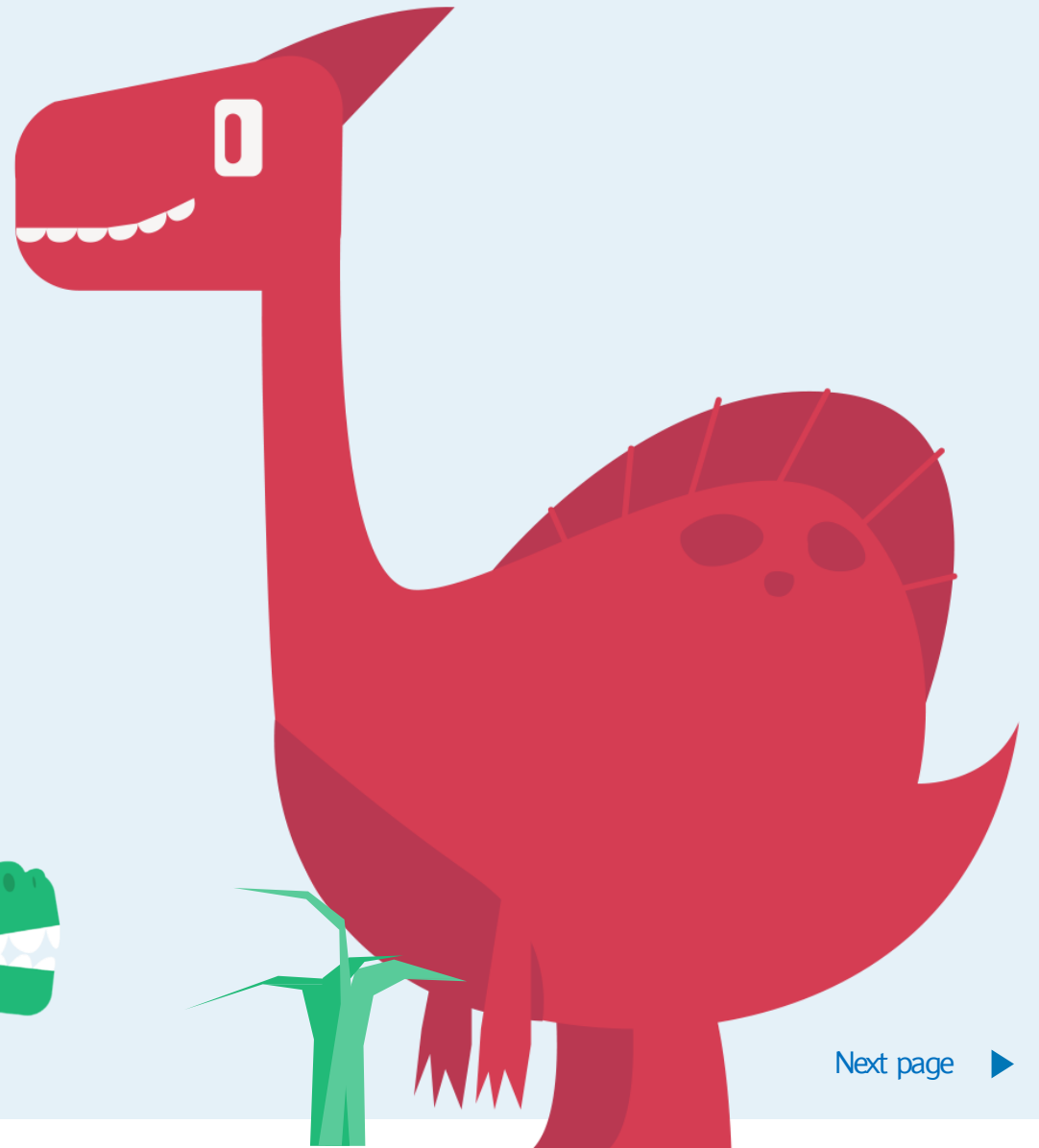


Student workbook

# BBC micro:bit Invaders

Code Playground



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## Micro:bit invaders

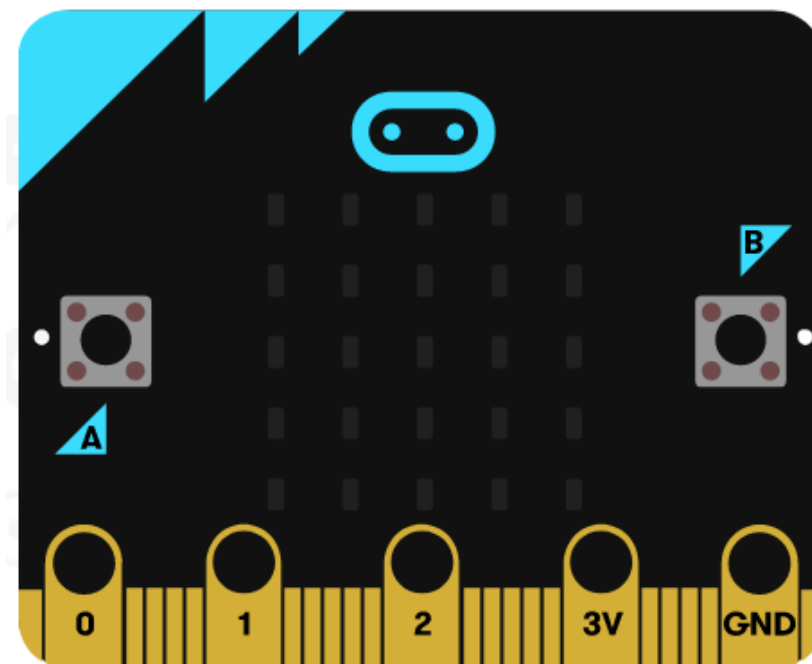
BBC micro:bit project

In this project you'll create a fun game where you have to save the population from the dropping dots as you learn about selection. Selection helps you control when parts of your code will run by checking if a condition is true, so 'if' something happens, 'then' run the next bit of code.

We'll be using the micro:bit coding editor for this project. Don't have a micro:bit? That's ok you can use the emulator on the coding editor. Visit the 'Let's code' page to choose your editor:

<https://microbit.org/code/>

Hope you enjoy the workbook!



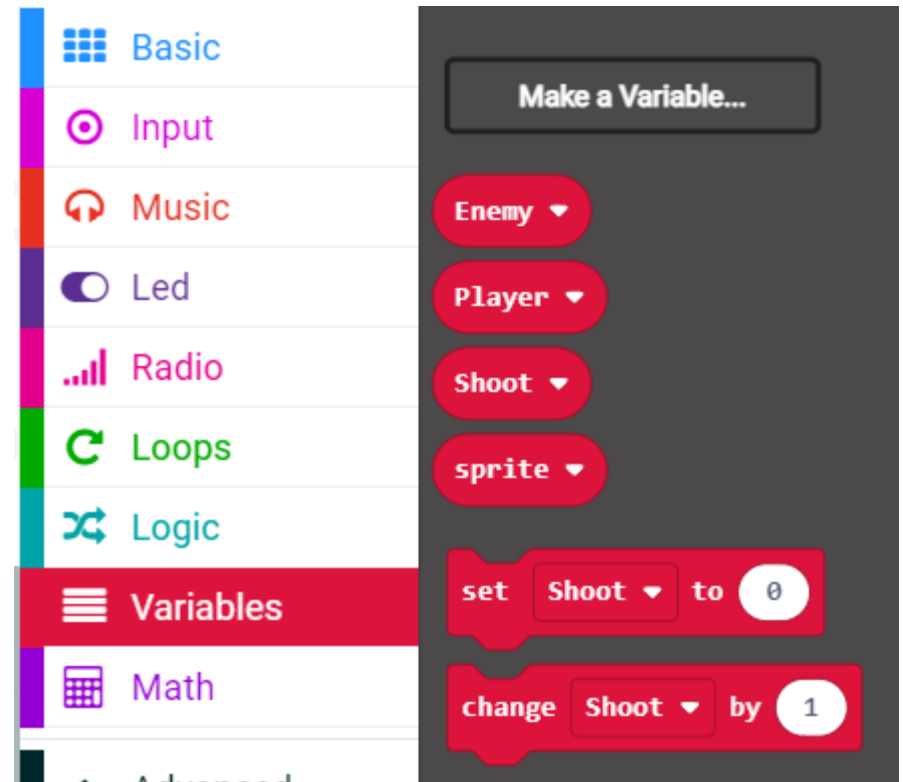
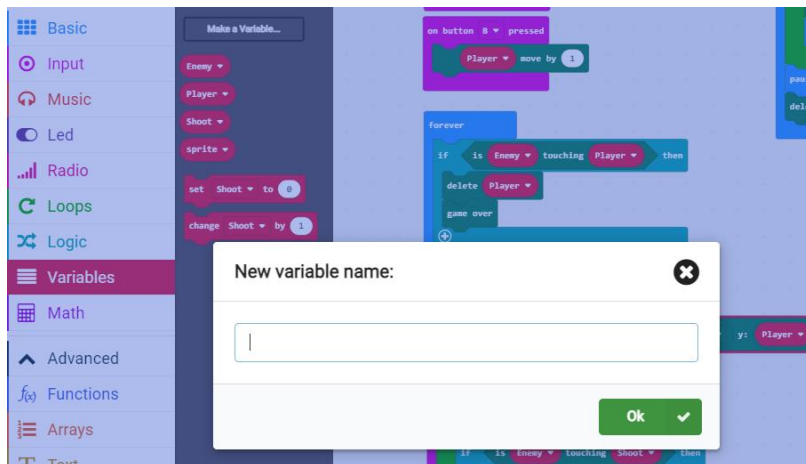
# Micro:bit invaders

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## Step 1

First create four variables which you will use throughout the project. Name your variables Enemy, Player, Shoot and Sprite.

A variable is a container that holds information that you can use in your code.



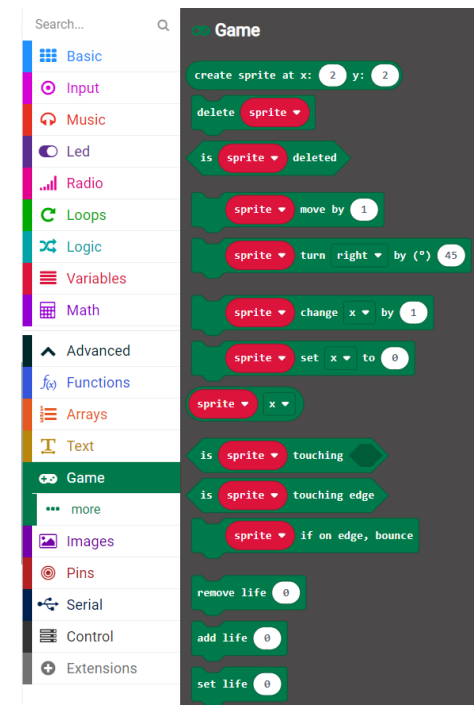
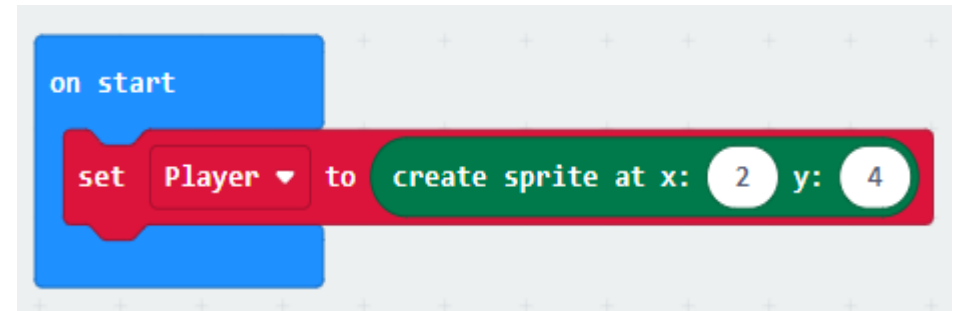
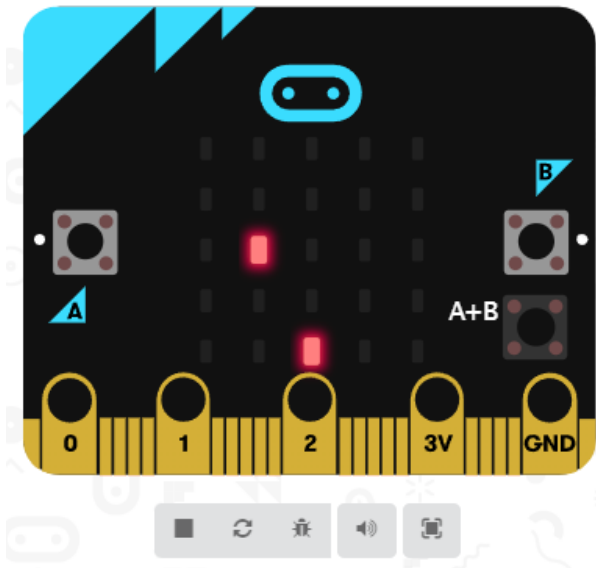
# Micro:bit invaders

BBC micro:bit project

## Step 2

Now we need to create our player. The player will move from left to right at the bottom of the screen. Add this script to your coding area.

To find the 'Create sprite at...' block. Click Advanced at the bottom of the block section and more coding tabs will appear. Then click on 'Game'.

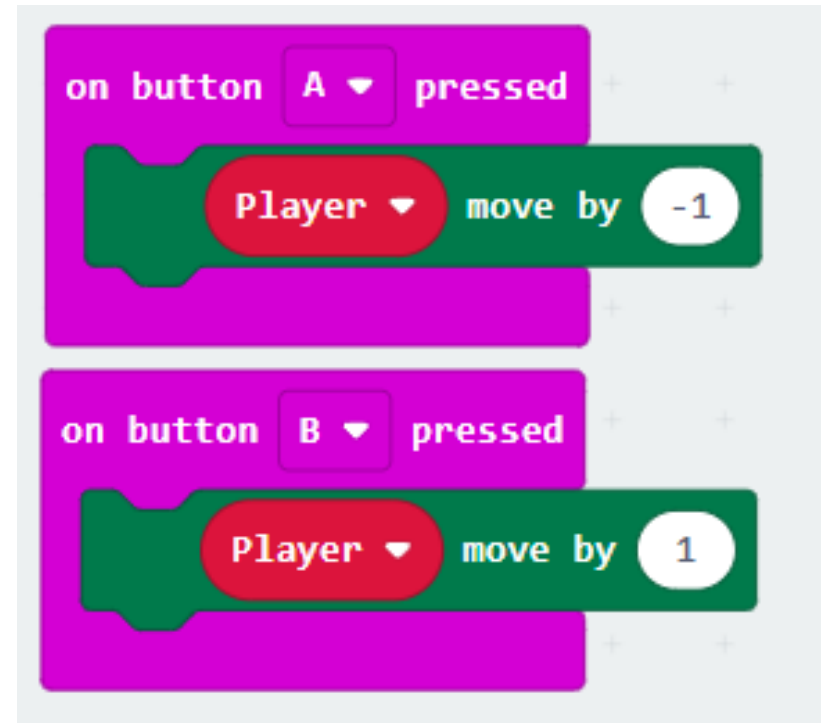
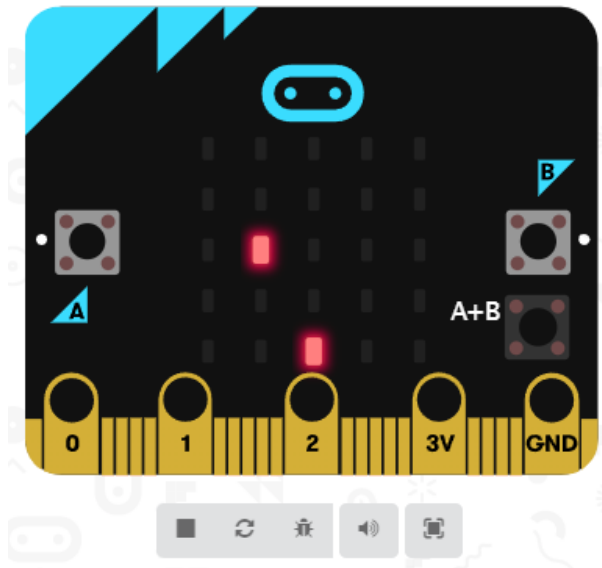


# Micro:bit invaders

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## Step 3

Now to make your player move. Add this code to control movement using the buttons on the micro:bit.



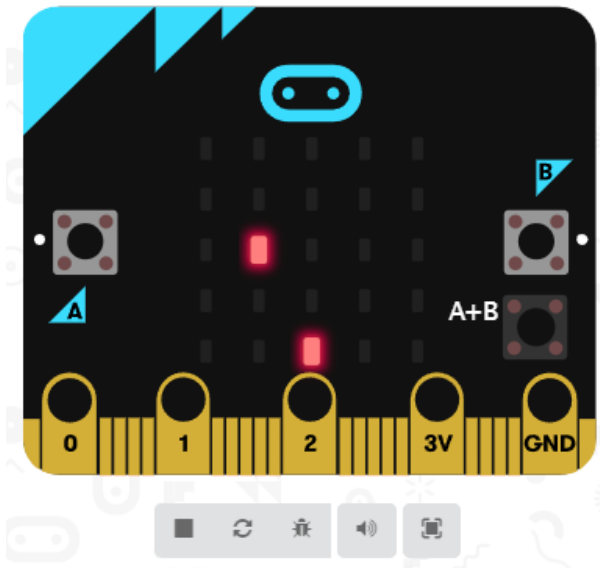
# Micro:bit invaders

BBC micro:bit project

## Step 4

In this game the player will need to avoid the 'Enemy' sprite. The enemy will drop down from the top of the micro:bit with a pause at each block.

This code controls where the enemy starts and how it moves down the display.



```
forever
  set Enemy to create sprite at x: pick random 0 to 4 y: 0
  repeat 4 times
    do
      Enemy change y by 1
      pause (ms) 500
  pause (ms) 10
  delete Enemy
```

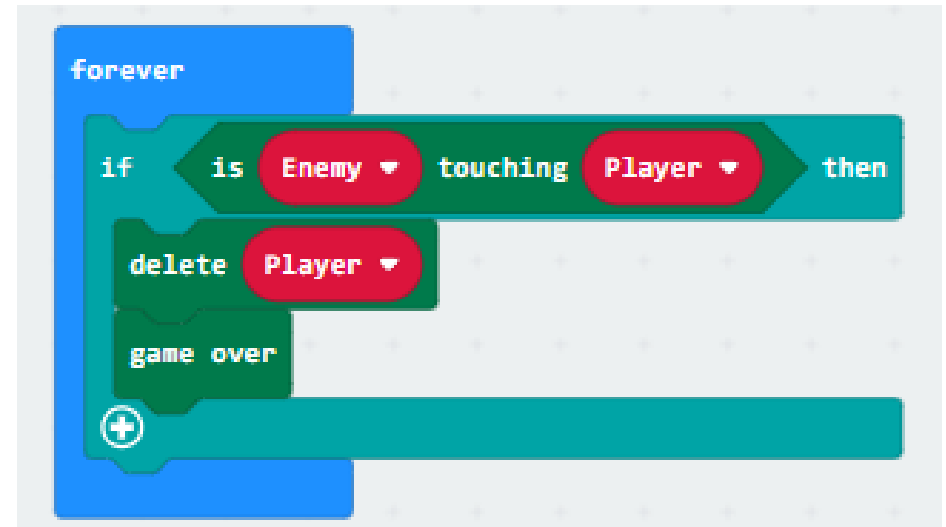
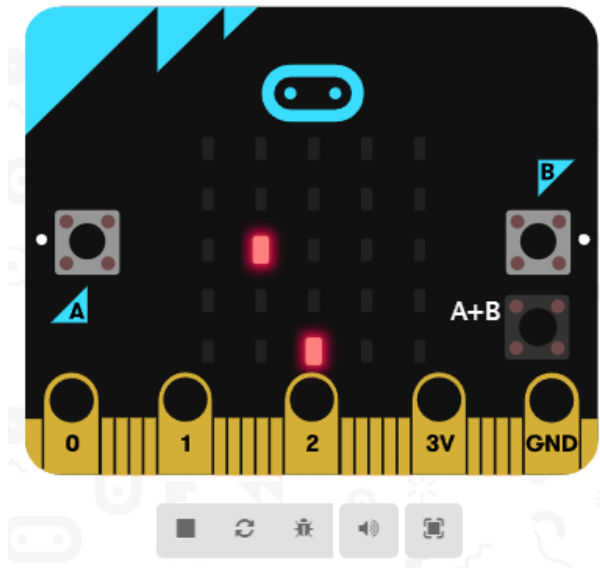
# Micro:bit invaders

BBC micro:bit project

## Step 4 (cont)

We use selection here to decide what happens if the enemy touches the player. This is game over so the game will now end.

We use selection to say if the enemy is touching the player, then delete the player and end the game.



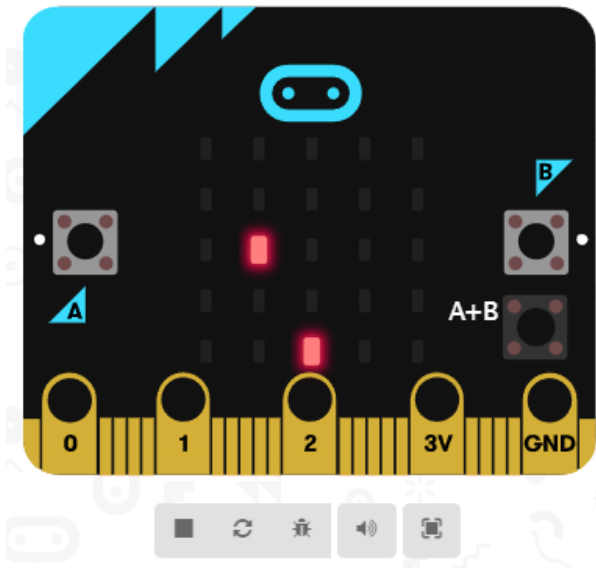
# Micro:bit invaders

BBC micro:bit project

## Step 5

Add this code to let the player fire shots at the enemy by pressing both the A+B buttons together. If you're using the on screen micro:bit then a 'A+B' button will show when you add this code.

See if you can change the speed of the shots fired by the player using this code.



```
on button A+B pressed
  set Shoot to create sprite at x: Player x y: Player y
  repeat 4 times
    do
      Shoot change y by -1
      pause (ms) 10
      if is Enemy touching Shoot then
        delete Enemy
        change score by 1
  delete Shoot
```



# Notes

## Code Playground

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