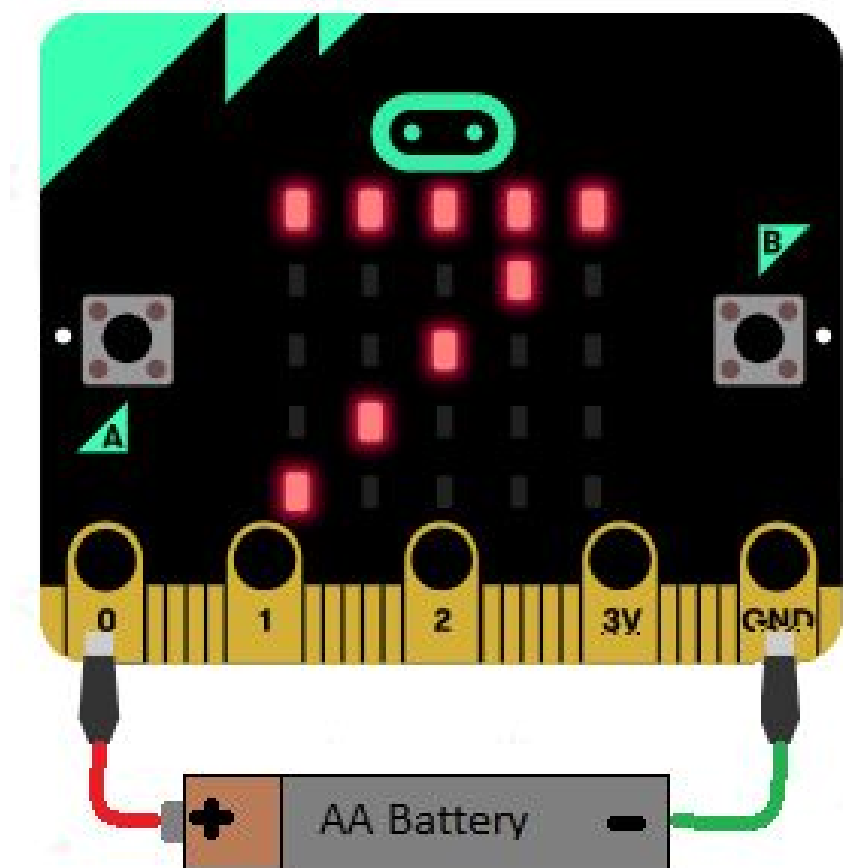# Coding using
using
Microbits - Python

Plans, Notes, Sketches & Reflections

By Carl Lyman

July 2019

Name

School

Introduction

This booklet has been created for use in teaching Coding & Innovation using Microbits with Python. It is designed to be used in 7th - 9th grades. In this booklet there are pages for planning projects, notes & reflections, and pages to make sketches of ideas. The first page can be used to create an index of the contents of the booklet.

The course contains 6 modules and with project in the end. Each module should be able to be completed in about 3-5 hours. The projects are designed to teach creativity, collaboration, problem solving, computational thinking, coding using Python, and thinking that leads to innovation.

Resources

Microbit website - https://microbit.org/
Python IDE - https://python.microbit.org/v/1.1
Micro Python reference - https://microbit.org/guide/python/
Microbit projects - https://microbit.org/ideas/ > Python
Microbit Courses - https://makecode.microbit.org/courses
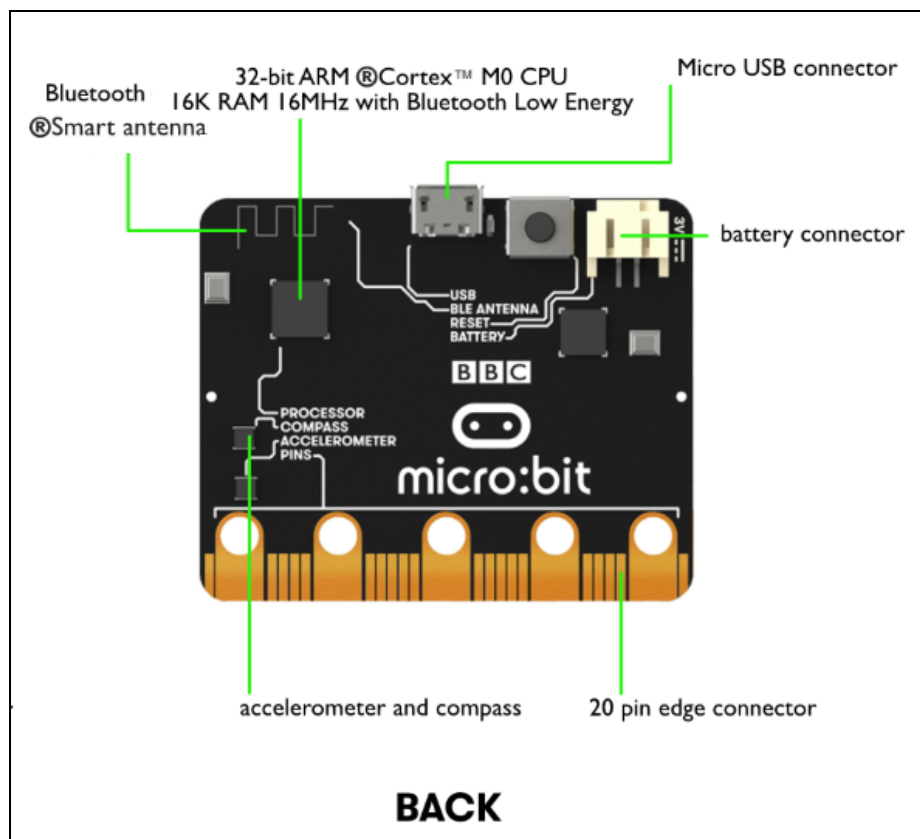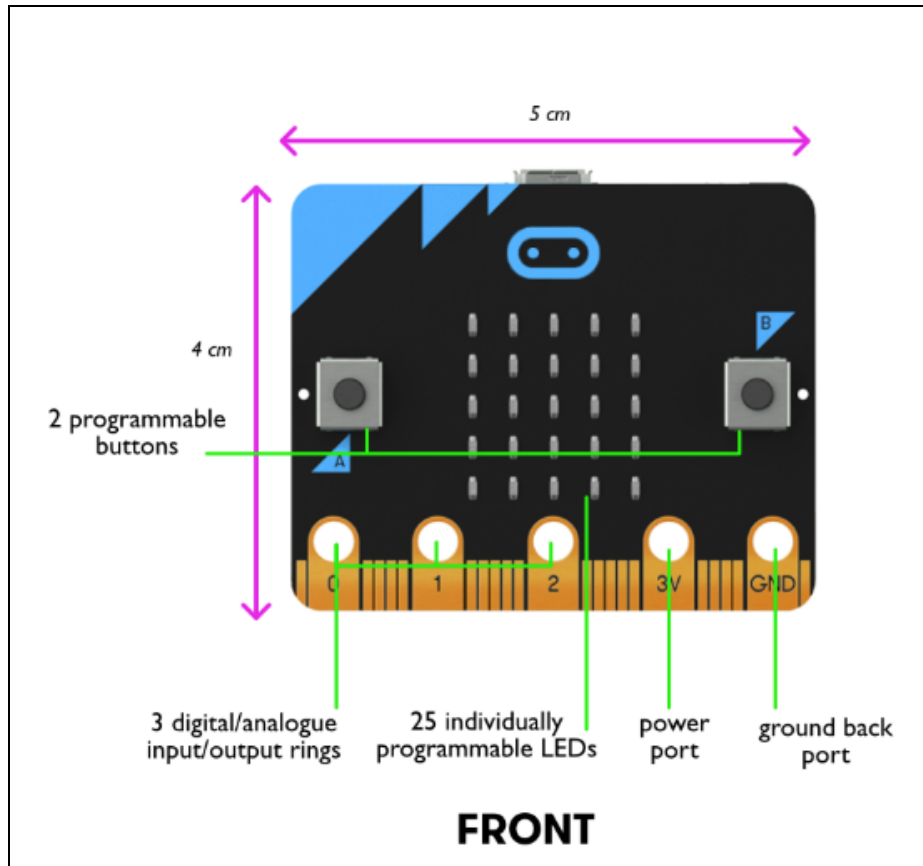Coding & Innovation using Microbits website - https://sites.google.com/view/utahcodingproject/microbits/python-coding-microbits

Microbit Front & Back Features

FRONT

BACK

The micro:bit has the following physical features:
- 25 individually-programmable LEDs
- 2 programmable buttons
- Physical connection pins
- Light and temperature sensors
- Motion sensors (accelerometer and compass)
- Wireless Communication, via Radio and Bluetooth
- USB interface

Source: https://microbit.org/guide/features/

Micro Python IDE

micro:bit

Download | Save | Load | Snippets | Help

Script Name: 2.2a_Sensor_Temper.

```python
1   # 2.2a Sensor Temperature
2   # by C Lyman
3   # March 2019
4   # Activity from Module - Py...vation using Microbits - Py...
5   # Displays current temp...
6
7   from microbit import *
8
9   display.scroll("SE...
10
11  # forever loop for...ents
12  while True:
13      # button A pressed?
14      if button_a.is_pressed():
15          display.scroll(temperature())
16          sleep(2000)
17          display.clear
18
```

Menu Bar: Options to Download, Save, Load, etc.

Help

Project Name: When file is saved it adds a .py to the file name.

Project Comments: by starting a line with a #. Title, coder, date, & description

import - brings microbit module into Python

Events - forever loop

Button A pressed event - checks to see if button was pressed and runs the code