Beech Hill Primary School Knowledge Organiser

Topic: Computing – Computer Science	Year group	Term
Discovery Coding: Different sorts of inputs, buttons and instructions	Year 2	Autumn 2 7 sessions

Background knowledge
Children will have learned about a mixed of plugged and unplugged coding of physical objects (Blue Bee Bots) in the Autumn Term. In Year 1, while using Espresso, children will have learned that programs execute by following clear instructions. They are introduced to the fact that programs respond to inputs to do different things. They also learned to combine start up and input events to create more advanced apps and programs.

What should I already know?
That characters on the screen follow instructions. Characters respond to directional instructions. Characters move in respond to start events or click events.

National Curriculum Objectives / Key Skills	The Journey
Pupils should be taught to: 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. **Links to CAS progression pathways** *Programming and development* • Knows that users can develop their own programs, and can demonstrate this by creating a simple program in an environment that does not rely on text.	1. To write code that makes an object move around the screen when keys are pressed. (Little Red Riding Hood) 2. To make objects perform different actions when keys are pressed on the keyboard. (Keys to the race) 3. To write code that makes an object change direction when different keys on the keyboard are pressed. (Up in the air) 4 To write code that makes an object change direction when the pointer is pressed and released.(Shark attack) 5. To write code where different inputs can be used to make objects move and disappear. (Snow White)

• Executes, checks and changes programs. • Understands that programs execute by following precise instructions. • Understands what an algorithm is and is able to express simple linear (non-branching) algorithms symbolically. Links to Curriculum for Excellence • I understand that sequences of instructions are used to control computing technology. • I can develop a sequence of instructions and run them using programmable devices or equivalent.	6. To write code where buttons can be used to make an object move around the screen. (Fly a helicopter) 7. To write the code for a simple game where buttons are used to move an object around.(Slug Hunt)

Outcomes
An overview of what children will know / can do Working towards: Pupils learn that programs work by following clear instructions. With help, they begin to drag and click objects to make simple programs work on their screen. Expected: Pupils learn that programs work by following clear instructions. They are introduced to the fact that programs respond to inputs to do different things. The children begin to make their own examples of programs which use these inputs. Exceeding: Pupils learn that programs work by following clear instructions. They are introduced to the fact that programs respond to inputs to do different things and the children can use a range of inputs including directions, clicks. The children can make their own examples of programs which use these inputs.

Key Vocabulary

1. button, program, direction, run, execute, control, click, algorithm
2. key press event, object, action, input, key
3. run, execute, direction, code, key press, clockwise, anti-clockwise
4. pointer, pointer press, pointer release, object, input
5. input, mouse, pointer, object, device
6. button, program, direction, run, execute, control, click, algorithm
7. button, program, run, execute, control, click, algorithm

Key people / places

"Writing code is a young person's job." Michael Crichton

Question of the week.

1. Can you explain how the helicopter can be moved in different directions, using the word 'button'?
2. How did we make the animals disappear?
3. Which piece of the code will work when I press the up arrow key?
4. How can we make the shark move?
5. Where is the pointer? How can we make it move?
6. When we say we want the helicopter to 'hover', what does that mean?
7. Could we also make the slug move so the bird has to chase it?