Computing 22-23

Year 5 – Programming (Flowol)

Remember when: beebots, scratch, logo, sphero	Key vocabulary

By the end of the unit children must be able to:	algorithm Delay debug Start turn stop wheel forward backs on off
- make the Ferris wheel turn - stop the Ferris wheel -make the Ferris wheel turn and turn lights on -make the Ferris wheel turn and turn lights off -make the wheel turn and lights change in a different sequence -debug errors	

In Year 1:	In Year 2:	In Year 3:	In Year 4:
- 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.	- make the ball move change the speed of the sphero ball. - change the direction of the sphero ball. - direct a sphero ball through a maze. - debug coding errors.

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

Flowol	

	Title / Focus	Lesson outline
Lesson 1 What is Flowol? **LO-** To create a program to make the wheel turn **Sticky Knowledge-** I can make the Ferris wheel turn		Introduce the children to Flowol- What is it? Explain it is a programming piece of software and they are to make a code 'set of instructions' to make the wheel turn, the lights flash on and off, the gate open and close. The first lesson is to see what the children can do- let them explore. Only tell them they need a start and a stop and all shapes need connecting with the line in order for the code to work. Ch to work in mixed ability pairs to 'play' on Flowol.
Lesson 2 Ferris wheel **LO-** To change the wheel speed **Sticky Knowledge-** Can make the Ferris wheel turn Can stop the Ferris wheel		Today the children are going to make the ferris wheel turn, stop and go backwards. Ask the children what the 3 elements of the lesson were last week? (Needing a start, stop and all connecting.) Model how to add the output of the ferris wheel. Demonstrate the function buttons at the bottom to show which direction to go in and the speed. Children to experiment making the ferris wheel start, stop, and speed up, slow down. SEN- Children to work in pairs GD- can they incorporate the lights changing whilst the Ferris wheel is turning?
Lesson 3 Ferris wheel lights **LO-** To create a program to work the lights **Sticky Knowledge-**		Recap previous learning- as a class make the Ferris wheel turn, change, speed up and slow down. Children to make the sequence on their laptops. Introduce another track 'code' which is going to happen at the same time. In turn making the 3 separate lights flash in a sequence for different lengths of time. Ch to work in mixed ability pairs.

I can make the Ferris wheel turn and turn lights on I can make the Ferris wheel turn and turn lights off	
Lesson 4 Debugging **LO-** To identify and debug errors in programs **Sticky Knowledge-**	Children are today to create the code given to them. They are to play it and debug the system- where is the error? What should it do? The children are to fix the code which makes the Ferris wheel turn, the lights flash and the gate open and close.
Lesson 5- assessment I can make the wheel turn and lights change in a different sequence	Children are to use all of their skills learned to create their own algorithms to make the Ferris wheel move, turn, lights on, open the gate and close it. Teacher to assess using the checklists.

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