in the home and community  • Use links to websites to find information - teacher to send websites out through Apple classroom  • Identify some of the benefits of using technology | • Sequence familiar stories  • Create sequences  • Construct a flexible sequence  • Understand what a loop is  • Describe what debugging is  • Understand that an event is - an action that causes   something to happen  • Use ‘IF’ statements in everyday life and in coding  • Write an algorithm to solve a problem | • Discuss the different ways in which information can be shown  • Use technology to collect information, including photos, video and sound  • Sort different kinds of information and present it to others  • Add information to a pictograph and talk about what they have found | • Be creative with different technology tools  • Use technology to create and present ideas  • Enter text on the iPad  • Save work into Showbie and retrieve it again | keyboard (space bar, shift, enter), captions, images, text, font, image, folder, file, crop, resize, insert  Website, online, internet, search, browser, favourites,files,  Algortithm, program, instructions, commands, trial and error, debugging, prediction, sequence, logical reasoning.  Technology, computers, online, internet, community, networks, computing systems.  Website, online, internet, search, browser, favourites, menu,  **iPad/Apps**  Camera – Mark up  Showbie  Show Me  Clips  Chatterkid  Book Creator  Kaligo - handwriting  **Coding**  Get started with code 1  Everyone Can Create Early Learners  Kodable  Barefoot- computational thinking activities  [www.barefootcomputing.org](http://www.barefootcomputing.org)  Teach Primary- Computing Systems and Networks- Technology around us  <https://teachcomputing.org/resources>  **Kit (Desired)**  Lego Coding Express  Lego Community people set  Lego Community starter set  Lego fantasy mini-figure set  Creative Lego brick set  Lego space and airport set  Lego build me emotions  Lego tubes experiment set with storage  Steam park  Theta V 360 shooting kit  1Google expeditions kit x 30 devices  Google expeditions x 30 head sets |
| Curriculum Links | Autumn Term | Science: Research Penguins  History- research the Great Fire of London  Geography: hot and cold places. |  |  | Science: Use Book Creator to create a poster about penguins  Everyone Can Create |
| Spring term |  | Everyone Can Create Early Learners  Barefoot- computational thinking activities  [www.barefootcomputing.org](http://www.barefootcomputing.org)  Maths- problem solving, postitional language  English- Instructions: follow and write own instructions |  | English- Instructions: follow and write own instructions |
| Summer Term | Literacy: Research topic linked to non-fiction texts. | Get started with code 1  Kodable - Maths Position and Direction  Topic: robots. Programme robots to reach destinations.  Geography- Compass directions |  |  |

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| Year 2 | Learning Objectives | • Explain why passwords and private information need to be kept private  • Describe the things that happen online that pupils must tell an adult about  • Talk about why it is important to be kind and polite online and in real life  • Understand that not everyone is who they say they are on the internet  • Children discuss why they use technology in the classroom  • Children discuss why they use technology at home and in the community  • Understand that other people have created the information we use Can we trust it?  • Identify the benefits of using technology including finding information, creating and communicating  • Talk about the differences between the internet and things in the real world | • Understand an algorithm as a set of instructions to solve a problem  • Understand how to approach debugging a program or algorithm  • Understand how loops help us think more efficiently  • Understand decomposition as a way of solving problems by breaking them down into parts | • Discuss the different ways technology can be used to collect information including: camera, recording sound, video  • Make and save a chart or graph using the data collected  • Talk about the data that is shown in the graph or chart  • Discuss the kind of information which could be used to investigate a questio | • Use technology to organise and present ideas in different ways  • Use the keyboard on the iPad to add, delete and space text for others to read  • Discuss how they can share ideas with others  • Save files into Showbie and then retrieve and edit | Online, safety, cyberbullying, personal information, internet, trust , communication  Text, font, cursor, delete, cut, paste, crop, edit,  Email, Twitter, tweet, blog, comment, School Blog  Book, insert, text box, images, save, open, audio file,  Instructions, positional language, directions, algorithm, software, programming, debug, sequence, commands, trial and error, goal, device.  Graph, data, pictogram, bar chart, table, interpret, classify, sort, database, datalogging, branching database, information, sort.  Images, animation, images, video, electronic, digital devices, software, record, pre-recorded, sound, editing tools, still images, graphics, camera  **IPad/Apps**  Book Creator App  Camera – mark up  Showbie  Show Me  Clips  Keynote  Chatterkid  Numbers  Pages  Garage band  Camera- Video, Slo-Mo, Time lapse  Do Ink  Stop Motion  Everyone Can Create Drawing  Everyome Can Create Photo  Everyone Can Create Video  Everyone Can Create Music  **Coding**  Daisy Dinosaur  Tynker  Get Started with Code 2 (Teacher Guide)  **Kit (Desired)**  WeDo2 kits  Sphero  Construction sets  Boxes construction set instructions  Theta V 360 shooting kit  1Google expeditions kit x 30 devices  Google expeditions x 30 head sets |
| Curriculum Links | Autumn Term | Reading books online  Research animal/human facts for science |  |  | Re-tell stories using book creator  Contribute to class Twitter page / blog |
| Spring term | Geography - Research Kenya  Science – Research Plants facts | Maths- position and direction –  Daisy Dinosaur, Tynker  Link to DT Transport -Make a vehicle move |  | Geography: Create Keynote on Kenya.  Science- Create poster about plants |
| Summer Term |  | Get Started with Code 2 (Teacher Guide) | Science- data handling -mini beasts found in different habitats.  Geography- collect data about weather. | Music - Create seaside music/sound effects for a presentation |

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| Year 3 | Learning Objectives | • Discuss what makes a secure password and why they are important  • Protect personal information when using different apps  • Use the safety features on websites such as ‘CEOP’ as well as reporting concerns to an adult  • Recognise websites and games appropriate for age  • Children to make good choices about how long they spend online  • Post positive comments online  • Discuss ways to communicate with others online  • Describe the world wide web as the part of the internet that contains websites  • Use the search tools to find and use an appropriate website  • Think about whether they can use images online and class as their own work | • Revise language from Year 2  • Understand ‘abstraction’ as a way of making it easier to think about problems  • Understand how ‘functions’ help us think more efficiently  • Understand ‘conditional statements’ as a way of handling different situations  • Understand ‘while loops’ as a way of handling conditions that stay the same  • Understand ‘nested loops’ as an efficient way of handling actions that contain other repeating actions  • Understand ‘variables’ as a way of working with changing values  • Understand ‘input’ as information that’s received, and ‘output’ as information that’s given back | • Discuss different ways data can be organised  • Search a database to answer questions  • Collect data to hep answer a question  • Add to a database  • Collect data and monitor changes, talk about the information collected | • Create different effects with different technology tools  • Combine a mixture of text, graphics and sound to share ideas and learning  • Use keyboard to amend text, including making use of spellchecker  • Evaluate work and improve its effectiveness  • Use an appropriate tool to share work online  • Talk about the parts of an iPad | Search engine, reliability, information, search, favourite, history, pop-ups, research, website, URL, content, online, interet, child-friendly, sources  Technology tools, sound, music, recording, editing, film, titles, credits, special effects, transitions, animated,  Algorithm, abstraction, input, output, function, conditional statements, while loop, nested loop, variables, program, sequence, command, detect, debugging, sequence, repetition, errors, devices,  Design, presentation, process, ICT, editing, audience, purpose, present, create, manipulate, digital content  **IPad/Apps**  Camera  Mark Up  Showbie  Pages  Show Me  Clips  Comic Life  Stop Motion  Keynote  Notes  GarageBand  Numbers  Everyone Can Create Drawing  Everyone Can Create Photo  Everyone Can Create Video  Everyone Can Create Music  **Coding**  Get Started with Code 2 (Teacher Guide)  Swift Playgrounds  **Kit (Desired)**  WeDo2 kits  Sphero  Construction sets  Boxes construction set instructions  Theta V 360 shooting kit  1Google expeditions kit x 30 devices  Google expeditions x 30 head sets |
| Curriculum Links | Autumn Term | History- research rocks, create  Researching biographies  Stone Age Research  Literacy- Fables video commentary of The Hare and the Tortoise |  |  | History – Rocks -presentation Keynote/Book creator  Biographies - Book Creator, Comic Life, Keynote  Literacy- Fables video commentary of The Hare and the Tortoise |
| Spring term | Ancient Egypt research | Get Started with Code 2 (Teacher Guide)  Maths- position, direction,  Geopgraphy- compass directions.  Link to Music/ PE Dance- program an avatar to complete a dance routine? | Healthy Eating- Data Collection- staff health survey  Geography Data- volcanoes or local area | Science - Persuasive Advert- promote healthy eating |
| Summer Term | Geography/RE: Zoom video conference with another school in different UK region. | Swift Playgrounds | Link to results for a science experiment- plants/light | Geography/RE: Zoom video conference with another school in  different UK region.  Collaborative piece- The Romans podcast  Create animation of historical character Tim Berners-Lee.  Contribue to class blog  Class collaboration project- Spirited Arts RE or PSHE link |

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| Year 4 | Learning Objectives | • Choose a secure password fo an app  • Talk about the ways children can protect themselves and friends from harm online  • Use the safety features of websites as well as reporting concerns to adults  • Know that anything they post online can be seen by others  • Choose websites and games that are appropriate for age  • Help friends make good choices about the time they spend online  • Talk about why they need to ask a trusted adult before downloading games and apps at home  • Comment positively and respectfully online  • Discuss whether a resource they are using is on the internet, school network or iPad  • Identify key words when searching safely on the World Wide Web  • Explain how to check who owns photos, text and clipart  • Create a hyperlink to a resource on the World Wide Web | • Describe what ‘commands’ and sequences are  • Describe what ‘debugging’ is  • Describe what ‘functions’ and for ‘loops’ are  • Describe what ‘conditional code, Booleans’, and ‘logical operators’ are  • Describe what ‘while loops’ are  • Describe what ‘algorithms’ are | • Organise data in different ways  • Collect data and identify where it could be inaccurate  • Plan, create and search a database to answer questions  • Choose the best way to present data to friends | • Use photos, video and sound to create an atmosphere when presenting to different audiences  • Explore new media to extend what they can achieve  • Change the appearance of text to increase its effectiveness  • Create, modify and present documents for a particular purpose  • Use the keyboard on an iPad confidently and make use of the spellchecker to write and review work  • Use an appropriate tool to share work and collaborate online  • Give constructive feedback to friends to help them improve their work and refine their own | Algorithm, input, output, program, sequence, command, detect, debugging, functions, sequence, repetition, errors, devices, planning, test, evaluate, repetition, correct, ‘conditional code’, ‘logical operators’, ‘while loops’, Booleans  Images, digital content, video, sound, devices, paint, edit, design, audience, purpose, manipulate, software, font, size, colour, cut, copy, past, 3D representations, internet, evaluate.  Data, data logger, database, frequency diagram, graphs, organise, present, collect, numeric, alphabetic, accurate, inaccurate, charts, purpose  Stills, capture, digital imagery, edit, resize, crop, delete, download, upload, pixels, resolution, aspect ratio, software, device, delete, save, image dimensions, graphics, save, store, copyright  **IPad/Apps**  Camera  Mark Up  Showbie  Pages  Show Me  Camera - mark up  Clips  Keynote  GarageBand  Notes  Numbers  iMovie  Stop motion  Swift playgrounds  Sketches  Everyone Can Create Drawing  Everyone Can Create Photo  Everyone Can Create Video  Everyone Can Create Music  **Coding**  Section 1 of Learn to Code 1 & 2 (Teacher Guide)  Swift Playgrounds  **Kit (Desired)**  WeDo2 kits  Sphero  Construction sets  Boxes construction set instructions  Parrot Mambo Drones  Theta V 360 shooting kit  1Google expeditions kit x 30 devices  Google expeditions x 30 head sets |
| Curriculum Links | Autumn Term | Geography – Reduce, Reuse, Recycle – information gathering, | Learn to Code 1 | Geography – Reduce, Reuse, Recycle –  data handling | Geography – Reduce, Reuse, Recycle –  video conferencing, presentations  DT: electricity – circuits – safety posters |
| Spring term | Digestion – research facts | Swift Playgrounds |  | Viking Boy – electronic communication  Science – digestion – presentation |
| Summer Term |  | Swift Playgrounds |  | Develop use of Garage Band to add music to presentations |

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| Year 5 | Learning Objectives | • Protect their password and other personal information  • Explain how they need to protect themselves and friends and the best ways to do this, including reporting concerns to an adult  • Know that anything they post online can be seen, used and may affect others  • Talk about the dangers of spending too long online or playing a game  • Explain the importance of communicating kindly and respectfully  • Discuss the importance of choosing an age-appropriate website or app  • Explain why they need to protect their iPad from harm  • Know which resources on the internet they can use and download  • Describe different parts of the internet  • Use different online communication tools for different purposes  • Use a search engine to find appropriate information and check its reliability  • Recognise and evaluate different types of information they find on the World Wide Web  • Describe the different parts of a webpage  • Find out who the information on a web page belongs to | • Describe what ‘variables’ are  • Describe what ‘types’ and ‘initialization’ are. Type - is a named   grouping of properties   (the features) and   methods (the behaviors) of a kind of data  • “Initialization’ is the act   of creating a new instance   of a type, which includes setting initial values for any properties of the type  • Describe what parameters are  • Describe what ‘arrays are’  • Milestone Project - Build your own world using all the concepts you’ve   learned so far. Create a story to go with the world.  • App design - focus on prototypes and designing an app they might want to build. | • Use a spreadsheet and database to collect and record data  • Choose an appropriate tool to help collect data  • Present data in an appropriate way  • Search a database using different operators to refine search  • Talk about mistakes in data and suggest how they may be checked | • Use text, photo, sound and video editing tools to refine work  • Use the skills already developed to create content using unfamiliar technology  • Select, use and combine the appropriate technology tools to create effects that will have an impact on others  • Select an appropriate online or offline tool to create and share ideas  • Review and improve work and support others to improve their work | Online, safetly, internet, password, protect, personal details, report, block, concerns, dangers, respect, permission, privacy, unsafe, cyber bullying, content, viruses, copyright, trust, acceptable, unacceptable, responsible  Data, construct, refine, interpret, charts, graphs, questions, questionnaire, database, reliability, accuracy, enquiries, predictions, conclusions, numeric, alphabetic, datalogger, measurements, present, anlyse,  Modelling, IT, spreadsheet, function, model, variables, text, simultations, make, text, predictions, formulae, cells, investigate, data, accuracy  Design, program, algortithm, outcome, procedure, variable, repetition, commands, input, output, system, selection, logical reasoning, decomposition, selection, error, test, refine, purpose, simulations, software,  Sound, images, text, technology, present, audience, purpose, media, edit,  **iPad / Apps**  Camera – Mark Up  Showbie  Pages  Show Me  Clips  Keynote  GarageBand  Notes  Numbers  iMovie  Stop Motion  Sketches  Everyone Can Create Drawing  Everyone Can Create Photo  Everyone Can Create Video  Everyone Can Create Music  **Coding**  Swift Playgrounds  Section 2 of Learn to Code 1 & 2 (Teacher Guide)  Everyone Can Code Puzzles, (Teacher Guide)  **Kit (Desired)**  EV3 kits  Sphero  Construction sets  Boxes construction set instructions  Parrot Mambo Drones  Theta V 360 shooting kit  1Google expeditions kit x 30 devices  Google expeditions x 30 head sets |
| Curriculum Links | Autumn Term | Research Internet Safety | Section 2 of Learn to Code 1&2 | Maths- handling data  Science- Space data temperatures, distance etc.) | Literacy- create information booklet about staying safe online |
| Spring term |  | Swift Playgrounds  Everyone Can Code Puzzles |  | 3D modelling? Sketch up?  Literacy instructions |
| Summer Term | Research Victorians | Swift Playgrounds  Everyone Can Code Puzzles |  | History News Report- Victorians  Podcast |

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|  | | Connect | Code | Collect | Communicate |  |
| Year 6 | Learning Objectives | • Protect their password and other personal information  • Explain the consequences of sharing too much information about themselves online or on apps  • Support friends to protect themselves and make good choices online, including reporting concerns to an adult  • Explain the consequences of spending too much time online or on a game/app  • Explain the consequences to themselves and others of not communicating kindly and respectfully  • Protect their iPad from harm on the internet  • Discuss the internet services they need to use for different purposes  • Describe how information is transported on the internet  • Select an appropriate tool to communicate and collaborate online  • Talk about the way search results are selected and ranked  • Check the reliability of a website  • Discuss copyright and acknowledge the sources of information that they find online | • Describe that a ‘parameter’ is extra information that gets passed to a function  • Describe what an ‘array’ is - a collection that stores an ordered   list of items  • Describe that an ‘index’ is the number that represents the position of an item in an array | • Plan the process needed to investigate the world around themselves  • Select the most effective tool to collect data for an investigation  • Check the data they collect for accuracy and plausibility  • Interpret the data collected  • Present the data they collect in an appropriate way  • Use the skills they have developed to interrogate a database | • Talk about audience, atmosphere and structure when planning a particular outcome  • Confidently identify the potential of unfamiliar technology to increase their creativity  • Combine a range of media, recognising the contribution of each to achieve a particular outcome  • Describe why they select a particular online tools for a specific purpose  • Be digitally discerning when evaluating the effectiveness of their own work and the work of others | Sound, images, text, technology, present, audience, purpose, media, tools, creativity, digital, edit, refine, evaluate, devices, content.  Design, program, algortithm, outcome, procedure, variable, repetition, commands, input, output, system, selection, logical reasoning, decomposition, selection, error, test, refine, purpose, simulations, software,  Search engine, research, internet, website, sources, plagiarism, downlad, publish, permission, hyperlink, copyright, fact, opinion, reliable, sources, online, web page, content, author,  Collaborate, blog, email, online, wiki, webcam, video conferencing, digital, tools, communicate,  Design, program, algortithm, outcome, procedure, variable, repetition, commands, input, output, system, selection, logical  reasoning, decomposition, selection, error, test, refine, purpose, simulations, software, hardware  **iPad / Apps**  Camera – Mark Up  Showbie  Pages  Show Me  Clips  Keynote  GarageBand  Notes  Numbers  iMovie  Stop Motion  Sketches  Everyone Can Create Drawing  Everyone Can Create Photo  Everyone Can Create Video  Everyone Can Create Music  **Coding**  Swift Playgrounds  Section 2 of Learn to Code 1 & 2 (Teacher Guide)  Everyone Can Code Puzzles, (Teacher Guide)  **Kit (desired)**  EV3 kits  Sphero  Parrot Mambo Drones  Spike Prime  Spike Prime expansion set  Theta V 360 shooting kit  1Google expeditions kit x 30 devices  Google expeditions x 30 head sets |
| Curriculum Links | Autumn Term | Geography- research key counties and key features. | Swift Playgrounds  Learn to Code 1 &2 |  | Geography presentation |
| Spring term | History: Research Rule of Law – British Democracy – Compare and contrast with the Ancient Greeks  Researching Animals  Listen to Podcasts- WW1/2 | Swift Playgrounds  Everyone Can Code Puzzles | Maths Presenting Data - Numbers | Contribute to class blog/emails  Create Podcasts |
| Summer Term |  | Swift Playgrounds  Everyone Can Code Puzzles |  | Creating a multimedia presentation/video recording to feature in the end of year production. |