

Burger Blast - Blocks – Microsoft Arcade

The following instructions will take you through the steps of creating a simple game where you try to electric blast as many burgers as you can in 30 seconds whilst also trying not to blast the cherries.

A point is scored for each burger that is blasted.

A life is lost for each cherry blasted.

The game ends when either the players time runs out of all 3 lives are lost.



Controls

To control the crosshairs, use the direction keys on the console. Alternatively, it may be easier to use the keyboard mappings for the keys as follows. Use the A button to blast the burgers.

	Up (↑ or W)			
Left (← or A)		Right (→ or D)	B (E, X or Enter)	A (Q, Z or Space)
	Down (↓ or S)			

Burger Blast - Blocks – Microsoft Arcade

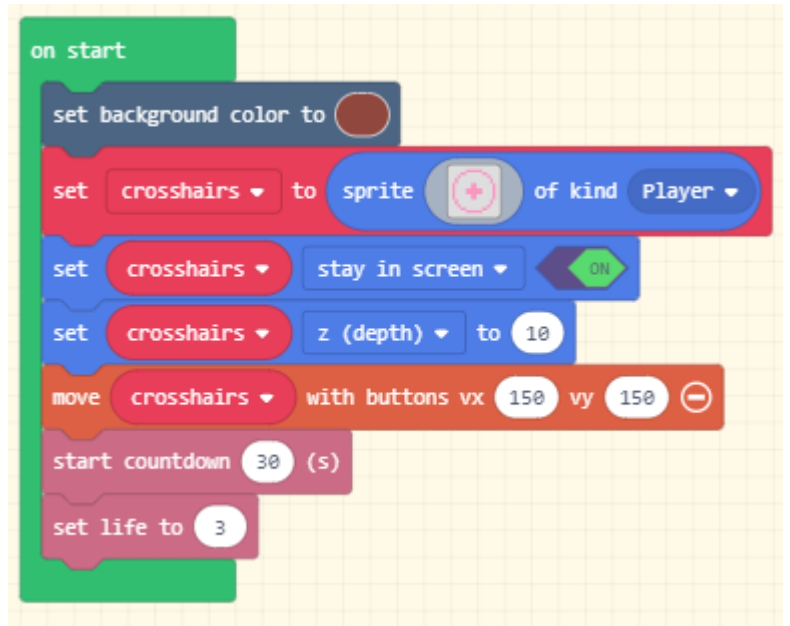
Step 1 – Create the crosshairs and move

The first step is to setup the game and create the crosshairs sprite which will be controlled by the cursor buttons on the console. For the crosshairs, use a 16 x 16 pixel sprite with a transparent background (the grey and white dashed colour) as shown below.

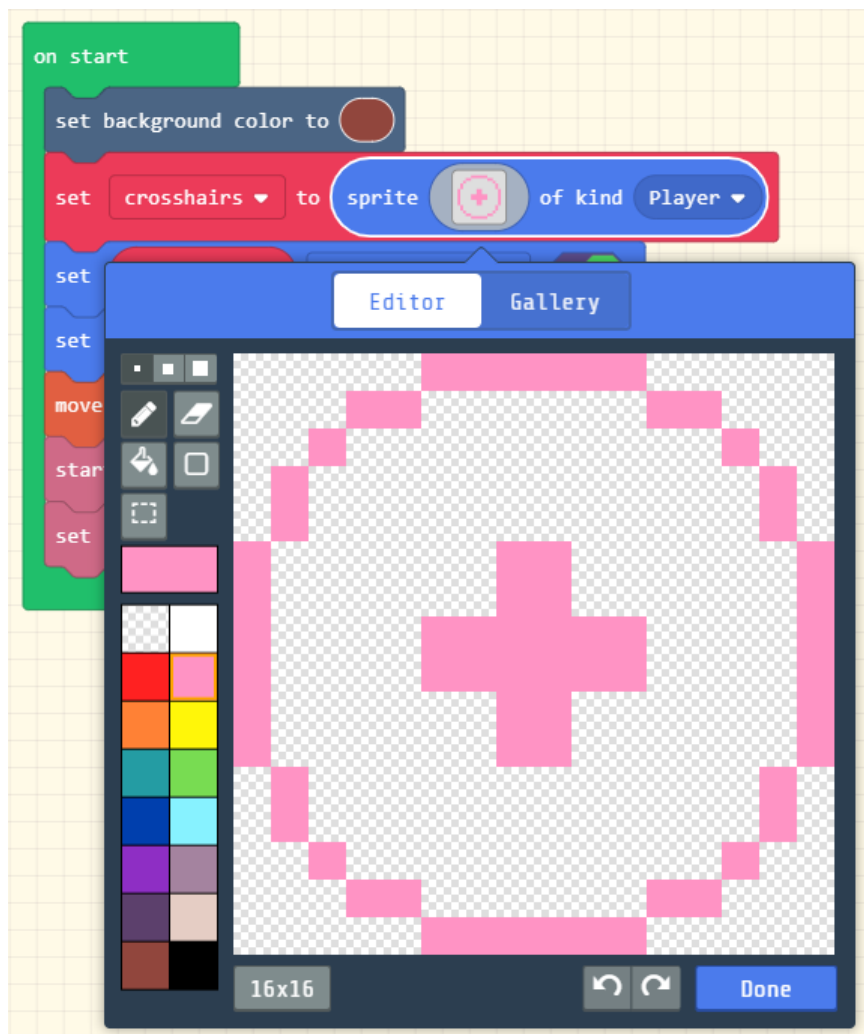
Pick a background colour of your choice. I've used brown so that the pink crosshairs stands out.

You may need to change the name of your variable from MySprite to crosshairs.

Once you've written the code, test it out to make sure it works as expected.



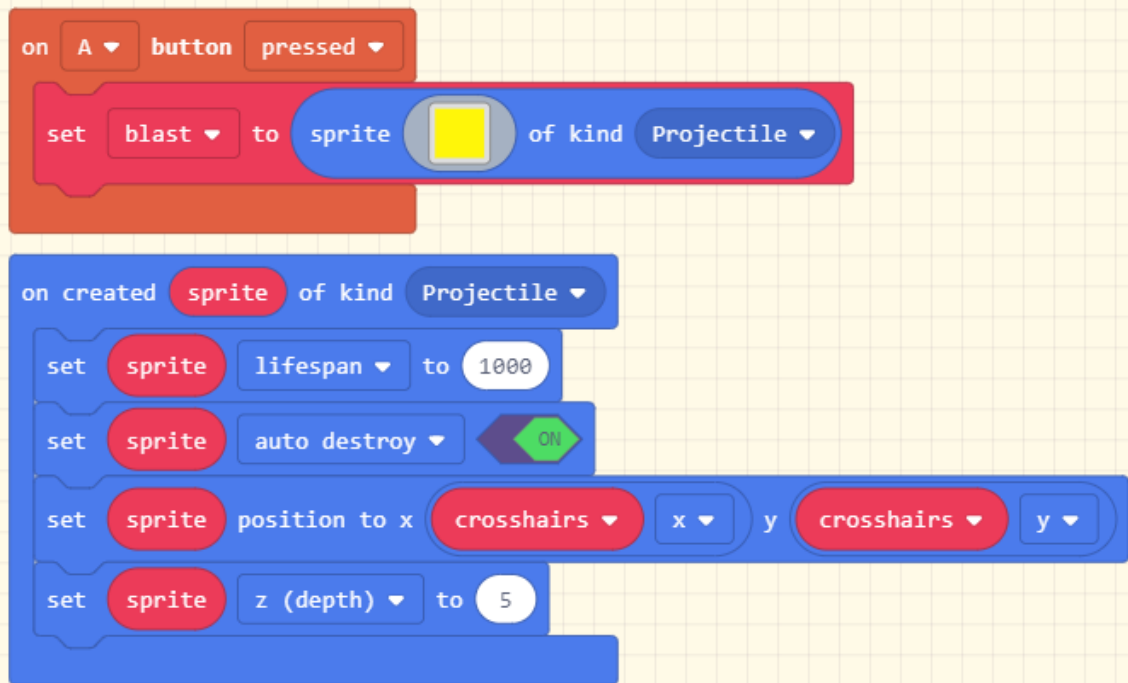
```
on start
  set background color to brown
  set crosshairs to sprite of kind Player
  set crosshairs stay in screen ON
  set crosshairs z (depth) to 10
  move crosshairs with buttons vx 150 vy 150
  start countdown 30 (s)
  set life to 3
```



Burger Blast - Blocks – Microsoft Arcade

Step 2 – Adding the Blast

You should find that your crosshairs move around the screen but nothing happens when you press the A button. In this step, we are going to simulate the electric blast. Use the code below. The sprite used for the electric blast is an 8 x 8 sized yellow one.

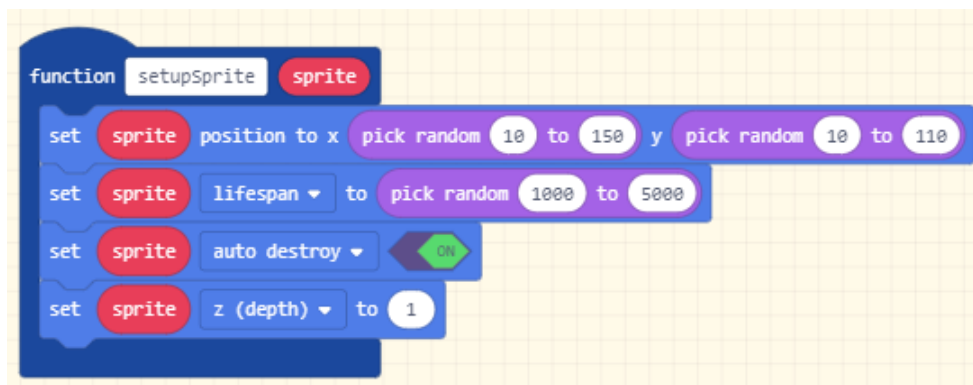


Experiment

Run your game and move the crosshairs around the screen setting off electric blasts. Adjust the lifespan to 1,000 and see what happens when you move around the screen and press A lots of times.

Step 3 – Creating a function to place a sprite

Because we are going to be using the same code to setup the burgers and the cherries, we are going to create a function so that the same code can be reused. The finished function is shown below and the steps to create it follow.



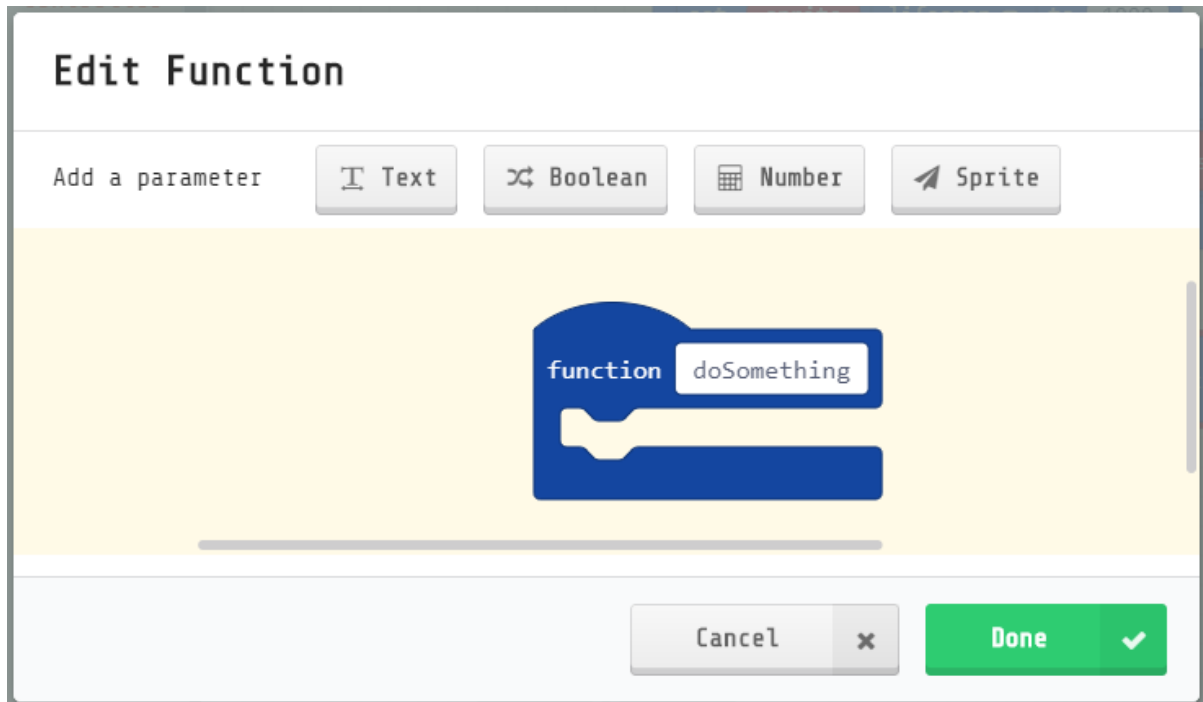
Burger Blast - Blocks – Microsoft Arcade

Start by locating the functions tab in the toolbox. This is under the Advanced tab and when selected will show a button called “Make a Function...”. Click on that button.

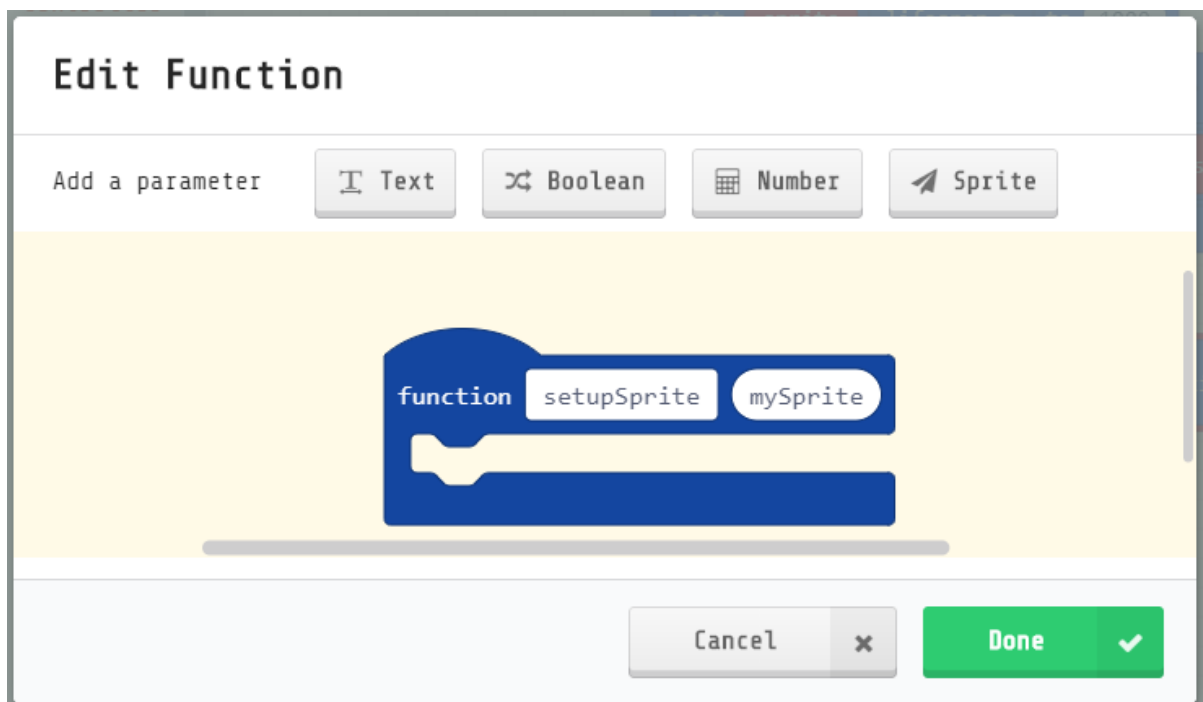


Burger Blast - Blocks – Microsoft Arcade

A new pop-up dialogue box will be displayed that allows you to create your function. It should look like the screenshot below.



Change the name of the function to "setupSprite" (you do this by clicking on the "doSomething" text and editing it). Then add a Sprite parameter to the function by clicking on the Sprite button in the top right-hand corner of the dialogue. Parameter are used to pass information to the function. The dialogue should look like the screen shot below.



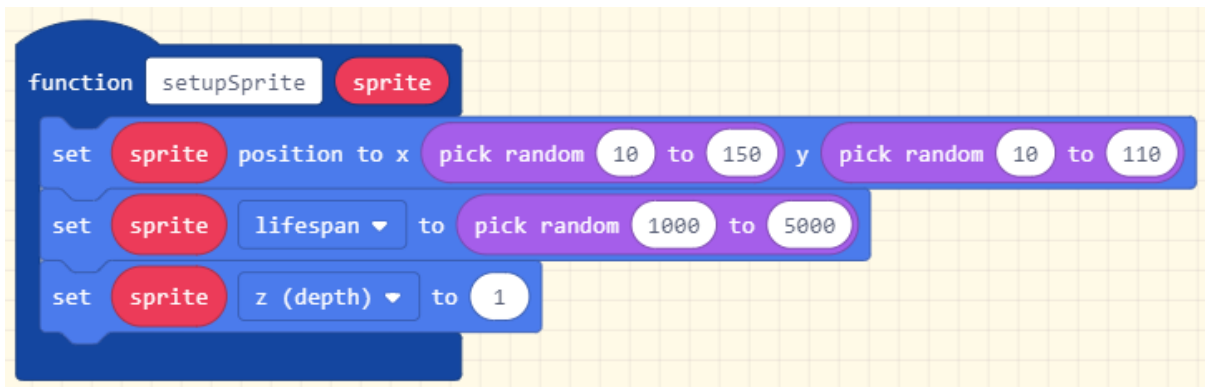
Press the Done button and your function should be created.

Burger Blast - Blocks – Microsoft Arcade

Your function should be created like below and now the code can be added. When you want to make use of the sprite parameter within the function, click on the red sprite in the function and drag it to the block that you want to use it in.



Add the following code to your function. This will place the sprite in a random location on the screen and allow it to stay there for a random amount of time between 1 and 5 seconds (1,000 to 5,000 milliseconds). The depth (Z-order) of the sprite on the screen is set to 1 to keep the sprite “underneath” the crosshairs.



Burger Blast - Blocks – Microsoft Arcade

Step 4 – Creating the burgers and the cherries

Now we have the `setupSprite` function, adding the burgers and cherries to the game is very simple as shown in the code below. Burgers are added one per second and cherries one every two seconds.

```
on game update every 1000 ms
  set burger to sprite of kind Enemy
  call setupSprite burger

on sprite of kind Projectile overlaps otherSprite of kind Enemy
  destroy otherSprite with ashes effect for 500 ms
  change score by 1

on game update every 2000 ms
  set cherry to sprite of kind Food
  call setupSprite cherry

on sprite of kind Projectile overlaps otherSprite of kind Food
  destroy otherSprite with ashes effect for 500 ms
  change life by -1
```

The image displays four blocks of Scratch code on a grid background. The first block is a purple 'on game update every 1000 ms' block containing a red 'set burger to sprite of kind Enemy' block and a blue 'call setupSprite burger' block. The second block is a blue 'on sprite of kind Projectile overlaps otherSprite of kind Enemy' block containing a blue 'destroy otherSprite with ashes effect for 500 ms' block and a red 'change score by 1' block. The third block is a purple 'on game update every 2000 ms' block containing a red 'set cherry to sprite of kind Food' block and a blue 'call setupSprite cherry' block. The fourth block is a blue 'on sprite of kind Projectile overlaps otherSprite of kind Food' block containing a blue 'destroy otherSprite with ashes effect for 500 ms' block and a red 'change life by -1' block.

Experiment

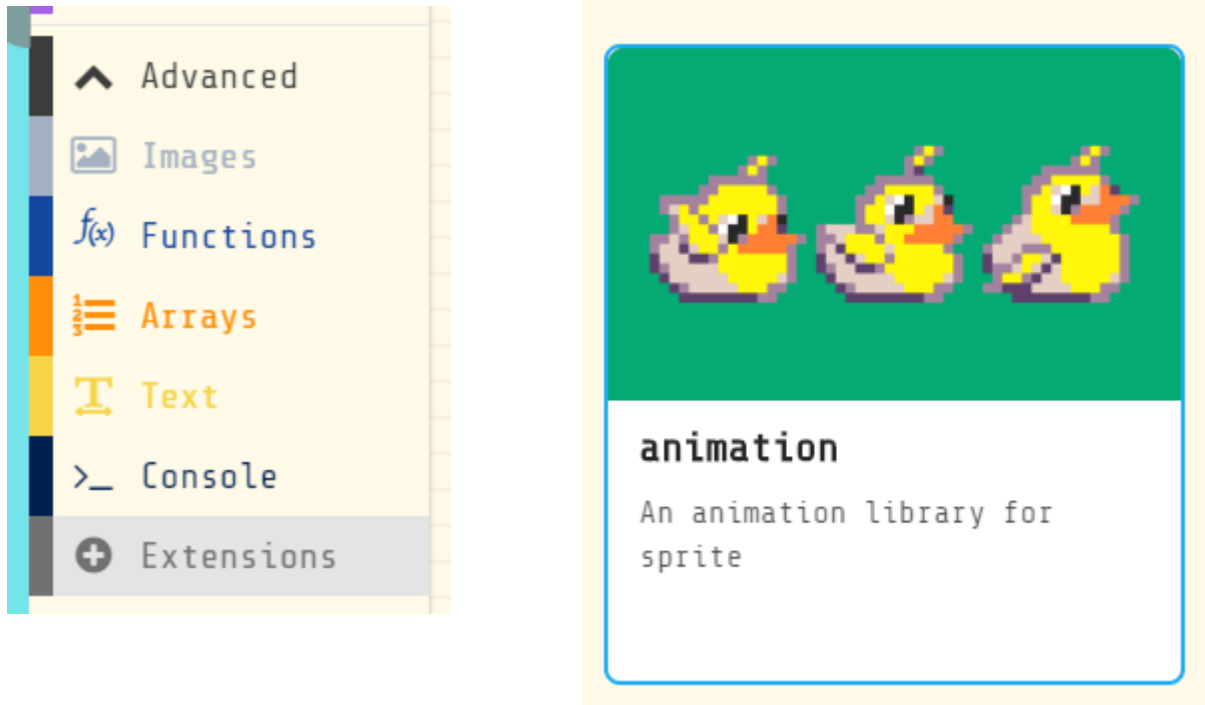
Your game is now complete so try it out.

Experiment by changing the effects and timings.

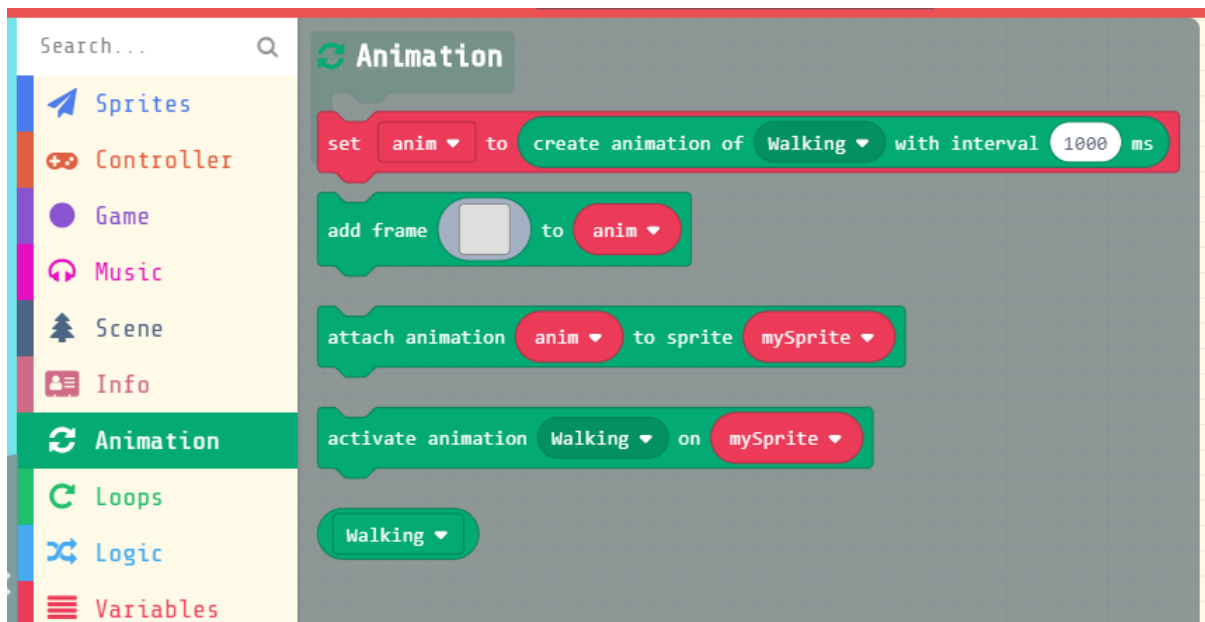
Burger Blast - Blocks – Microsoft Arcade

Step 5 – Animating the electric blast

In order to animate the electric blast, we will add the animation extension. From the toolbox, select the Extensions option and then click on the animations icon.

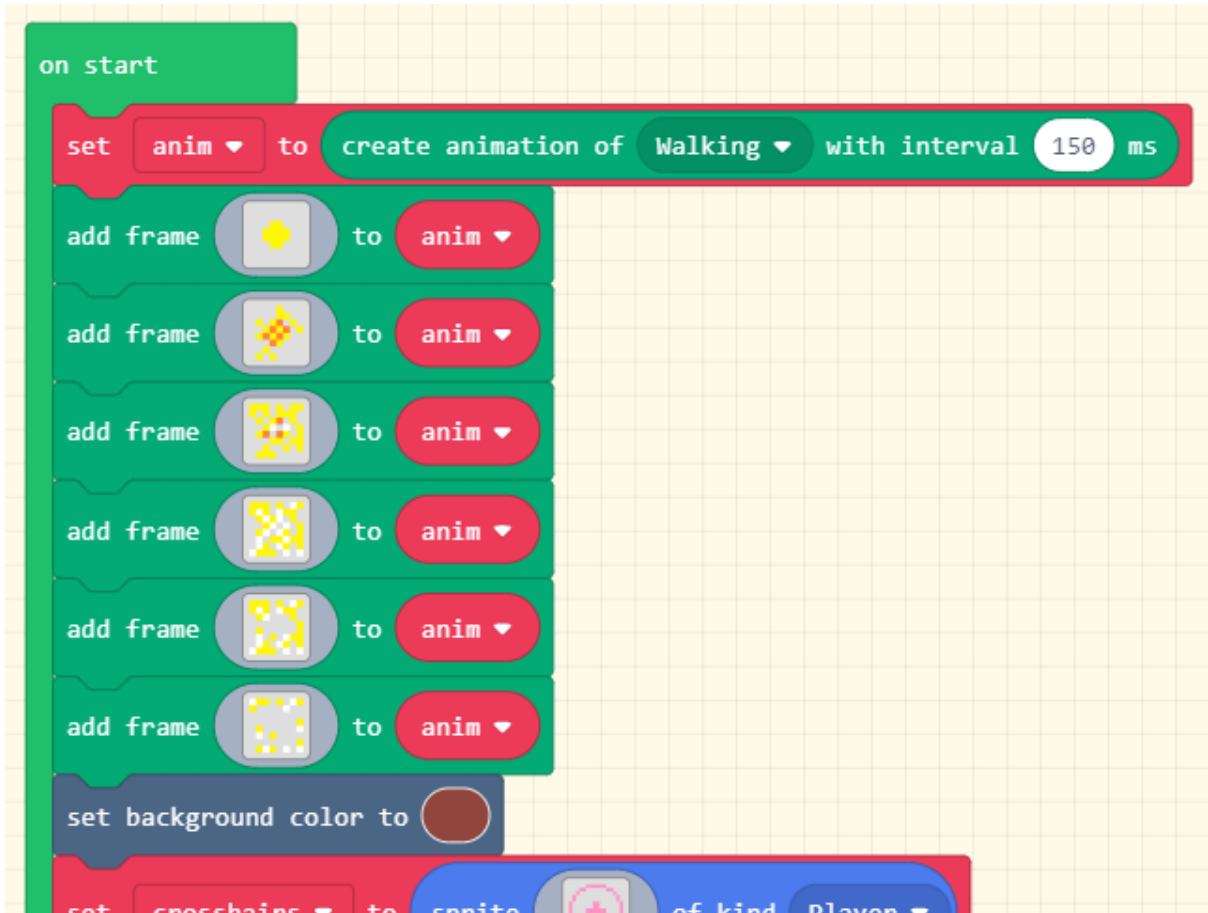


You should now have an animations section in your toolbox like that shown below.

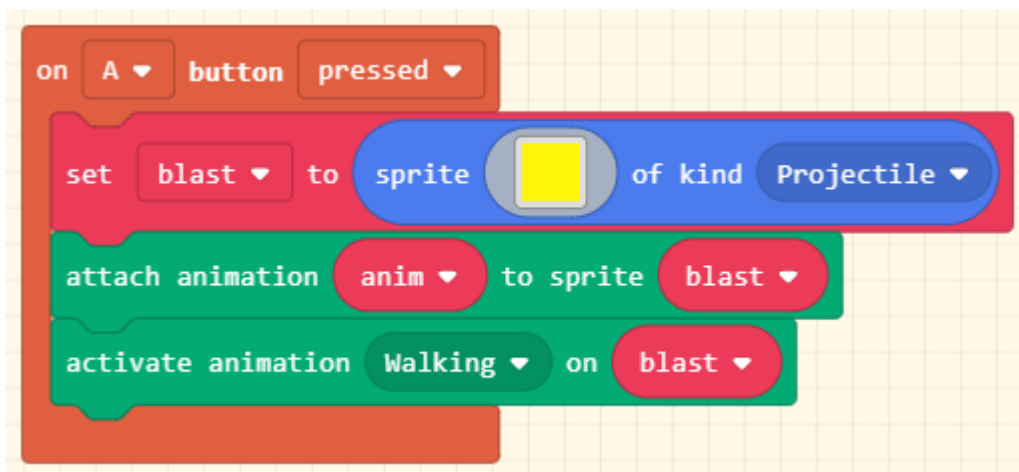


Burger Blast - Blocks – Microsoft Arcade

Add the following code to the “on start” section of your code. This creates an animation object of type “Walking” with 6 frames of animation that play every 150 milliseconds. The simplest way to draw the frames is to draw one, then duplicate the block and use it as the starting point for the next block. I’ve used yellow here but light blue is also effective for an electric blast.



To make the animation play, modify your existing “on A button pressed” block to attach the animation to the blast sprite and activate it.



Try out your finished game!

Burger Blast - Blocks – Microsoft Arcade

Extending the game

There are many ways that this game can be extended. Just a few ideas are given below.

- Rather than just burgers, try randomly selecting the food to blast from a selection that also includes tacos, pizza and donuts.
- Add sound effects to the game when food is added to the screen and when it is blasted.
- Put in a custom background.
- Make the food move in random directions to increase difficulty, with the food getting faster as the game progresses.