Computing 24-25

Year 6 – Programming (Interactive Fairground)

Remember when: beebots, scratch, logo, sphero, drones	**Key vocabulary**
By the end of the unit children must be able to: - make a motor spin and stop -make the motor stop -make the traffic lights turn on and off -make the traffic lights go from green, amber, red, amber then green -debug any programming errors	Rotate Algorithm Buzz Program coding Connect Programme Debug circuit

In Year 1:	**In Year 2:**	**In Year 3:**	**In Year 4:**	**In Year 5:**
- move the beebot forwards, backwards and turn. - be able to move a beebot to a given area.	- to create a new character. - to move the character. - make the character bigger /smaller. - make the character talk. - create a link of 3 algorithms.	- change the colour of the pen. - draw at least 4 shapes or letters using algorithms. - complete level 1.	- change the speed of the sphero ball. - change the direction of the sphero ball. - direct a sphero ball through a maze. - debug coding errors.	- send the drone to fly in the air and hover. - move the drone safely around the room. - land the drone carefully on a landing point. - debug errors in coding.

National curriculum:
- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
- use sequence, selection and repetition in programs; work with variables and various forms of input and output.
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

Software / Hardware

Crumble class kit

Title / Focus	**Lesson outline**
Lesson 1- Setting up the crumble controller LO- To understand the crumble controller. SK- To make the lights turn on and off	https://www.tts-international.com/on/demandware.static/-/Sites-TTSGroupE-commerceMaster/default/dw2c3eab6e/images/document/Crumble%20blog%201%20-%20set%20up%20the%20%20controller.pdf Step 1-13 on the planner Setting up the crumble controller with a light, battery and an LED bulb
Lesson 2- Make a coloured spinner LO- To use a motor SK- To make a motor spin and stop Make the motor stop	https://www.tts-international.com/on/demandware.static/-/Sites-TTSGroupE-commerceMaster/default/dw4ff91f48/images/document/Crumble%20blog%202%20-%20make%20a%20coloured%20spinner.pdf Step 1-7 Making a coloured spinner, crocodile clips and motor
Lesson 3- Make a set of traffic lights LO- To use LEDS to make a traffic light SK-make the traffic lights turn on and off -make the traffic lights go from green, amber, red, amber then green	https://www.tts-international.com/on/demandware.static/-/Sites-TTSGroupE-commerceMaster/default/dw9d888bfb/images/document/Crumble%20blog%203%20-%20make%20a%20set%20of%20traffic%20lights.pdf Step 1-7 Making a traffic light stand and using the battery and crocodile clips to make a working traffic light.
Lesson 4& 5 Final products LO- To make a final product SK- Make a motor spin and stop - Make the traffic lights turn on and off -Debug any programming errors	Children are to use the information and skills from the previous 3 lessons to make their final rides, traffic lights or lighthouses. Final assessment grids to be used to assess their final product.

Working towards	**End of Unit Assessment** Working at Age related expectations	Working at a greater depth
