Computing Skills, Knowledge and Vocabulary Progression

Year 3

	Autumn 1
Vocabulary 3:1 Coding (6 weeks)	**Action** **Algorithm** **Bug** **Code block** **Code Design** **Command** **Control** **Debug/Debugging** **Design Mode** **Event** **If (command)** **Input** **Output** **Object** **Properties** **Repeat (command)** **Computer simulation** **Selection** **Timer** **Variable**

Knowledge 3:1 Coding (6 weeks)	To review coding vocabulary that relates to Object, Action, Output, Control and Event. Children can explain what Object, Action, Output, Control and Event are in computer programming Children can explain how their program simulates a physical system, i.e. my vehicles move at different speeds and angles. Children can describe what they did to make their vehicle change angle. To know how to us selection in their programming by using the if command. To know how to combine a timer in a program with selection. To understand what a variable is in programming. Children can explain why variables need to be named. Children can create a variable in a program. Children can set/change the variable values appropriately to create a timer. To know how to use a timer to make characters repeat actions. To know how to use the repeat command and how this differs from the timer. To know what debugging means. To understand the need to test and debug a program repeatedly. To debug simple programs. To understand the importance of saving periodically as part of the code development process.
Skills 3:1 Coding (6 weeks)	To use 2Chart to represent a sequential program design. To use the design to write the code for the program. Children can create a design that represents a sequential algorithm. Children can use a flowchart design to create the code. To design and write a program that simulates a physical system. Children can show that their vehicles move at different speeds. To look at the grid that underlies the design and relate this to X and Y properties. Children can make use of the X and Y properties of objects in their coding. To create a program with an object that repeats actions indefinitely.
	Autumn 2
Vocabulary **3:2 Online Safety** **(3 weeks)**	**Password** **Internet** **Blog** **Concept map** **Username** **Website** **Webpage** **Spoof website** **PEGI rating**

Knowledge **3:2 Online Safety** **(3 weeks)**	To know what makes a safe password, how to keep passwords safe and the consequences of giving your passwords away. To understand how the Internet can be used to help us to communicate effectively. To understand how a blog can be used to help us communicate with a wider audience. For children to consider if that they read on websites is true? To look at some 'spoof' websites and explain how they know information on them is incorrect. To think about why these sites might exist and how to check that the information is accurate. Children are beginning to understand how to search the Internet and how to think critically about the results that are returned. To learn about the meaning of age restrictions symbols on digital media and devices. To discuss why PEGI restrictions exist. To know where to turn for help if they see inappropriate content or have inappropriate contact from others Children can identify some physical and emotional effects of playing/watching inappropriate content/games. Children relate cyberbullying to bullying in the real-world and have strategies for dealing with online bullying including screenshot and reporting
Skills **3:2 Online Safety (3 weeks)**	Children can contribute to a concept map of all the different ways they know that the Internet can help us to communicate. Children have contributed to a class blog with clear and appropriate messages. To create a 'spoof' webpage.
Vocabulary 3:3 Spreadsheets (3 Weeks)	**Spreadsheet** **< > symbols** **Advance mode** **Copy and Paste** **Columns** **Cells** **Delete key** **Equals tool** **Move cell tool** **Rows** **Spin Tool**
Knowledge 3:3 Spreadsheet (3 Weeks)	Children know how to create a table of data on a spreadsheet. Children know how to use a spreadsheet program to automatically create charts and graphs from data. Children use the 'more than', 'less than' and 'equals' tools. Children know how to use the 'spin' tool to count through times tables Children can describe a cell location in a spreadsheet using the notation of a letter for the column followed by a number for the row (coordinates)

	Children know how to find specified locations in a spreadsheet.
Skills 3:3 Spreadsheets (3 Weeks)	To create pie charts and bar graphs Children can use the 'more than', 'less than' and 'equals' tools to compare different numbers and help to work out solutions to sums. Children to navigate around Advanced Mode of 2Calculate and use coordinates.
	Spring 1
Vocabulary 3:4 Touch-Typing (4 Weeks)	**Posture** **Top row keys** **Home row keys** **Bottom row keys** **Space bar**
Knowledge 3:4 Touch-Typing (4 Weeks)	Understand the correct way to sit at the keyboard. To understand what is meant by – home, bottom, and top rows. To understand the names of the fingers
Skills 3:4 Touch-Typing (4 Weeks)	Developed ability to touch type the home, bottom, and top rows. Children can use two hands to type the letters on the keyboard. Children can touch type using the left hand. Children can touch type using the right hand.
	Spring 2
Vocabulary 3:5 Email (6 Weeks)	**Communication** **Email** **Compose** **Send** **Report to the teacher** **Attachment** **Address book**

	Save to draft **Password –** **CC** **Formatting**
Knowledge 3:5 Email (6 Weeks)	To be aware of the different methods of communication. Children can use 2Connect to highlight the strengths and weaknesses of each method. Children know how to send emails to other children in the class. To know how to use email safely Children can write rules about how to stay safe using email. To know how to attach work to an email. Children know the importance of attaching files appropriately and use email communication to explore ideas.
Skills 3:5 Email (6 Weeks)	To open and respond to an email. To write an email to someone, using an address book. Children can read and respond to a series of email communications.
	Summer 1
Vocabulary **3:6 Branching Databases (4 weeks)**	**Branching database** **Data** **Database** **Question**
Knowledge **3:6 Branching Databases (4 weeks)**	Children understand how YES/NO questions are structured and answered. Children know how to complete a branching database about vegetables. Children are able to choose a suitable topic for a branching database. Children can select and save appropriate images. Children can create a branching database. Children know how to use and debug their own branching database.

Skills **3:6 Branching Databases (4 weeks)**	Children have used YES/NO questioning to play a simple game with a friend. Children have contributed to a class branching database about fruit.
	Summer 2
Vocabulary **3:7 Simulations (3 weeks)**	**Simulation**
Knowledge **3:7 Simulations (3 weeks)**	Children know that a computer simulation can represent real and imaginary situations. Children can give some examples of simulations used for fun and for work. Children can give suggestions of advantages and problems of simulations. Children can begin to evaluate simulations by comparing them with real situations and considering their usefulness. Children can recognise patterns within simulations and make and test predictions. Children can identify the relationships and rules on which the simulations are based and test their predictions. Children can evaluate a simulation to determine its usefulness for purpose.
Skills **3:7 Simulations (3 weeks)**	Children can explore a simulation. Children can use a simulation to try out different options and to test predictions.

Vocabulary **3:8 Graphing (3 weeks)**	**Graph** **Field** **Data** **Bar chart** **Block graph** **Line graph**
Knowledge **3:8 Graphing (3 weeks)**	Children can set up a graph with a given number of fields. Children can enter data for a graph. Children can produce and share graphs made on the computer
Skills **3:8 Graphing (3 weeks)**	Children can present the results in a range of graphical formats.