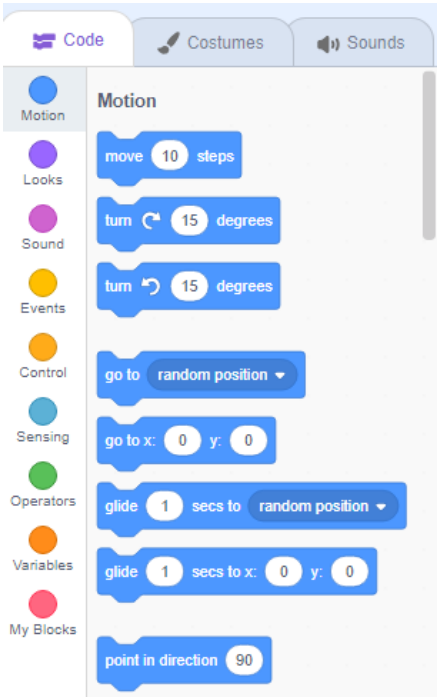
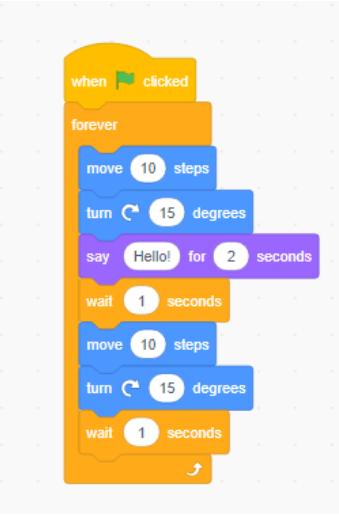
Key	Vocabulary
Previously learnt	*Year 3 - 2 Code Purple Mash: Understand what Algorithms are and how they are implemented as programs. Create and debug simple programs* *Year 4: basic coding in Scratch*
Code	A set of instructions written in a programming language that a computer can understand.
Algorithm	A sequence of ordered instructions. In Scratch, these are called Scripts.
Program	A set of instructions given to a computer so that it can function properly.
Sprite	A moveable object in Scratch that can be programmed.
Blocks	A puzzle-shaped piece of code. They can be connected to other blocks to create algorithms.
Output	Data that comes out of a computer.
Repeat /loop	Part of the coding that is repeated.
Variable	A variable is something that can change. E.g. score
Debug	Find, remove and fix any errors in a computer program.
Conditional statements	This is a block of code that allows a certain set of instructions to work, only if a certain condition is met. For example, if touching pink, then move 10 steps.



	Sequence of lessons
1	**E-safety recap—Computing Code of Conduct** **What do you do if you feel unsafe online?**
2	What is Scratch? How does it work? What can ne done on Scratch?
3	Why is programming important? Where do we see it in real life?
4	Create an algorithm to make the sprite move, rotate, change colour, using premade coding
5	Experiment with a variety of blocks to see you can make the sprite do
6	Use a variety of sprites and backdrops
7	Create our own sprites and backdrops
8	Use the repeat/ loop block
9	Use the pen block to draw shapes
10	Use conditional statements (if and then) to control the sprite
11	Test and debug a simple program
12	*Challenge: Create a simple game using skills learnt. Can you include a score to your game?*

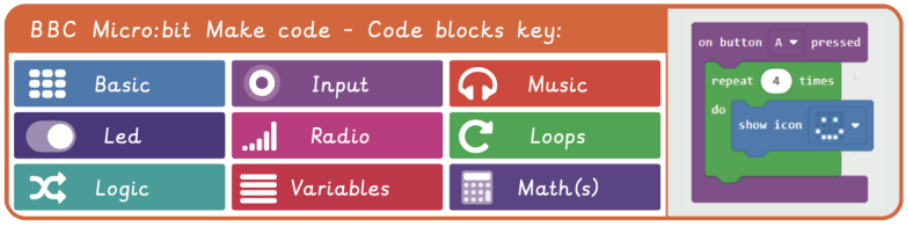


micro:bit

Key Vocabulary	
Previously learnt	*Basic coding using Scratch - create algorithms to make the sprite move, change colour, use repeat/ loop block, test and debug a simple programme.*
Code blocks (see code block key)	A visual representation for a section of code that performs a certain job. They can be placed together like a puzzle.
Outputs	Data that comes out of a computer. On a Microbit this includes the LEDs and speaker.
Inputs	Data that goes into a computer.
Looping	When a section of the code is repeated several times.
USB	Connection for data transfer (program download) and power supply .
LED (Light emitting diodes)	LEDs are lights that you will see on the Micro:bit screen to display information. They are in a 5x5 grid.
Processor	Sometimes called the 'brains' of the Microbit. It receives the inputs, runs the programmes and gives outputs.
Algorithm	A set of step-by-step instructions.
Simulator	Runs your program on the laptop, showing how it would work on the Micro:bit.

What Is a BBC micro:bit?

The BBC micro:bit is a pocket-sized computer. It has an LED light display, buttons, microphone, sensors and many input/output features. These features can be programmed can let you physically interact with the world around you. There are many possibilities with the BBC micro:bit!

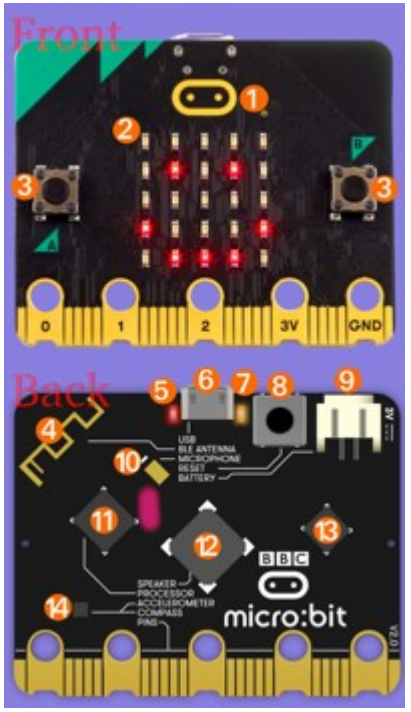


	Sequence of lessons
	E-safety recap over the summer term
1.	**What is a Microbit?**
2.	**What can a Microbit do?**
3.	**Turning the Microbit on and off.**
4.	**Explore the Microbit website.**
5.	**Explore Make Code and input coding.**
6.	**Transfer the code to the Microbit.**
7.	**Create projects using the Microbit / Make Code website** Microbit attendees to be mini Microbit leaders, sharing their expertise. Beginners to start with 'first lessons with Make Code'. Create patterns on the screen, choosing appropriate blocks (name badge, flashing heart, emotion badge). Children who have attended Microbit Club to use more complicated, longer coding, using a wider variety of blocks. Depending on knowledge and skills, choose Beginner, Intermediate or Advanced projects to follow. Challenge: switch between Make Code and Python.
8.	**Save your programs/ projects.**

What Can I Make with a BBC micro:bit?

Here are just a few ideas of some micro:bit projects that you could create:

- Beating heart
- Step counter
- Send messages
- Dice
- Badge

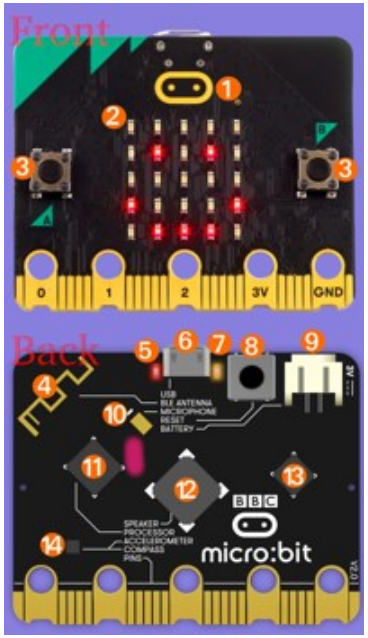


1. Touch sensor
2. LED display & light sensor
3. A & B buttons
4. Radio antenna
5. Red power LED
6. Micro USB socket
7. Yellow USB LED
8. Reset & power button
9. Battery power socket
10. Microphone
11. Processor & temperature sensor
12. Speaker
13. USB interface chip
14. Compass & accelerometer

Crich Junior School **Computing Knowledge Organiser Year 4/5**

micro:bit

Key Vocabulary	
Previously learnt	*Scratch coding: move, rotate, change colour, change costume, glide, create sound, use variables, create a simple game including a score.*
Code blocks (see code block key)	A visual representation for a section of code that performs a certain job. They can be placed together like a puzzle.
Outputs	Data that comes out of a computer. On a Micro:bit this includes the LEDs and speaker.
Inputs	Data that goes into a computer.
Iteration/ looping	When a section of the code is repeated several times.
USB	Connection for data transfer (program download) and power supply .
LED (Light emitting diodes)	LEDs light that you will see on the Micro:bit screen to display information. They are in a 5x5 grid.
Accelerometer	A sensor on the Micro:bit that detects movement.
Processor	Sometimes called the 'brains' of the Micro:bit. It receives the inputs, runs the programmes and gives outputs.
Algorithm	A set of step-by-step instructions.
Variable	Something which can be changed in a computer.
Debugging	Finding and fixing errors.
Simulator	Runs your program on the laptop, showing how it would work on the Micro:bit.



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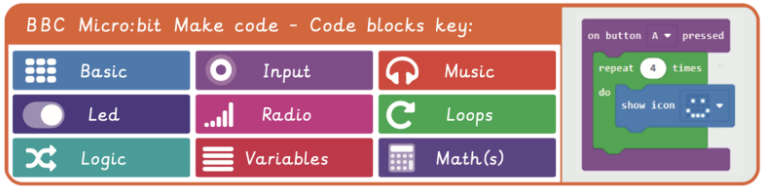

Crich Junior School **Computing Knowledge Organiser Year 5/6**