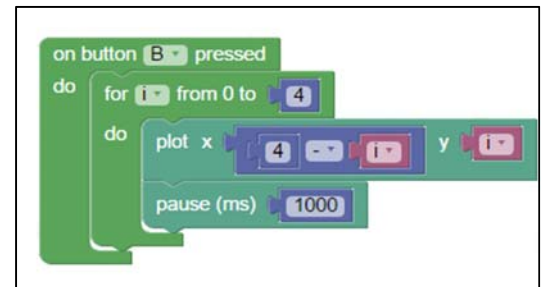
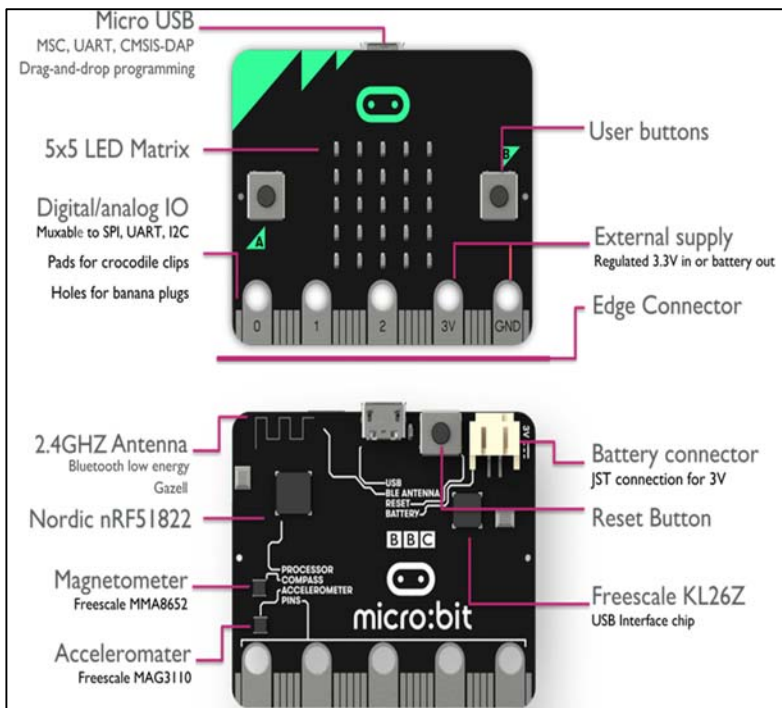
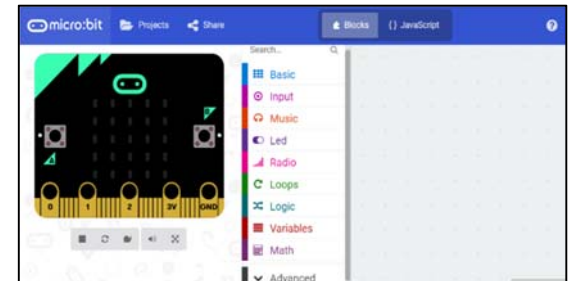


# Knowledge Organiser – Year 7 – Micro:bit Programming

<b>Computational thinking</b>	The thought process involved in finding a solution to a problem.
<b>Abstraction</b>	The removal of unnecessary detail within the program to focus on the more important aspects.
<b>Decomposition</b>	Breaking a problem down into smaller, more manageable pieces
<b>Pattern Recognition</b>	Looking for patterns within the problem to allow them to be solved together.
<b>Micro:bit</b>	A device that we will use to program.
<b>Sequence</b>	Putting instructions in a suitable order for your program to function properly.
<b>Selection</b>	A decision within a program which can either be Yes/No, True/ False. Allowing your program to take different paths. (IF statements)
<b>Iteration</b>	Repeating something – either using Forever, For, While or Repeat.
<b>Accelerometer</b>	A device for measuring the acceleration of movement (shaking and tilting in the case of the Microbit)

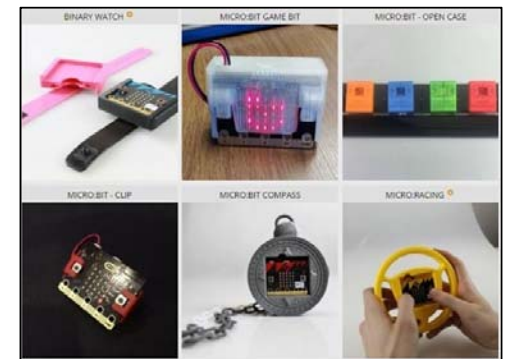
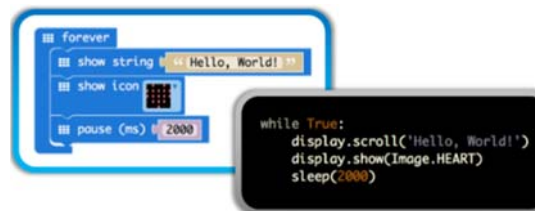
## Website:




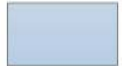

[www.microbit.org](http://www.microbit.org) – Here you can research, code and find out more about what your microbit can do.



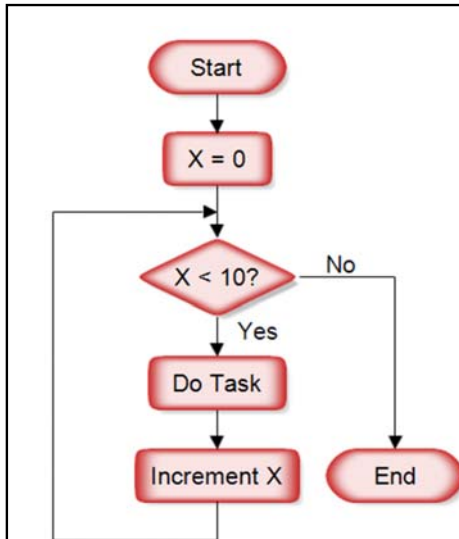
## Fancy a Challenge

Code using text or code.



Symbol	Name	Function
	Start/end	An oval represents a start or end point
	Arrows	A line is a connector that shows relationships between the representative shapes
	Input/Output	A parallelogram represents input or output
	Process	A rectangle represents a process
	Decision	A diamond indicates a decision

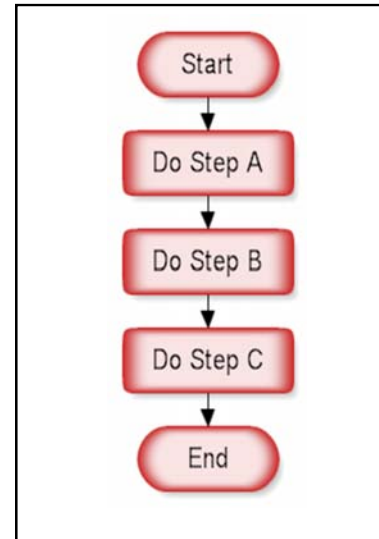
**Flow Chart** A flowchart is a type of diagram that represents an algorithm, workflow or process, it shows the steps as shapes of various kinds.



Iteration

```

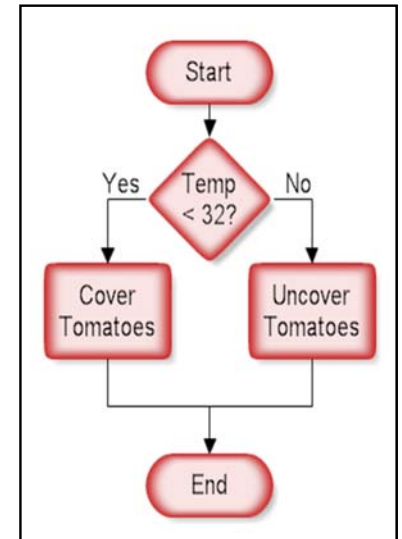
set pressed to 0
while pressed = 0
do
  show string "Press it!" with interval (ms) 150
  if button A is pressed
  do
    set pressed to 1
  end if
end while
show string "Done!" with interval (ms) 150
  
```



Sequence

```

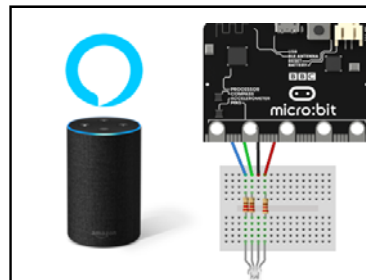
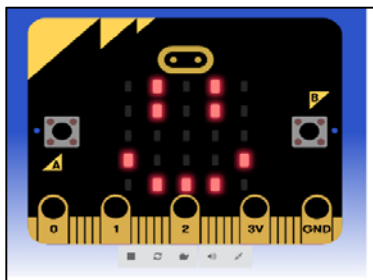
on button A pressed
do
  if count > 0
  do
    set count to count - 1
  end if
end do
  
```



Selection

```

micro:bit loop
do
  if button A is pressed
  do
    show image image Animals DUCK
  end if
  elif button B is pressed
  do
    show image image Animals GIRAFFE
  end elif
end do
clear display
  
```



"Alexa, Ask the Microbit to turn on the light"

