



Computing Medium Term Plan - Year 3/4 - Cycle A

	Autumn 1 -Coding	Autumn 2 - Online Safety	Spring 1 -Touch Typing	Spring 2 -Email	Summer 1 -Databases	Summer 2 -Graphing
Big Concepts						
Big questions	What is the difference between the different object types in 2Code Gibbon level? What does selection mean in coding and how can you achieve this in 2Code?	What is a password and why should we keep them safe? Is everything I read on the Internet true? How do I know if I am old enough to play a computer game?	Why should I have a good posture at the computer? Why should I type certain keys with certain fingers?	What is email? What should I do if I receive an email that makes me upset or scared? What information can I send in an email?	What is meant by data? What is a database? What is a branching database?	What is a graph? What are the frame lines on the graph called? What different kinds of graphs are there?
Vision and rationale	Children will learn the difference between the different object types in 2Code Gibbon level is that they have different properties. This makes them suitable for different types of programs.; Buttons can only be clicked and have their colour and text changed.; vehicles have speed and angle. ;characters have movement in 4 directions ;turtles have rotation, pen up and down. Children will be taught that selection in coding means that the code will contain commands that require a decision and the next code to run will depend upon the outcome of this decision. In 2Code we used the 'if' command for selection	Children will understand that a password is a secret word or phrase that allows a user to access a website. Passwords are like toothbrushes in that they should not be shared with anyone else. They will understand that just because something is on the Internet, doesn't mean that it is true. Some people create spoof websites that pretend to be something else such as a bank website or to provide misleading information. Children will explore how computer games, like films, are often not suitable for children. PEGI ratings will show how old a person must be to play a game.	Children will understand that a good posture is important to help you avoid any injuries that come from repeatedly using the computer incorrectly. They will understand that using specific fingers for specific keys allows them to type more quickly.	Children will know that email is a method of sending electronic communication from one device to another. They will know that as well as sending a message, files such as photographs, videos, music and other resources can be attached to the email and sent to the receiver. Children will be taught that if they are at school and receive a message that makes them scared or upset, they should tell the teacher immediately. If they receive the message at home, then you should tell a parent or guardian.	Children will learn that data is facts about something; data can be words, numbers or pictures. For example, the class register contains data about the names, addresses and attendance of the children in the class. They will be taught that a database is a collection of data organised in such a way that it can be searched, and information found easily. Database usually refers to data stored on computers. Additionally, they will be able to understand the difference between a branching database and a database. A branching database being used to classify groups of objects. It is used to help identify the objects by answering questions with either 'yes' or 'no'. Branching databases can also be called binary trees.	Following on from databases, children will learn that a graph is a diagram representing part of a set of data. Graphs can be drawn by hand or on the computer. There are different types of graphs. They will explore the different types of graphs including line graph, bar chart and pie chart. Children will understand that frame lines on a graph are the axes. The axis that goes up and down (vertical) is called the 'y' axis and usually shows the amount. The axis that goes across (horizontal) is called the 'x' axis and shows what is being measured.
Prior knowledge	- Introducing block coding - Objects and actions - Events (Click event, sound output) - Executing a program - Algorithms - Logical decision making	- Safe logins - Concept of privacy - Concept of ownership - The need to logout - Developing ideas about the concept of technology that we are surrounded by and its purpose. - Approval process	- General use of Purple Mash - Simple text entry - Use of a writing template - Efficient use of a search engine - Leaflet creation - Presenting ideas in a variety of styles including through typed text	- Safe logins - Concept of privacy - Concept of ownership - Developing ideas about the concept of technology that we are surrounded by and its purpose - Sharing online	- Sorting data according to criteria. - Collecting and presenting data in a picture format. - Use of 2Calculate to collect data and produce a graph - Enquiry into different data handling tools	- Sorting data according to criteria - Collecting and presenting data in a picture format. - Collect data and produce a graph - Enquiry into different data handling tools - Use of questioning to separate and group data.



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	- Sequencing instructions - Following instructions - Creating programs using sequencing and repeat.	- Sharing online - Email simulations - emotional impact of communications - digital footprint - Search engine - Privacy		- Email simulations - Emotional impact of communications - Digital footprint - Exploration of what the Internet is - Accessing the World Wide Web - Digital Footprint - Searching and sharing	Use of questioning to separate and group data	
Key Vocabulary	Action, Algorithm, Bug, Code block, Code Design, Command, Debug/Debugging, Design Mode, Event, If, Input, Output, Repeat, Object, Properties, Timer, Computer simulation, Selection, Variable,	Password, Internet, Blog, Concept map, Username, Website, Webpage, Spoof website, PEGI rating	Posture, Top row keys, Home row keys, Bottom row keys, Space bar	Communication, Email, Compose, Send, CC, Attachment, Formatting, Report to the teacher, Password, Address book, Save to draft.	Branching database, Data, Database, Question.	Graph, Field, Data, Bar chart, Block graph, Line graph.
Key resources	   	    		  		
Computing skills	Computer science: - I can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. - I can identify an error within my program that prevents it following the desired algorithm and then fix it. - I can demonstrate the ability to design and code a program that follows a simple sequence. - I can experiment with timers to achieve repetition effects in my programs. - I understand how variables can be used to store information while a program is executing. - I can 'read' programs with several steps and predict the outcome accurately. - I can list a range of ways that the internet can be used to provide different methods of communication. - I can describe appropriate email conventions when communicating in this way. Information technology: - I can carry out simple searches to retrieve digital content. - I can collect, analyse, evaluate and present data and information using a selection of software. - I can create purposeful content to attach to emails Digital literacy: - I can demonstrate the importance of having a secure password and not sharing this with anyone else. - I can explain the negative implications of failure to keep passwords safe and secure.					