



# imagination hub: digital making

## Gamification with Makecode Arcade

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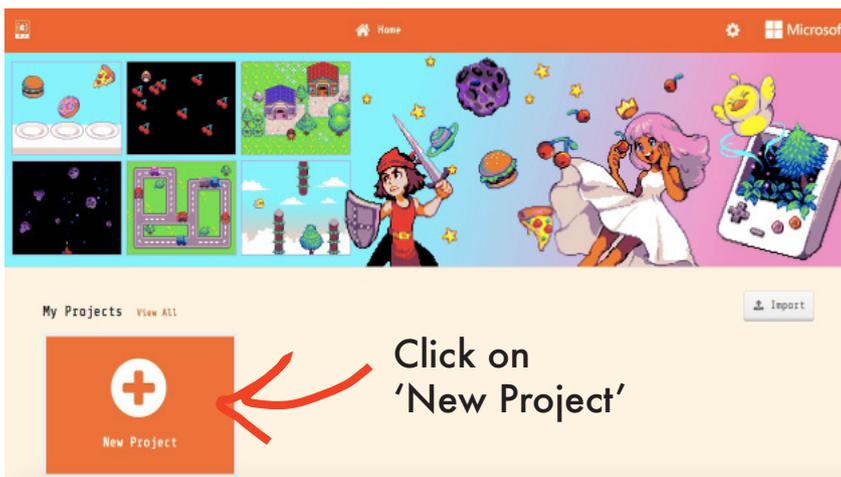
# gamification: MakeCode Arcade

Gamification using MakeCode Arcade is about creating retro games, designing characters and scenes, adding music, sound effects, as well as using block coding so that characters can explore the game and collect points.

What you will need?

- iPad or Laptop
- The website <https://arcade.makecode.com/>  
(it is free, and no login is required)

## Step 1: Getting Started



## Step 2: Naming your project

Give your project/game a name, for example:  
NAME OF YOUR GAME – YOUR NAME.  
Then click 'Create'.

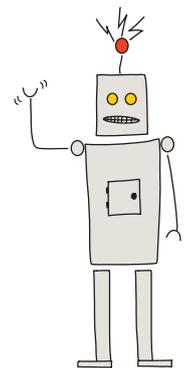
Create a Project ✕

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Give your project a name.

> Code options

Create ✓



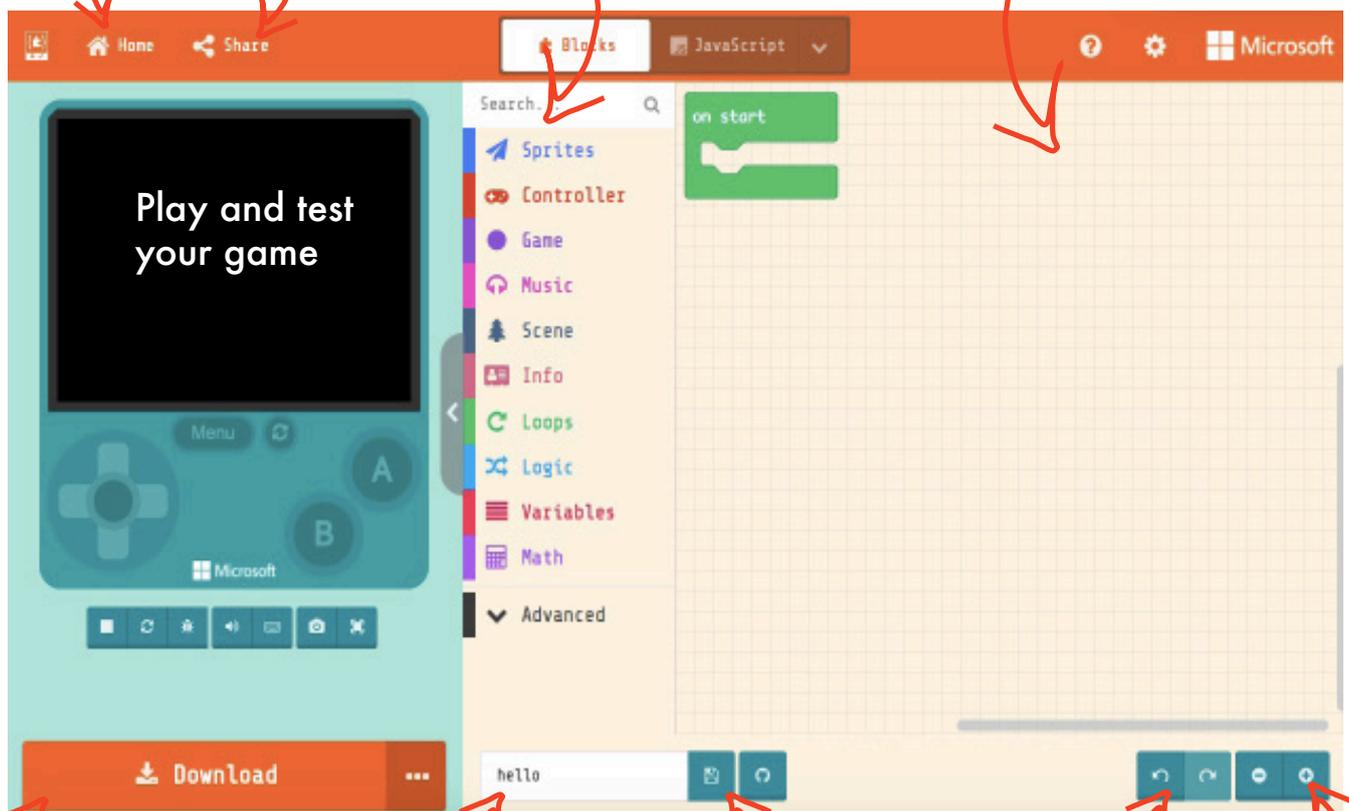
## Step 3: Understanding Make Code Layout

This takes you back to your previous projects (games)

This lets you share it with us and with your friends and family

Block Coding

Coding Panel



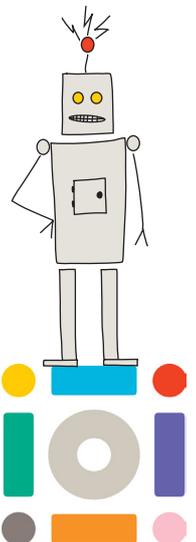
'Download' will save your project onto your computer/tablet

You can change the name of your project

Saving your project

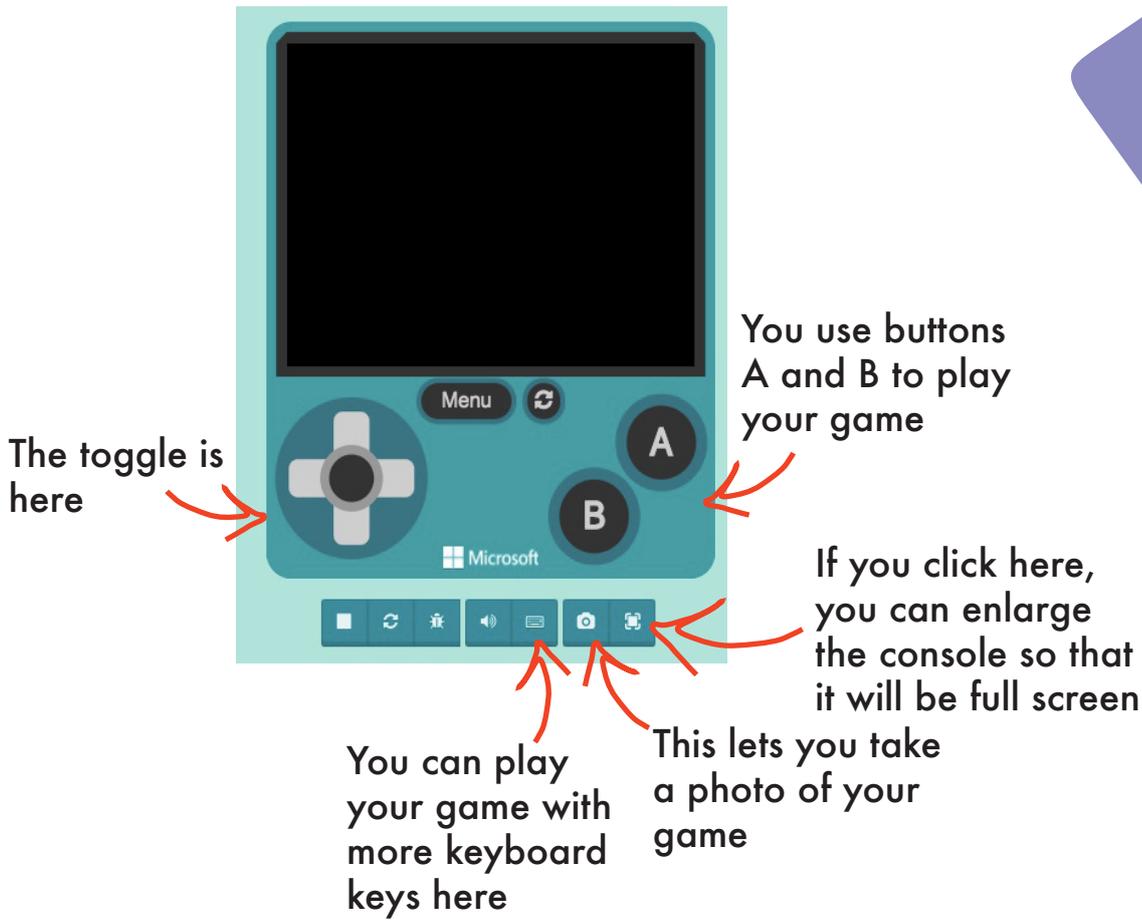
Undo/Redo

Zooming in and out of your page



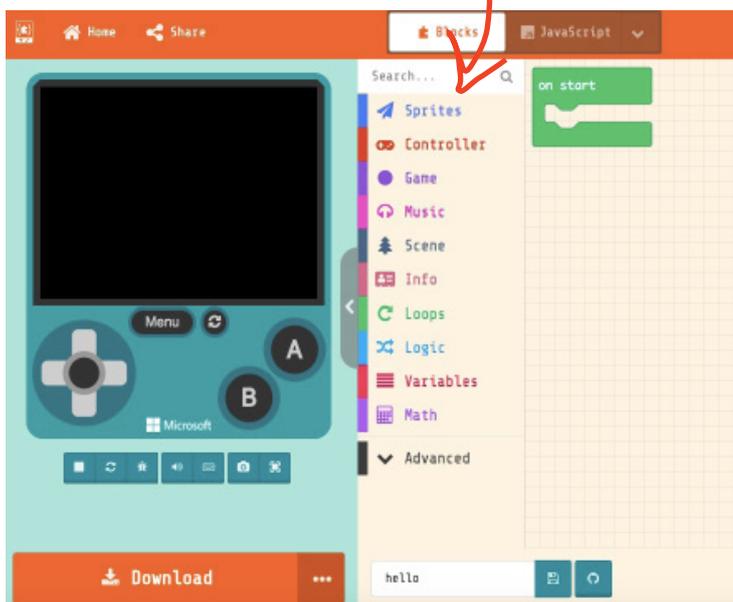
## Step 4: Understanding your Console

The console is a simulation/test of what your game will look like.



## Step 5: Understanding Code Blocks

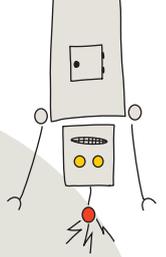
Coding blocks



We will be adding all of the following code into 'On Start'. The colours of the Code Blocks show what they relate to.

For example, every code that you need to add to your scene can be found in 'Scene'.



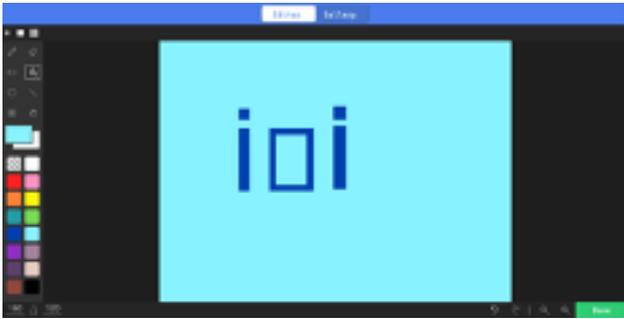


## Step 6 Design your background

There are two ways to create a background:

1. Draw your own background

2. Use the tile map

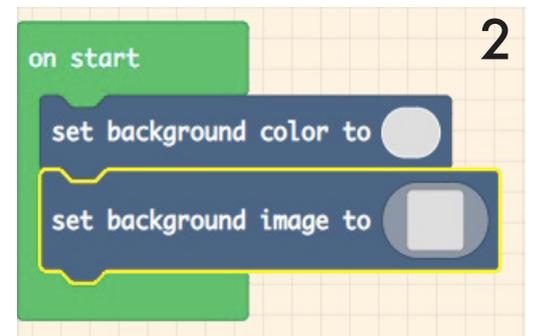
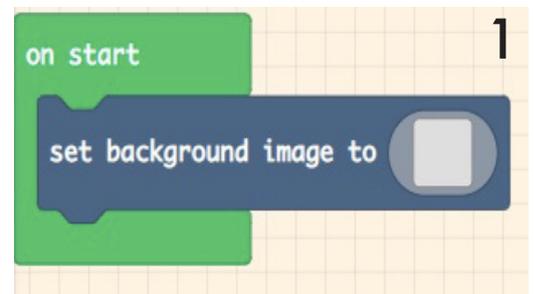
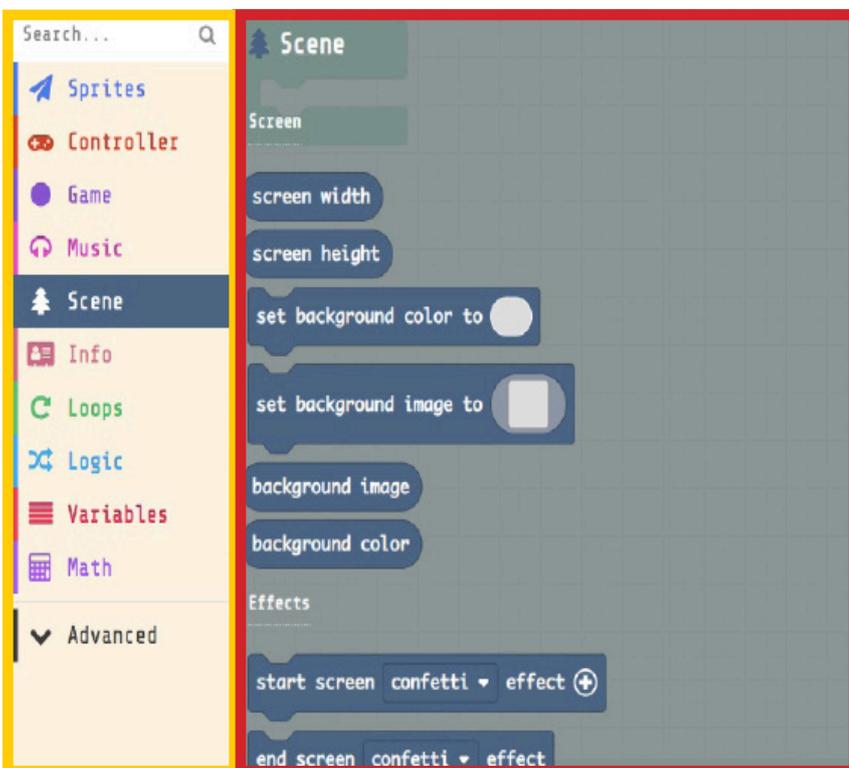


How to draw your own background:

1. Click on 'Scene' in the Coding Blocks section.

Drag the code 'Set background colour to' the right of the screen so that it will appear in your Coding Panel. Place the code into the 'On Start' Block. Click on the box to change colour.

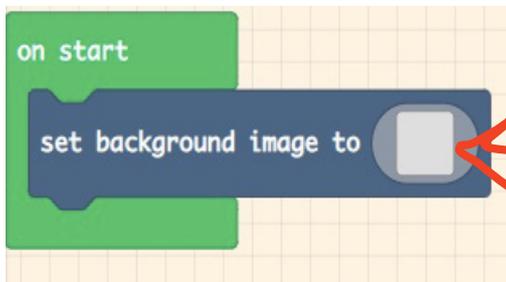
2. Next Drag the code 'set background image to'.



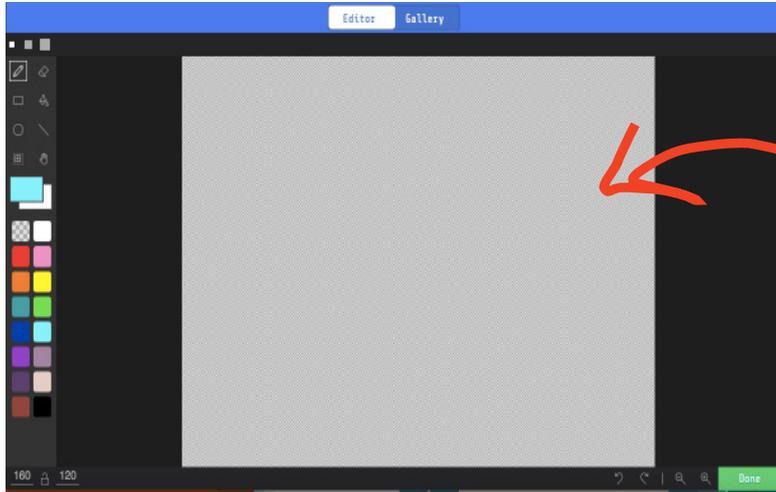
Coding blocks

Coding panel





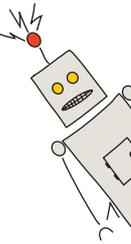
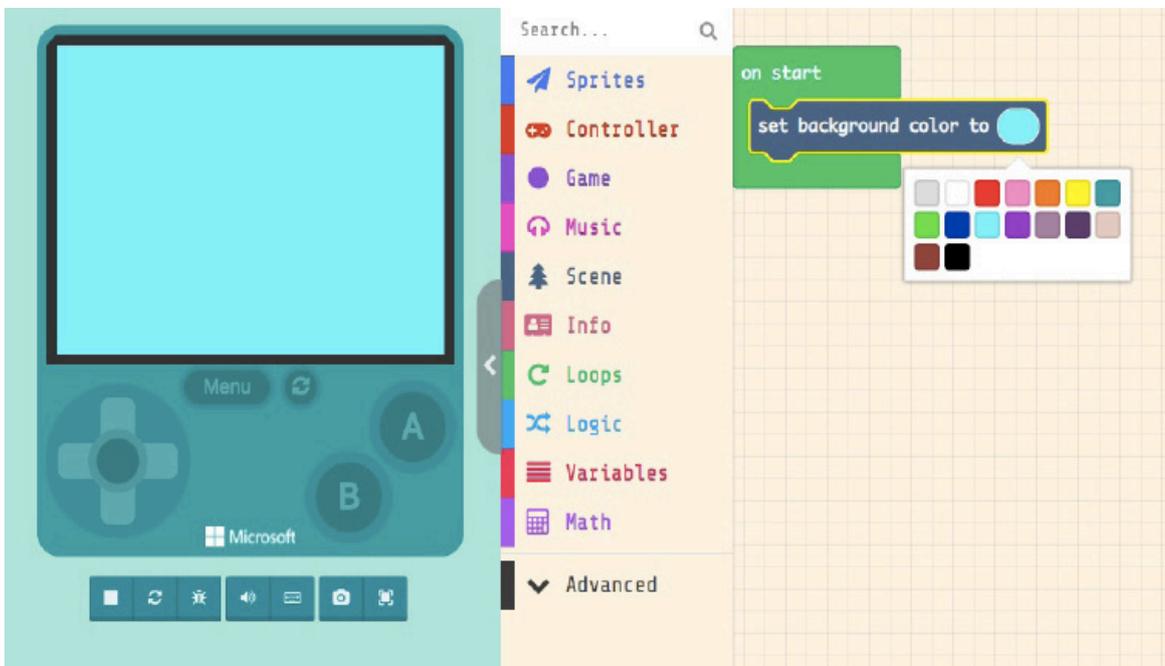
Click on the square box



Draw here

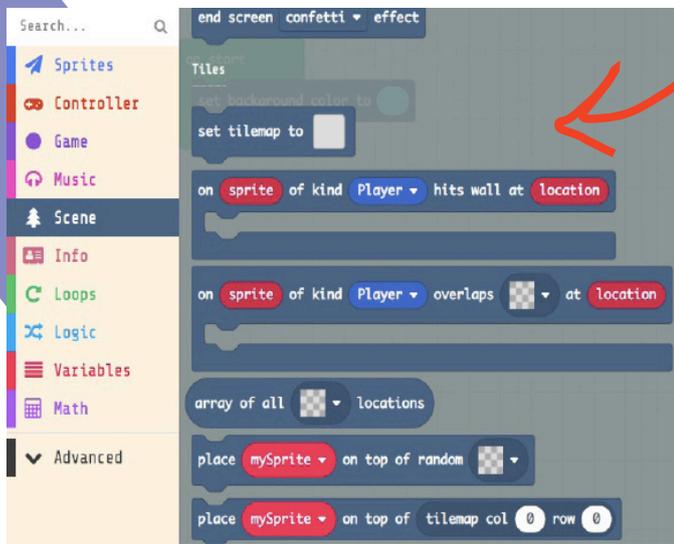
Using the tools, you can select the pen to draw your scene. The icon selected will fill the whole of the background. You can change the colour to whatever you like. When you are finished press 'Done.' Your drawing will then appear on the game console.

### Creating a Tile Map for your background:



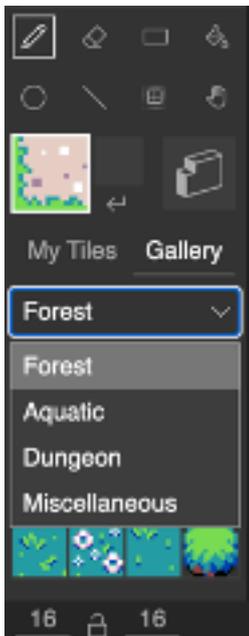
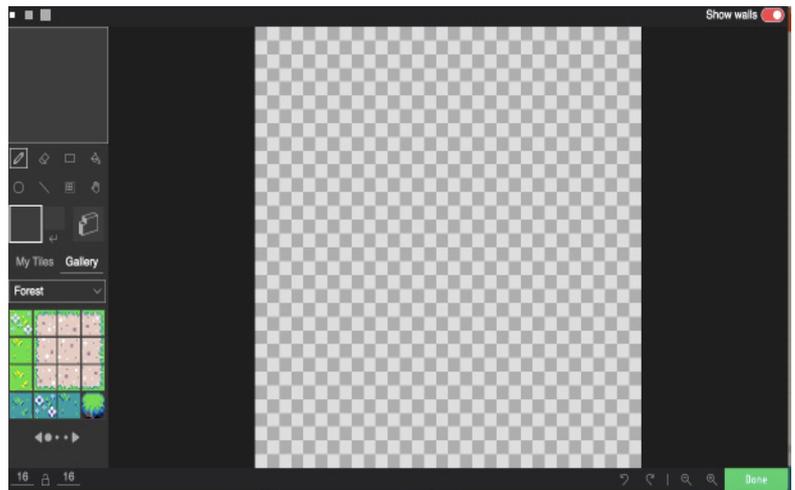
Click on Scene and drag in the code 'Set Background Colour To'. Place the code into 'On Start'. By clicking on this icon  you can change the colour.





Next Click on Scene and then Drag the code 'set tilemap to' into your 'On Start' block.

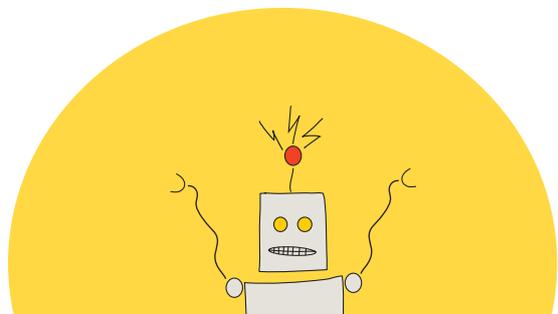
Click on the square  Now you can create your own Tile Map. Click on an image and then click on where you would like it to be in your space.



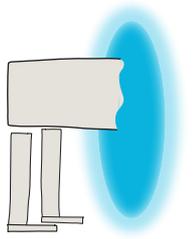
There are lots of themes that you can explore!



When you are happy with it you can press 'Done'

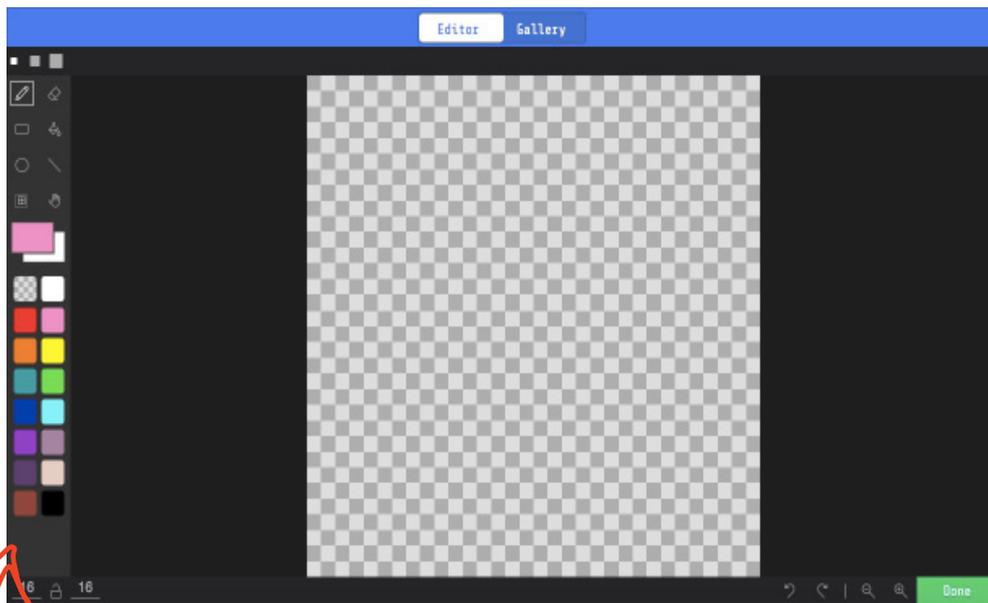
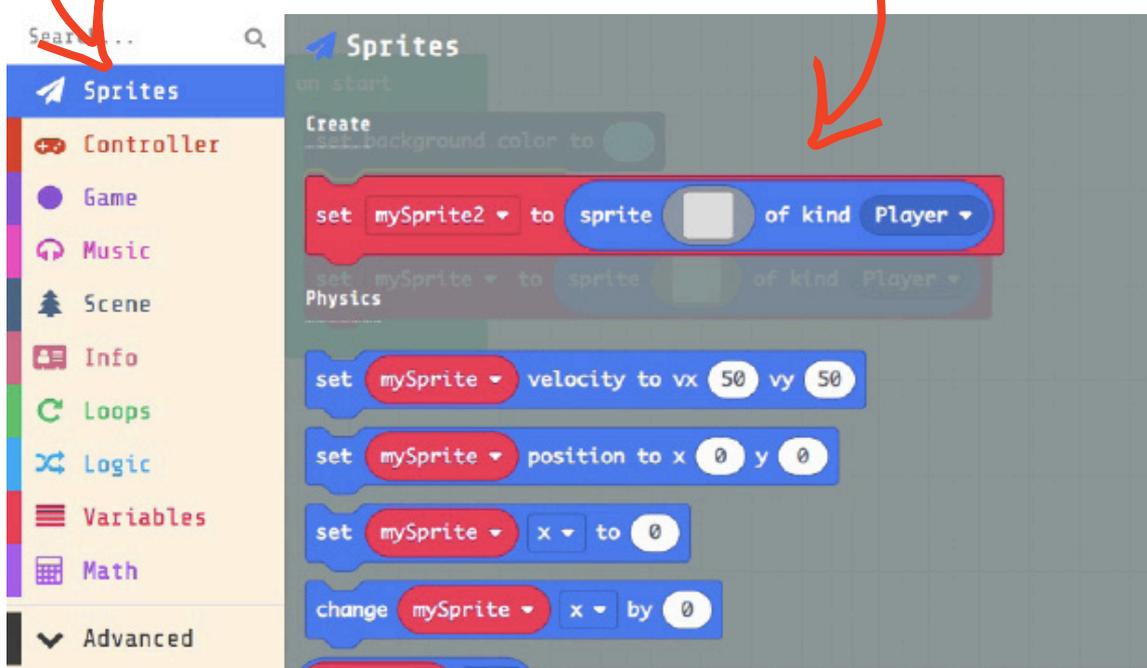


## 7. How to create your own character/sprite:

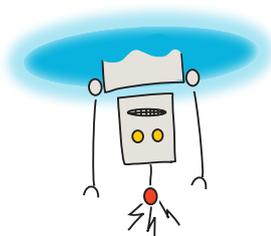
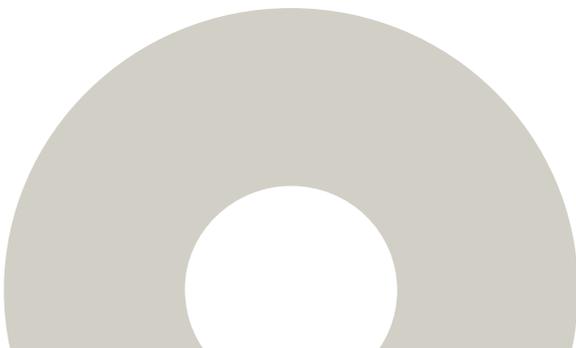


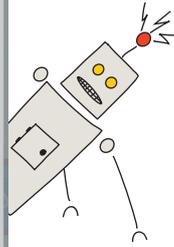
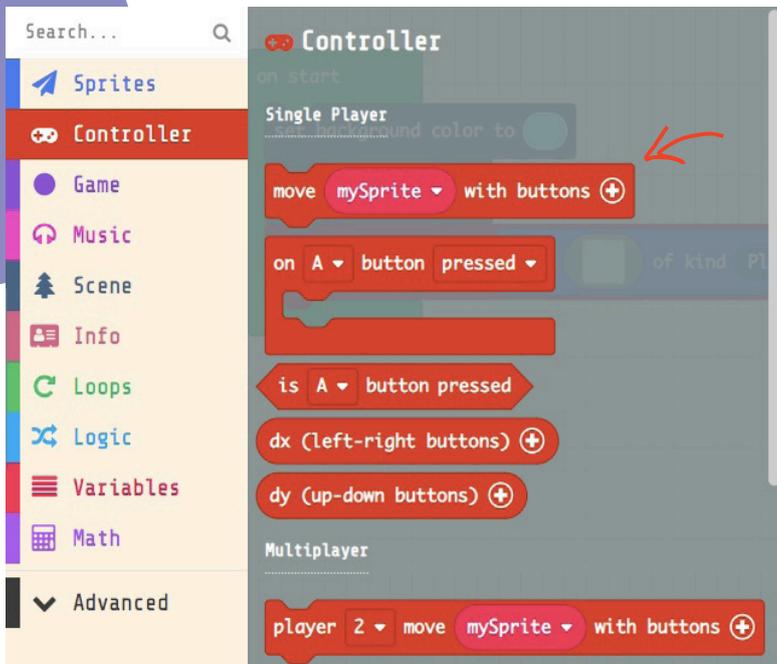
Click on Sprites.

Drag the code 'set mysprite to sprite (...) of kind player' into 'On Start'.



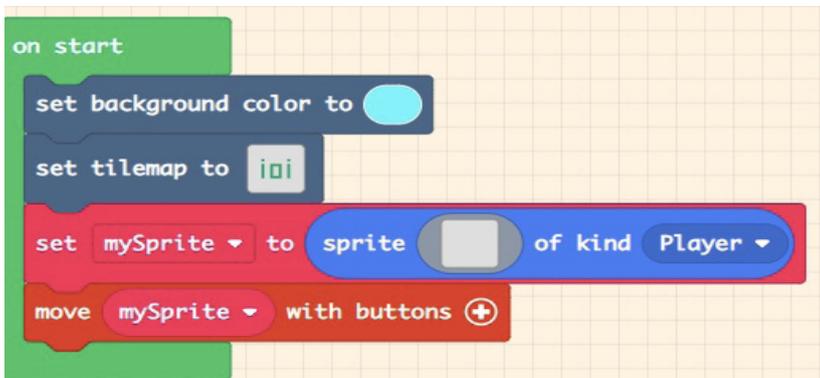
Using the tools, you can begin to design and draw your character. When you are finished press 'Done.' Your character will then appear on the game console.



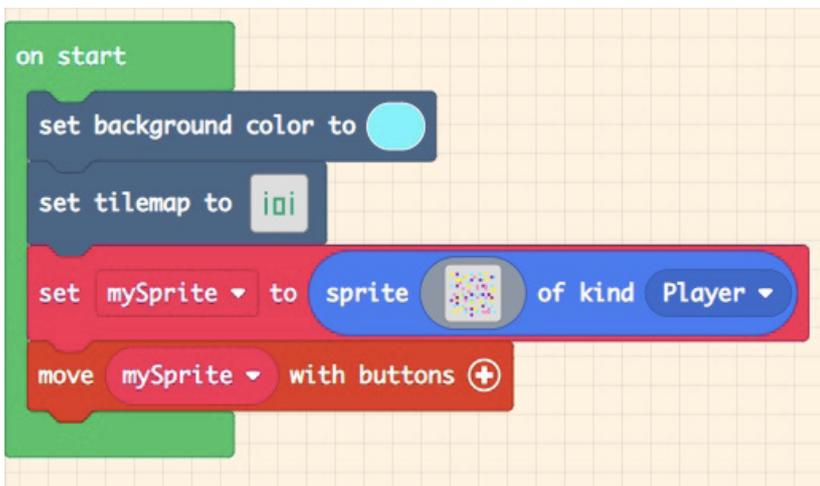


Click on Controller and then select and Drag 'move mysprite with buttons' into 'On Start' underneath the code 'set mysprite to sprite ... of kind player'. This will then mean that your character will move when you move the Toggle, or your arrow keys if you are using a keyboard.

Here is what your code should look like so far:



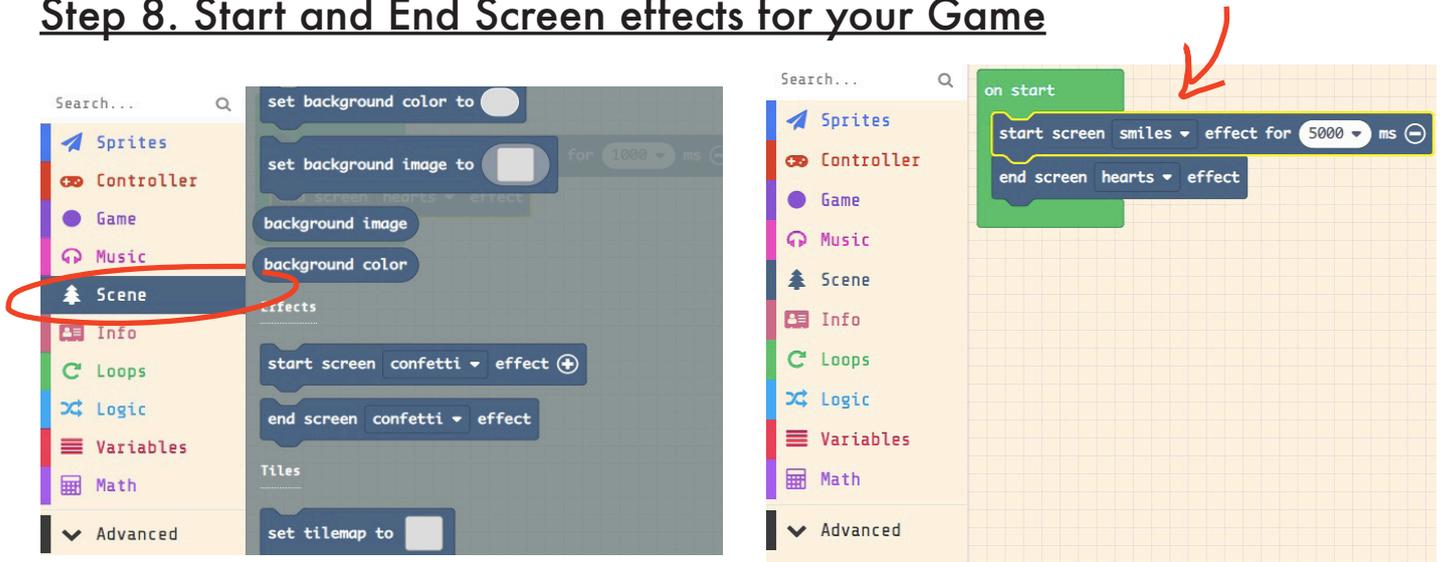
If you used a Tile Map for your background it should look like this ...



If you decided to draw your own background it should look like this...



## Step 8. Start and End Screen effects for your Game

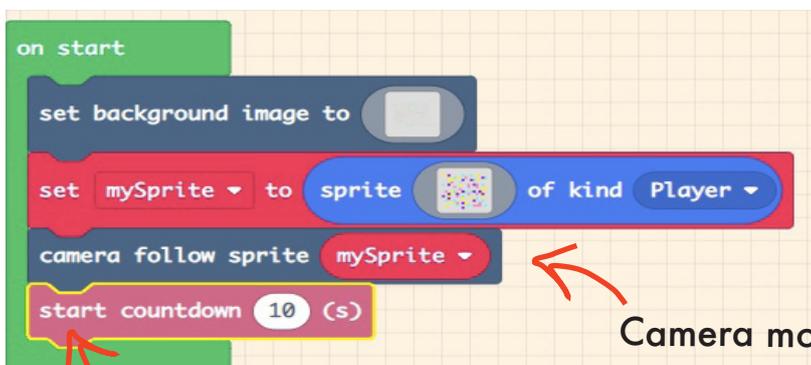


Click on 'Scene', then drag the code 'Start screen .... effect' and also 'End screen .... effect' into your code 'On Start'.



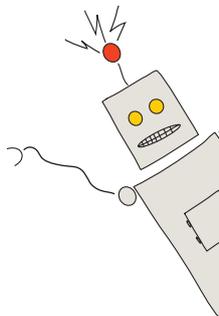
These are some examples of the confetti effect.

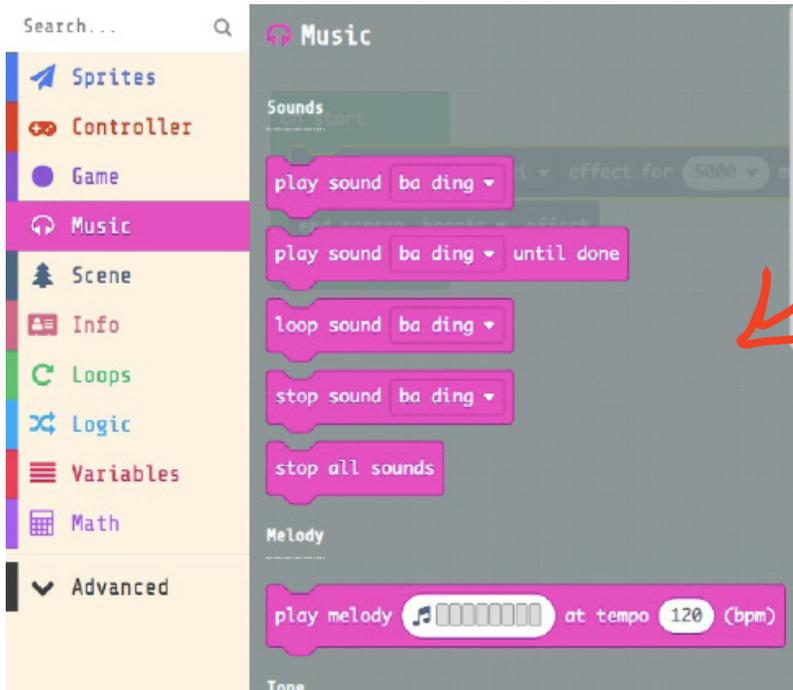
Hack and Experiment with these codes! There is so much to explore with Make Code Arcade. It is worth having a look through each of the Block Coding Sections to see what you can find.



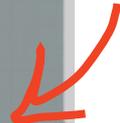
Camera movements (Scene)

Adding countdown timers (Info Block)





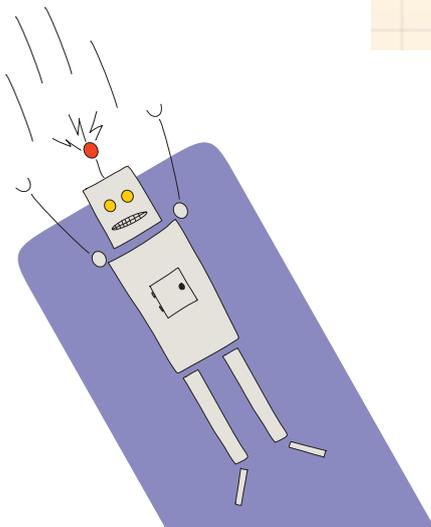
Try adding music to your game!



If your character travels over the wrong tile (for background using Tile Maps), it could display 'Game Over', or 'You Win!' if they travel on the right tile.

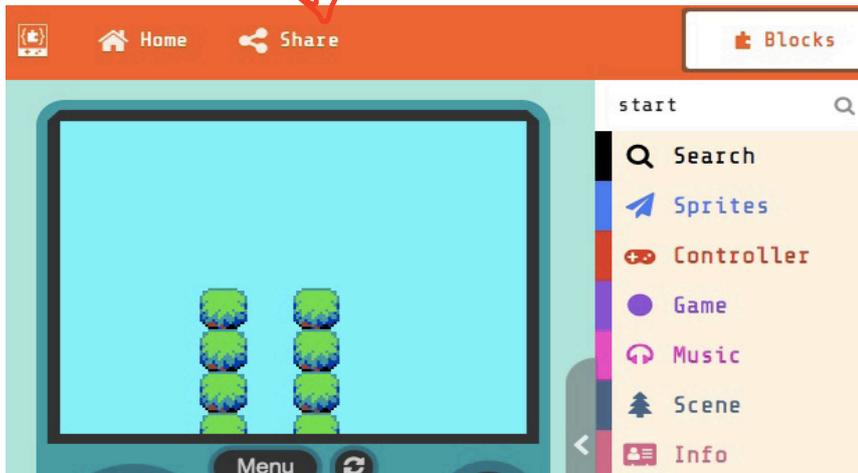


Other Tutorials and Game Ideas can be found here.



## Step 9. Share your game.

1. Click 'Share'



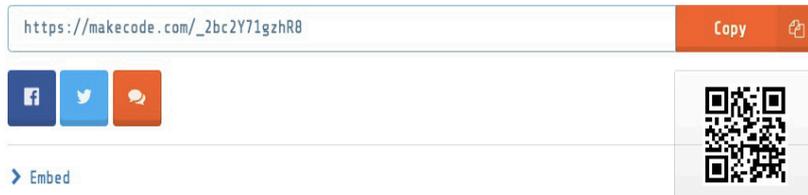
Share Project



2. Then select 'Publish project'

Share Project

Your project is ready! Use the address below to share your projects.



3. Copy the link or scan the QR

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