

**Algorithm** – a sequence of rules to be followed in calculations

**Coding** – the language used to create computer programs

**Compiler** – software which translates English code into machine code

**Computer** – an electronic device which receives data and performs operations.

**Programming** – the process of writing computer programs.

**Loop** – process of performing same task again and again.

**Bug** – an error in the program which stops it from working.

**Debug** – going through a code to find and fix a mistake

**Conditional** – when something happens only when something else happens

**Sequence** – a set of instructions that follow each other

**Output** – information comes out of a program

**Light Output** – colour, light, sparkle, LED

**Input** – information that goes into a program.

**Repetition** – instructions that repeat on a loop

**Repeat x Times** – instructions that repeat (loop) a set number of times

**Forever Loop** – loops that once started will not stop until the program or script ends

**Touch Input-** button or touch pad

**Variable** – can only store one value at a time: a number

**Boolean operatives** – OR, AND, NOT

Vocabulary

* How to create a simple set of instructions to create an end result.
* Use previous knowledge to explore and experiment with ideas.
* Plan and refine designs.
* How to create a simple circuit.

**I will be able to:**

* Decompose programs into smaller parts
* Use logical reasoning to detect and correct errors
* Select, use and combine a variety of software.

Understand how we can use Crumble microcontroller to control an external device

* Develop design skills
* Create my own nightlight
* Review and refine my ideas, developing my skills.

**I will know that:**

Coding is what makes websites, computer software and apps work. Computers need a set of instructions to know what to do. Coding has to be clear and straight forward.

**Primary Programming Progression Using Crumble Microcontroller.**

It is a process which will involve reviewing first attempts and revisiting steps taken. Children will use the ‘Crumble’ program to create their own nightlight.

Topic: Computer Science

Year: 4

**Waterloo Primary School – Computing Knowledge Organiser**

What should I already know?

What will I know by the end of this unit of work?