

Autumn	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	A1: Informational Technology A2: E-safety	A1: Information Technology A2: E-safety	A1: Information technology A2: E-safety	A1: Information technology A2: E-safety	A1: Computational Thinking: Technology in our Lives A2: Digital Citizenship: Staying Safe Online	A1: Computational Thinking: Technology in our Lives A2: Digital Citizenship: Staying Safe Online	A1: Computational Thinking: Technology in our Lives A2: Digital Citizenship: Staying Safe Online
Big question	<ul style="list-style-type: none"> What is technology? What is a password? 	<ul style="list-style-type: none"> Does technology help us? Are some passwords better than others? 	<ul style="list-style-type: none"> How would you talk to a computer? Do passwords keep us safe? 	<ul style="list-style-type: none"> Can computers talk to each other? How do my online choices keep me safe? 	<ul style="list-style-type: none"> What do all these special words mean in Computing and are their differences really that important? 	<ul style="list-style-type: none"> The World Wide Web is a wonderful way for anybody to share anything with anyone. Why should this be a problem for issue? 	<ul style="list-style-type: none"> The World Wide Web is a wonderful way for anybody to share anything with anyone. Why should this be a problem for issue?
Skills:	<ul style="list-style-type: none"> To tell you about technology that is used at home and in school. Can operate simple equipment. Use a safe part of the Internet to play and learn. Ask an adult when I want to use the Internet. Tell an adult when something worrying or unexpected happens while I am using the Internet. Can be kind to my friends. Talk about the amount of time I spend using a computer / tablet / game device. Show I am careful with technology 	<ul style="list-style-type: none"> To talk about different technology tools we use To identify technology used in the home and the community To use links to websites to find information To begin to identify some of the benefits of using technology 	<ul style="list-style-type: none"> I can tell you why I use technology in the classroom. I can tell you why I use technology in my home and community. I am starting to understand that other people have created the information I use. I can identify benefits of using technology including finding information, creating and communicating. I can talk about the differences between the Internet and things in the physical world I can explain why I need to keep my password and personal 	<ul style="list-style-type: none"> I can save and retrieve work on the Internet, the school network or my own device. I can talk about the parts of a computer. I can tell you ways to communicate with others online. I can describe the World Wide Web as the part of the Internet that contains websites. I can use search tools to find and use an appropriate website. I think about whether I can use images that I find online in my own work. I can talk about what makes a secure password 	<ul style="list-style-type: none"> I can identify whether a resource being used is on the World Wide Web, school network or on the local device; I can identify key words to use to safely search the World Wide Web. I can consider the reliability of content from the World Wide Web. I know how the check file ownership. I can create hyperlinks to a resource on the World Wide Web. I can show computer networks allow data to be 	<ul style="list-style-type: none"> I can describe different parts of the Internet; I can use different online communication tools for different purposes; I can use a search engine to find appropriate information and check its reliability; I can recognise and evaluate different types of information I find on the World Wide Web; I can describe and understand the features and functions of a webpage; I know how to find who the information and 	<ul style="list-style-type: none"> I can independently identify the Internet services I need to use for different purposes; I can describe how information is transported by the Internet; I can select an appropriate tool to communicate and collaborate online; I can talk about the way search results are selected and ranked; I can check the reliability of a website; I can understand copyright laws and acknowledge the sources of information that are obtained online; I can create an “app”, website or digital resource for a specified audience.

	<p>devices.</p>		<p>information private.</p> <ul style="list-style-type: none"> • I can describe the things that happen online that I must tell an adult about. • I can talk about why I should go online for a short amount of time. • I can talk about why it is important to be kind and polite online and in real life. • I know that not everyone is who they say they are on the Internet. 	<p>and why they are important.</p> <ul style="list-style-type: none"> • I can protect my personal information when I do different things online. • I can use the safety features of websites as well as reporting concerns to an adult. • I can recognise websites and games appropriate for my age. • I can make good choices about how long I spend online. • I ask an adult before downloading files and games from the Internet I can post positive comments online. 	<p>transferred and shared.</p> <ul style="list-style-type: none"> • I can describe how some computers on a network serve specific functions. • I can understand the structure of strong or secure passwords. • I can explain ways to protect myself and my friends from harm online. • I can use the safety features of websites as well as reporting concerns to a trusted adult. • I can understand that anything posted online can be seen by others. • I can help my friends make good choices about the time they spend online. • I can talk about why I need to ask a trusted adult before downloading files and games from the World Wide Web. • I can comment positively and 	<p>content on a web page belongs to;</p> <ul style="list-style-type: none"> • I can use more advanced features when searching online; • I can use a range of search tools to make my web search results more precise. • I can protect my password and other personal information; • I can explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to a trusted adult; • I know that anything that is posted online can be seen, used and may affect others; • I can talk and write about the dangers of spending too long online or playing a game; • I can explain the importance of choosing an age-appropriate 	<ul style="list-style-type: none"> • I can protect my password and other personal information; • I can explain the consequences of sharing too much about myself online; • I can support my friends to protect themselves and make good choices online, including reporting concerns to a trusted adult, inside or outside school; • I can explain the consequences of myself and others of not communicating kindly and respectfully; • I can protect my digital devices from harm on the World Wide Web.
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					respectfully online.	website or game; <ul style="list-style-type: none"> I can explain why it is important to protect digital devices from harm; I know which resources can be downloaded from the World Wide Web. 	
Suggested outcomes:	<ul style="list-style-type: none"> Understand how to use Google search engine. Explain the dangers of sharing information online. 	<ul style="list-style-type: none"> Independently use Google search engine. Identify dangers online and how to tell adults. 	<ul style="list-style-type: none"> Use the keyboard independently. Build digital devices. How to be kind and polite online. (digital citizenship). 	<ul style="list-style-type: none"> Use of networks and building a network and routers. How to manage time online? 	<ul style="list-style-type: none"> Using Google Drive and Google Workspace for Education to create presentation, survey and graphs. Learning reflections. 	<ul style="list-style-type: none"> Webpage that could be published. Learning reflections. Google Doc in Google Classroom. 	<ul style="list-style-type: none"> Learning reflections.
Key Vocabulary:	Technology Digital Internet Safety Device Password Secure Rules Equipment	Technology Digital Internet Link Purpose Online Tools Communicate Password Secure Rules Online Private information Email	Information sources Communication Purposes Website content Appropriate/inappropriate sites Digital citizens Password Cyber-bullying Keyword searching	Network Router Switch Device Components Tools Comments Positive comments Download Trolling	Collaborate Comment; E-Document Edit; E-Mail Icon File Attachment Link Presentation Spreadsheet Privacy Security Two-Step Verification Harassment Block Anonymous Accounts	Collaborate Comment; E-Document Edit; E-Mail Icon File Attachment Link Presentation Spreadsheet Privacy Security Two-Step Verification Harassment Block Anonymous Accounts	Fraud Phishing Scam Verifiable Firewall Malware Digital Footprint Settings Personal Boundaries
Challenge	<ul style="list-style-type: none"> How is it used? 	<ul style="list-style-type: none"> Group items 	<ul style="list-style-type: none"> Label uses, link IT devices, Text to 	<ul style="list-style-type: none"> Can your device communicate with 	<ul style="list-style-type: none"> Can you access the technology 	<ul style="list-style-type: none"> What will you promise to do 	<ul style="list-style-type: none"> If you could make a secure password

	<ul style="list-style-type: none"> • How turn it on, give power • Use trackpad • Write name of person/ some letters of their name • Write name of person/ some letters of their name • Can I (teacher) share the photo to my friends? • Read numbers on timer • Type kind words • Verbally explain why • Type up, add symbols 	<ul style="list-style-type: none"> • Resize photos, order importance, • Write descriptions of uses- add adjectives • Add up prices, what to do if not working? • Copy and paste text, add own text • Find symbols on a keyboard, draw • What would you do if someone found out your private information? • Write/Type/Record a sentence explaining why you trust them • Write/ record a response 	<p>speech, rings for home row keys</p> <ul style="list-style-type: none"> • Role play with device, label input/output • How else could you advertise? • Copy and paste images into documents and annotate • Find symbols on keyboard • Add text explaining picture • Extended writing • Use iPad to record 	<p>other devices? Who will use your device?</p> <ul style="list-style-type: none"> • Label parts- change font, colour size • What websites surprised you? 	<p>from anywhere using any device? (Home learning challenge)</p> <ul style="list-style-type: none"> • Turning a paper based document into digital form • Include images and text into my presentation. • Design my own questionnaire • using conditional formatting. • If you could make a secure password system, what would it look like? • Why is allowing people to have anonymous accounts a problem when trying to keep the World Wide Web safe for everyone? 	<p>from now on to make sure you keep yourself safe when connecting to the World Wide Web or playing online games?</p> <ul style="list-style-type: none"> • If you could make one rule about the World Wide Web for everybody to follow, what would be that rule? • If you were in change at YouTube, what changes would you make to make their website safer for everybody to visit? • Why is allowing people to have anonymous accounts a problem when trying to keep the World Wide Web safe for everyone? 	<p>system, what would it look like?</p> <ul style="list-style-type: none"> • Why is allowing people to have anonymous accounts a problem when trying to keep the World Wide Web safe for everyone? • If you were in change at YouTube, what changes would you make to make their website safer for everybody to visit? • What will you promise to do from now on to make sure you keep yourself safe when connecting to the World Wide Web or playing online games?
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Spring	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Sp1 & Sp2 Programming and coding	Sp1 & Sp2: Programming and coding	Sp1 & Sp2: Programming and coding	Sp1 & Sp2: Programming and coding	Sp1 & Sp2: Coding and robotics	Sp1 & Sp2: Coding and robotics	Sp1 & Sp2: Coding and robotics
Big question	<ul style="list-style-type: none"> What are instructions? 	<ul style="list-style-type: none"> Why do we need instructions? 	<ul style="list-style-type: none"> Why do computers need instructions? 	<ul style="list-style-type: none"> What happens if computers get incorrect instructions? 	<ul style="list-style-type: none"> What is tinkering and why is it important everybody my age know how to be great at tinkering? 	<ul style="list-style-type: none"> Is technology as clever as some think? 	<ul style="list-style-type: none"> How has technology changed our lives in the past year?
Skills:	<ul style="list-style-type: none"> I can make a floor robot move. I can use simple software to make something happen. I can make choices about the buttons and icons I press, touch or click on. 	<ul style="list-style-type: none"> I can give instructions to my friend and follow their instructions to move around. I can describe what happens when I press buttons on a robot. I can press buttons in the correct order to make a robot do what I want. I can describe the actions needed to make something happen and begin to use the word algorithm. I can begin to predict what will happen for a short sequence of instructions. I can begin to use software and 'apps' to create movement and patterns on a screen. I can use the word 'debug' when 	<ul style="list-style-type: none"> I can give instructions to my friend (using forward, backward and turn) and physically follow their instructions. I can tell you the order I need to do things to make something happen and talk about this as an algorithm. I can program a robot or software to do a particular task. I can look at my friend's program and tell you what will happen. I can use programming software to make objects move. I can watch a program execute and spot where it goes wrong so that I can debug it. 	<ul style="list-style-type: none"> I can break an open-ended problem up into smaller parts. I can put programming commands into a sequence to achieve a specific outcome. I keep testing my program and can recognise when I need to debug it. I can use repeat commands. I can describe the algorithm I will need for a simple task. I can detect a problem in an algorithm which could result in unsuccessful programming. 	<ul style="list-style-type: none"> I can use logical thinking to solve an open ended problem by breaking it up into smaller parts. I can use an efficient procedure to simplify a programme. I can use a sensor to detect a change which can select an action within my program. I know what I need to keep testing my program while I am putting it together. I can use a variety of tools to create a program. I can recognise an error in a 	<ul style="list-style-type: none"> I can decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program; I can refine a procedure using repeat commands to improve a program; I can use a variable to increase programming possibilities; I can change an input to a program to achieve a different output; I can use "if" and "then" commands to select an action; I can talk about how a computer model can 	<ul style="list-style-type: none"> I can deconstruct a problem into smaller steps, recognising similarities to solutions used before; I can explain and program each of the steps in my algorithm; I can evaluate the effectiveness and efficiency of my algorithm while I continually test the programming of that algorithm; I can recognise when I need to use a variable to achieve a required output; I can use a variable and operators to stop a program; I can use different inputs (including sensors) to control a device or onscreen action and predict what will happen; I can use logical reasoning to detect and correct errors in

		correcting mistakes from a computer program.			<p>program and debug it.</p> <ul style="list-style-type: none"> I can recognise that an algorithm will help me sequence more complex programs. I can recognise that using algorithms will also help solve problems in other learning such as Maths, Science and Design and Technology. 	<p>provide information about a physical system;</p> <ul style="list-style-type: none"> I can use logical reasoning to detect and debug mistakes in a program; I can use logical thinking, imagination and creativity to extend a program. 	algorithms and programs.
Suggested outcomes:	<ul style="list-style-type: none"> Moving robots and understanding their basic components Using simple software to make changes. Understanding what buttons means and what they do. 	<ul style="list-style-type: none"> Match their developing physical skills to tasks and activities in the setting. Develop their small motor skills so that they can use a range of tools competently, safely and confidently Following instructions Recognising problems in instructions Using bee bots/ Marty robot Directional language from maths. 	<ul style="list-style-type: none"> Creating an algorithm. Understanding how to de-bug and what it means. Creating and understanding the use of buttons. Creating a game using a range of buttons. 	<ul style="list-style-type: none"> Use loops to create musical repetition Create paper algorithm script together Create algorithm in scratch using correct blocks Building code Adding loops into sequence to make code base go in a circle 	<ul style="list-style-type: none"> Scratch projects VexGo code sequences. Pattern recognitions Comparisons of projects What and how variables are used 	<ul style="list-style-type: none"> Scratch projects VexGo code sequences Program loops Compile advanced algorithms Understand what is abstraction and how to apply 	<ul style="list-style-type: none"> Tinkering logos Understand and create nested loops Create advanced algorithms while programming Understand how to use Python
Key Vocabulary:	Robot Software Buttons Choice Press Touch	Quarter-Turn Half-Turn Left Right Clockwise Anti-Clockwise Programming Code	Forward Backward Right-angle turn Algorithm Sequence Debug Predict Code	Code Effect Sequence Loop De-bug Test Algorithm Programming	Animation Application Code Debug Decompose Direction Interface	Decomposition Pattern Recognition Data Representation Generalization Abstraction Algorithm	Tinkering Logo Nest Nested loop

		Pseudocode Algorithm Debug			Loop Orientation Position Remixing Code Repetition Code Tinkering Variable		
Challenge	<ul style="list-style-type: none"> • Add in sounds • More complex course • 2 part instructions • Debug how? • Debug instructions • Turns 	<ul style="list-style-type: none"> • Draw symbols for each instruction, e.g. pencil for draw • Debug wrong comic instructions • Add in actions, ways to loop. • Make characters move across the screen 	<ul style="list-style-type: none"> • Plan game with a range of actions • Simplify instructions-symbols • Add complexity to maze • Explain choices of code • Explore google earth, change setting to abstract • Write instructions • Help struggling pairs • Predict where the character will end up • Make characters move as well • Get character to reply 	<ul style="list-style-type: none"> • Changing Code • Add Visual Effects • Use Block Tips Independently • Add Sounds Effects • Building Code • Building A Figure 8 • Recording And Explaining Ideas 	<ul style="list-style-type: none"> • Build a score board. • change variable values to extremely large or extremely low values • Adding blocks 	<ul style="list-style-type: none"> • Use the decomposition process. • How abstraction can help me improve the coding compiled • Apply loops in a project • Up-level basic coding 	<ul style="list-style-type: none"> • De-bug a loop and up-level • Create own text based program • Improving code and making it more complex

Summer	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	S1: Multimedia S2: Data Handling	S1: Multimedia S2: Data Handling	S1: Multimedia S2: Data Handling	S1: Multimedia S2: Data Handling	S1: Multimedia S2: Data Handling	S1: Multimedia S2: Data Handling	S1: Multimedia S2: Data Handling
Big question	<ul style="list-style-type: none"> How can I use technology to show my learning? Why do we ask questions? 	<ul style="list-style-type: none"> How can I use technology to help tell a story? 	<ul style="list-style-type: none"> How can I present data in different ways? 	<ul style="list-style-type: none"> How can I collect data? 	<ul style="list-style-type: none"> How does or can technology help us in the real World? 	<ul style="list-style-type: none"> How does technology help answer real World questions? 	<ul style="list-style-type: none"> What is big data?
Skills:	<ul style="list-style-type: none"> I can move objects on a screen. I can create shapes and text on a screen. I can use technology to show my learning I can tell you about different kinds of information such as pictures, video, text and sound. 	<ul style="list-style-type: none"> I can be creative with different technology tools. I can use technology to create and present my ideas. I can use the keyboard or a word bank on my device to enter text. I can save information in a special place and retrieve it again. To talk about the different way in which information can be shown I can use technology to collect information, including photos, video and sound. I can sort different kinds of information and present it to others. I can add information to a pictograph and talk to you about what I have found out. 	<ul style="list-style-type: none"> I can use technology to organise and present my ideas in different ways. I can use the keyboard on my device to add, delete and space text for others to read. I can tell you about an online tool that will help me to share my ideas with other people. I can save and open files on the device I use. I talk about the different ways I use technology to collect information, including a camera, microscope or sound recorder. I can make and save a chart or graph using the data I collect. I can talk about the data that is shown 	<ul style="list-style-type: none"> I can create different effects with different technology tools. I can combine a mixture of text, graphics and sound to share my ideas and learning. I can use appropriate keyboard commands to amend text on my device, including making use of a spellchecker. I can evaluate my work and improve its effectiveness. I can use an appropriate tool to share my work online. I can talk about the different ways data can be organised. I can search a ready-made database to answer questions. 	<ul style="list-style-type: none"> I can use photos, video and sound to create an atmosphere when presenting to different audiences. I can show confidence to explore new media to extend what I can achieve. I can change the appearance of text to increase its effectiveness. I can create, modify and present documents for a particular purpose. I can use a keyboard confidently and make use of a spellchecker to write and review my work. 	<ul style="list-style-type: none"> I can use text, photo, sound and video editing tools to refine my work. I can use the skills already developed to create content using unfamiliar software or apps. I can select, use and combine appropriate technology tools to create effects that will have an impact on others. I can select an appropriate online or offline tool to create and share ideas. I can review and improve my own work and support others to improve their work. 	<ul style="list-style-type: none"> I can talk about audience, atmosphere and structure when planning a particular outcome. I can confidently identify the potential of unfamiliar technology to increase creativity. I can combine a range of media recognising the contribution of each to achieve a particular outcome. I can explain why I select a particular digital tool relative to a specific purpose. I can be digitally discerning when evaluating the effectiveness of my own work and the work of others. I can plan the process needed to investigate the World around me. I can select the most effective tool to collect data for my investigation.

			<p>in my chart or graph.</p> <ul style="list-style-type: none"> • I am starting to understand a branching database. • I can tell you what kind of information I could use to help me investigate a question. 	<ul style="list-style-type: none"> • I can collect data help me answer a question. • I can add to a database. • I can make a branching database. • I can use a data logger to monitor changes and can talk about the information collected. 	<ul style="list-style-type: none"> • I can use an appropriate tool to share my work and collaborate online. • I can give constructive feedback to my friends to help them improve their work and refine my own work. • I can use different software and a range of hardware to complete a task. • I can organise data in different ways. • I can collect data and identify where it could be inaccurate. • I can plan, create and search a database to answer questions. • I can choose the best way to present data to my peers. • I can use a data logging type of device to share information. • I can describe how search engines work 	<ul style="list-style-type: none"> • I can select appropriate software to use for a given task. • I can confidently use a range of software tools (ECDL Standard). • I can control external hardware from within the software I am using. • I can use a spreadsheet and database to collect and record data. • I can choose an appropriate tool to help me collect data. • I can present data in an appropriate way. • I can search a database using different operators to refine my search. • I can talk about mistakes in data and suggest how they can be checked. 	<ul style="list-style-type: none"> • I can check the data collected for accuracy and plausibility. • I can interpret the data I collect. • I can present the data collected in an appropriate and meaningful way. • I can use the skills developed to interrogate a database. • I can use software to help analyse and present data and information.
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					and other search results.		
Suggested outcomes:	<ul style="list-style-type: none"> Move objects on a screen. Create shapes. Identify different kinds of information. 	<ul style="list-style-type: none"> Match their developing physical skills to tasks and activities in the setting. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Using iPad to take photos Using keyboards to type Saving work Data handling in maths- bar charts and tally charts Technology around them 	<ul style="list-style-type: none"> Creating and bringing character to life. Stopping a moving animation. Making charts using data collected. Researching appropriate data representation. 	<ul style="list-style-type: none"> Plan, film and edit a trailer. Understand what is a transition and how to include. Make comparison cards. Sort and filter data. 	<ul style="list-style-type: none"> Create web content. Model of weather station. Build working weather station. 	<ul style="list-style-type: none"> Animation videos. Google Workspace for Education files in Google Classroom. Web content. 	<ul style="list-style-type: none"> Spreadsheets Graphs Presentations.
Key Vocabulary:	Object Screen Shapes Information Data Video Sound Picture	Videos Camera stills Sounds Image bank Word bank Space bar Photographs Video Sound Data Pictogram Digitally	Animation Template Documents Software Stop motion Capturing moments Magnified images Questions Data collection Graphs Charts Save Retrieve	Data Sort Filter Comparison Transition Plan Film Edit Trailer	Copyright CSS Hacker Hex code Html Internet browser URL Automated machine Forecast Log data Sensor Spreadsheet	Animation Still Images Moving Images Decomposition Input Output RAM Simulation Byte CPU Binary Code	Design Brief Mood Board Product Screen Shot Image Rights Copyright Advertisement Snippets Search Results Influence Corrupted Wireless Qr Codes Rfid Infrared Stop Motion Bluetooth NFC Wifi Sim Smart City

							Artificial Intelligence Big Data Privacy GPS Personal Information Threats Technological Revolution
Challenge	<ul style="list-style-type: none"> • Can you add multiple shapes? • Can you change the colour of the shapes? • Can you show how you find different types of information? • How can you organise the different information? 	<ul style="list-style-type: none"> • Add verbal story on Adobe spark video • Use torches/ lamps, add props • Edit text- font, size, colour • Explore other representation of data • Which way representation is the most useful? • Use sketchpad to draw design • Label using the text function 	<ul style="list-style-type: none"> • Add complexity of shapes • Add another character/ object • Increase length of animation • Add multiple objects • Moving multiple objects back and forth 	<ul style="list-style-type: none"> • Add facial expressions to characters • Adding text/ sounds effects • Use codes instead of numbers • Create charts for different segments of data 	<ul style="list-style-type: none"> • Make changes to the html code and see what happens. • Change the text size and colour. • change the elements of a website to both the text and the images. • Present weather data obtained from the World Wide Web. • Design and build a device that will be able to sense and record the weather. 	<ul style="list-style-type: none"> • Share a short simple sequence of stop motion animation. • Make a higher number of frames with smaller incremental changes to make the stop motion look more like continuous movement. • Edit the video into a production which can be 'published' or 'broadcast' on a video sharing and social media platform. • Write a review of other people's animations to build up interest for their videos. • Read binary code up to eight characters. 	<ul style="list-style-type: none"> • Write a script or speaker notes to accompany their mood board. • Write a script for the promotional video. • Write an evaluation of your video project using "I noticed... I liked... I wondered..." • Create an animation using Scratch to show how data can be transferred. • Solve problems and read information from sets of data. • Construct and use line graphs to solve problems.