Beech Hill Primary School Knowledge Organiser

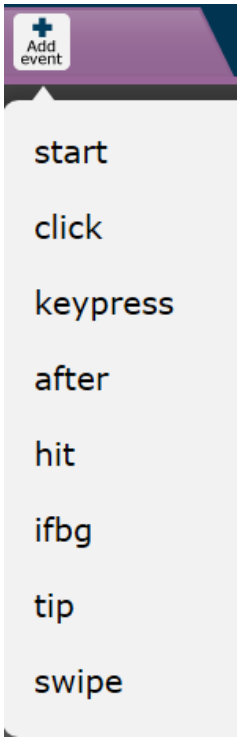
Topic: Computing – Computer Science	Year group	Term
Espresso Conditional events (selection)	Year 3	Spring 2 6 sessions

Background knowledge
Children will have completed the first units of Espresso Coding in Year 3, Sequence and Animation.

What should I already know?
Children have learned to make things happen in a sequence, creating simple animations and simulations by using time blocks.

National Curriculum Objectives / Key Skills	The Journey
To design, write and debug programs using sequences and variables. To explain how some simple algorithms work and to detect and correct errors in algorithms and programs with support. I can create programs that use sequences and variables to achieve given goals. I can explain how my algorithm works and begin to detect errors with support.	1. Learn how to program a maze game using if statements and then design your own maze using an if statement. 2. Learn how to program a maze game using if statements and then design your own maze using an if statement which responds to tipping an ipad. 3. Learn how to program a game where objects are collected if an objects hits another object. 4. Learn how to program a game where objects are collected, using swipes on a PC or tablet. 5. Children add their own pictures and add code to make things happen when you press keys or objects hit a colour. 6. Add your own buttons and pictures. Choose event boxes for your code. Add code to make your program work. 7. Children fix the mistakes in the code.

Outcomes
An overview of what children will know / can do Working towards: Children begin to write code with 'if statements', which select different pieces of code to execute depending on what happens to other objects. They will design apps with some use of if statements. Expected: Children can write code with 'if statements', which select different pieces of code to execute depending on what happens to other objects. They will design apps of their own using if statements. Exceeding: Children can write code with 'if statements', which select different pieces of code to execute depending on what happens to other objects on PC and ipads. Children can design their own original apps, perhaps using more than one if statement, where the if statements work effectively.

Key Vocabulary	Timeline / Diagrams
Algorithm - The set of steps to solve a problem. Code - A list of commands in a computer program. Conditional – a part of the code that will only happen "if". Debugging - To correct mistakes or problems in a computer program. If statement - A way of making a program automatically choose to run a particular piece, of code if a specific condition is met, for example if an object touches a colour or if an object hits another object. Ifbg – If hits background (eg colour) Object - Something on screen, in Espresso coding an object can be a picture, a button or a piece of text. Program - A set of instructions in a programming language or code that tells a computer what to do. Run - To make a program follow its instructions.	   

Key people / places
"A game is a series of interesting choices." Sid Meier, game designer, creator of the game Civilisation.

Assessment questions / outcomes
How is the UFO programmed to move? What happens if the UFO hits a wall? Can you predict what would happen if we tried to play this game on the iPad? How are inputs on an iPad different from inputs on a computer? How did we program the octopus to eat the puffer fish? What is a 'conditional' event? Why do we include conditional events? What is the difference between ifbg and hit?