Beech Hill Primary School Knowledge Organiser

Topic: Computing – Computer Science	Year group	Term
Espresso Buttons and Instructions	Year 2	Summer 2 6 sessions

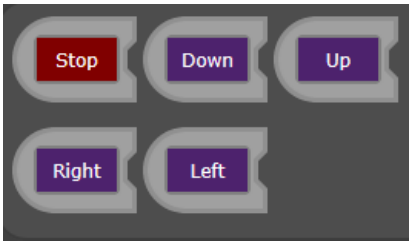
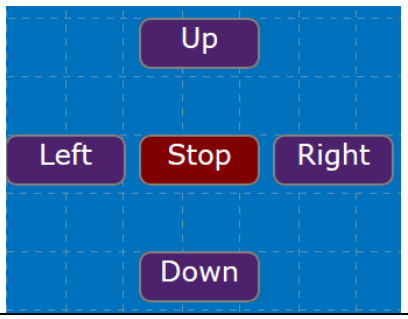
Background knowledge
The children have complete an Espresso unit of work in the Spring about different sorts of inputs, where they programmed objects to respond to the keyboard or to swipes.

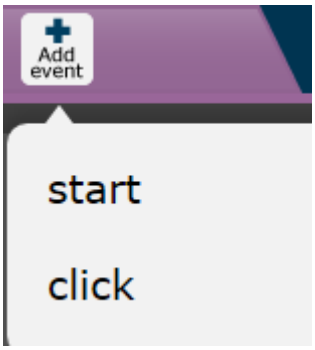
What should I already know?
Children know that programs respond to different sorts of inputs, and that the keyboard can be used to control objects on screen, not just by clicking them directly. They will have made their own apps where they used the keyboard to control objects including directions, turns and stops.

National Curriculum Objectives / Key Skills	The Journey
<u>Subject intent</u> To stay safe online and understand the positives and negatives of being online. Develop basic computing skills to prepare for the world of work. To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions To create and debug simple programs. To use logical reasoning to predict the behaviour of simple programs. I can design simple algorithms using loops, and selection i.e. if statements. I can use logical reasoning to predict outcomes.	1. Learn how buttons can be programmed to move a helicopter by using onscreen buttons including hover. 2. Help a bird chase its breakfast and consolidate your understanding that code can be used to move objects move when buttons are pressed. 3. Help Wozzina Witch find her lost black cat before its too late. 4. Migbod the monster is hungry. Program code to guide him to some food. 5. Make your own app using click events and your own pictures. 6. Use what you have learnt in this unit to make your own app or game. 7. Fix (debug) the mistakes in the code.

I can find and correct errors i.e. debugging, in algorithms.	

Outcomes
An overview of what children will know / can do Working towards: In this unit pupils learn that they can have buttons on the screen as well as objects. They will begin to write code to make the objects respond to the buttons. Expected: In this unit pupils learn that one object can be used to control another object. e.g. writing code so clicking a button gives an instruction to make a lorry move. Exceeding: In this unit pupils learn that one object can be used to control another object. e.g. writing code so clicking a button gives an instruction to make a lorry move. They will be able to add their own buttons to the app, name them, and assign them a functions.

Key Vocabulary	Timeline / Diagrams
Algorithm - The set of steps to solve a problem. Button – a word on the screen that can be clicked to give an instruction. Click – Use the mouse buttons to give the computer instructions. Code - A list of commands in a computer program. Debugging - To correct mistakes or problems in a computer program. Directions – up down left right stop hover Input - An action such as clicking on a button on screen, via a keyboard or mouse, or physical sensors such as tilt on a tablet.	 

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
"Everyone should learn how to code. It teaches you how to think." Steve Jobs, former boss of Apple.

Assessment questions / outcomes
What button would I click to make the helicopter stop? Explain how we can get the Princess to reach her necklace? What instruction do we give the witch when she finds her cat? Which block do we use to make the food disappear? Where do you click on the screen to add your own buttons? Can you spot what is wrong in this code?