Knowledge progression for Computing

Year Group	Knowledge
Reception	Know what this vocabulary means: Log in, username, password, log out, save, avatar, search, internet, computer, iPad, laptop, mouse, keyboard, algorithm, click, type, personal information. Know: • What an email is. • What I do controls the equipment. • How to treat equipment with respect. • Who to tell if something upsets me online. • Not to give out my personal information.
Year 1	Know what this vocabulary means: Log in, Username, password, Avatar, Log out, Save, Notification, Animation, E-Book, Font, File, Sound Effect, Action, Button, Character, Coding, Command, Debug/ Debugging, Input, Object. Know: • To log in safely. • How to search • What familiar icons mean. • How to add pictures and texts to work. • How to open, save and print. • To log out safely. • That data can be represented in picture format. • To follow and create simple instructions on the computer. • How the order of instructions affects the result. • The functionality of the direction keys. • What coding means. • The save, print, open and new icon. • What a spreadsheet program looks like. • How to enter data into spreadsheet cells. • Examples of technology used outside school.

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Year 2	Know what this vocabulary means: Search, Internet, Sharing, Digital footprint, Email, Internet, Search, Search engine, Action, Algorithm, Bug, Character, Code block, Debug/Debugging, Input, Object, Concept map, Presentation, Audience, Node. Know: • What an algorithm is. • What debugging is and debug programs. • About sharing more globally on the Internet. • Email is a communication tool. • That information put online leaves a digital footprint or trail. • To keep personal data and hardware secure. • How to copy and paste. • To use a spreadsheet for money calculations. • Programmes can be used to collect data and produce a graph. • About data handling tools that can give more information than pictograms. • To use the Search tool to find information. • The terminology associated with searching. • Art can be made digitally and how. • Music can be made digitally and how. • Stories can be made digitally and how. • Presentations can be created using technology.
Year 3	Know what this vocabulary means: Posture, Top/ Home/Bottom row keys, Space bar, Action, Algorithm, Bug, Code Block, Code design, Command, Control, Debug/Debugging, Event, If, Input, Output, Object, Properties, Repeat, Selection, Timer, Variable, Communication, Email, Send, Attachment, Address Book, Password, Branching Database, Data, Motherboard, CPU, RAM, Graphics card, Network Card, Monitor, Speakers, Keyboard, Mouse. Know: • Algorithms can be used on flowcharts. • To use selection in coding with the 'if' command. • To understand and use variables in 2Code. • The difference between timers and repeat commands.

	• What makes a safe password. • Methods for keeping passwords safe. • The Internet can be used in effective communication. • Ways a blog can be used to communicate with a wider audience. • To consider the truth of the content of websites. • The meaning of age restrictions symbols on digital media and devices. • To use the symbols more than, less than and equal to, to compare values. • Technology can be used to collect data and represent in graphs. • Typing terminology. • The correct way to sit at the keyboard. • How to use the home, top and bottom row keys. • To type with the left and right hand. • Different methods of communication. • To open and respond to an email using an address book. • How to use email safely. • What a branching database is and how to create it. • What simulations are. • To enter data to create a graph.
Year 4	Know what this vocabulary means: Action, Alert, Algorithm, Bug, Command, Control, Debug/Debugging, Event, Get input, If, If/Else, Input, Output, Object, Repeat, Selection, Timer, Variables, Animation, Frame, Background, Play, stop motion, CAD(Computer aided design), Modelling, 3D, Viewpoint, 2D, Net, Points, Template, Internet, Internet Browser, Search, Search Engine, Spoof website, Website. Know: • To use selection in coding with the 'if/else' command. • To use variables in 2Code. • To use flowcharts. • To use the 'repeat until' with variables to determine the repeat. • Computational thinking terms decomposition and abstraction. • How to protect themselves from online identity theft. • That information put online leaves a digital footprint or trail and that this can aid identity theft. • The risks and benefits of installing software including apps.

	• That copying the work of others and presenting it as their own is called 'plagiarism' and the consequences of this. • Appropriate behaviour when participating or contributing to collaborative online projects for learning. • The positive and negative influences of technology on health and the environment. • The importance of balancing game and screen time with other parts of their lives. • You can calculate averages using technology. • To add a formula to a cell to automatically make a calculation in that cell. • Font size and style can affect the impact of a text. • Coding language of Logo. • Films and cartoons can be animated. • Animations can be made by hand. • Know about onion skinning in animation. • Know what 'stop motion' animation is. • To locate information on the search results page. • To use search effectively to find out information. • Information online is not always reliable. • Know the different parts that make up a computer.
Year 5	Know what this vocabulary means: Action, Alert, Algorithm, Bug, Code Design, Command, Control, Debug/ Debugging, Design Mode, Event, Get input, If, If/Else, Input, Output, Object, Repeat, Sequence, Selection, Timer, Variable, Avatar, Branching Database, Charts, Collaborative, Data, Database, Find, Record, Sort, Group, Arrange, Reports, Table, Animation, Computer Game, Customise, Evaluation, Image, Instructions, Interactive, Screenshot, Texture, Perspective, Playability. Know: • The string and text variable types that are most appropriate for different programs. • The impact that sharing digital content can have. • Their responsibility to one another in their online behaviour. • How to maintain secure passwords. • The advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this. • About appropriate and inappropriate text, photographs and videos and the impact of sharing these online. • To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information. • To add a formula to a cell to automatically make a calculation in that cell. • How to search for information in a database.

	• How games can be made using technology. • About computer aided design. • The effects of moving points when designing. • About designing for a purpose. • About printing and making. • The need for visual representation when generating and discussing complex ideas. • To use the correct vocabulary when creating a concept map. • How a concept map can be used to retell stories and present information.
Year 6	Know the meaning of this vocabulary: Action, Alert, Algorithm, Bug, Code Design, Command, Control, Debug/Debugging, Event, Function, Get Input, If, If/Else, Input, Output, Object, Repeat, Sequence, Selection, Timer, Variable, Audience, Blog, Blog Page, Blog Post, Collaborative, Icon, Collaboration, Concept Map, Database, Quiz, Internet, World Wide Web, Network, Local Area Network (LAN), Wide area Network (WAN), Router, Network Cable, Wireless. Know: • To code, test and debug designs. • To use functions and tabs in 2Code to improve the quality of the code. • To code user interactivity using input functions. • The benefits and risks of mobile devices broadcasting the location of the user/device. • Know secure sites by looking for privacy seals of approval. • Know the benefits and risks of giving personal information. • The meaning of a digital footprint. • Know appropriate online behaviour. • How information online can persist. • The importance of balancing game and screen time with other parts of their lives. • The positive and negative influences of technology on health and the environment. • Graphs can show the data collected. • To type in a formula for a cell to automatically make a calculation in that cell. • That spreadsheets can be used to create computational models and answer questions. • The purpose of writing a blog and its key features. • The effect upon the audience of changing the visual properties of the blog. • The importance of regularly updating the content of a blog. • How and why blog posts are approved by the teacher.

	• About map-based text adventures. • What the Internet consists of. • What a LAN and a WAN are. • How the Internet is accessed in school. • About the age of the Internet. • What the terms binary and denary mean and how they relate to the number system, the digital system and the terms base-10 and base-2. • Binary relates to the on and off states of electrical switches.