Chase - Blocks – Microsoft Arcade

The following instructions will take you through the steps of creating a game where you control a character and try to collect as many cherries as possible before the time runs out whilst also avoiding being caught by the ghost.

Each time a cherry is collected, the time remaining resets back to 3 seconds before counting down.

If the ghost catches the player, then a life is lost.

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

Controls

To control the players character, use the direction keys on the console. Alternatively, it may be easier to use the keyboard mappings for the keys as follows

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

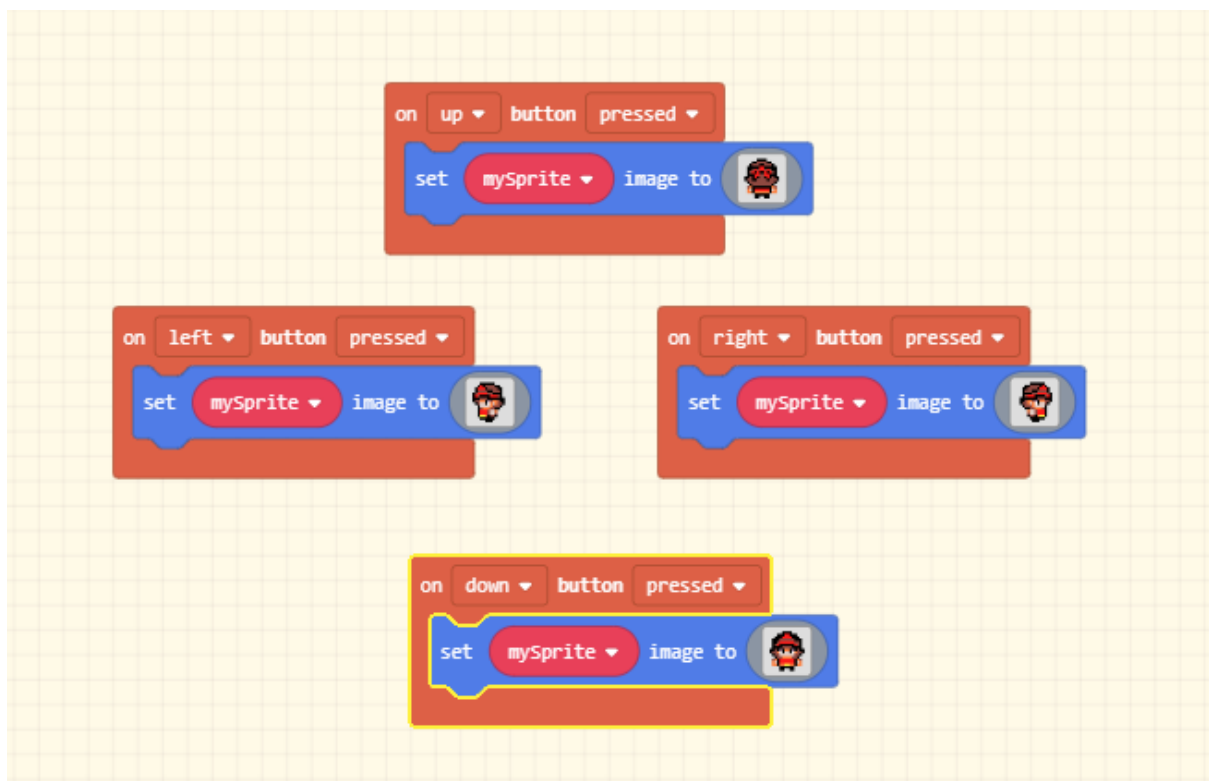# Chase - Blocks – Microsoft Arcade

Step 1 – Create the player sprite and move

The first step is to create a sprite and get it to move around the screen. We will start with a plain colour background (blue in the example below) but the actual colour can be chosen from any of the 16 colours of the palette. For the sprite, you can either draw the sprite yourself or choose a character from the gallery.
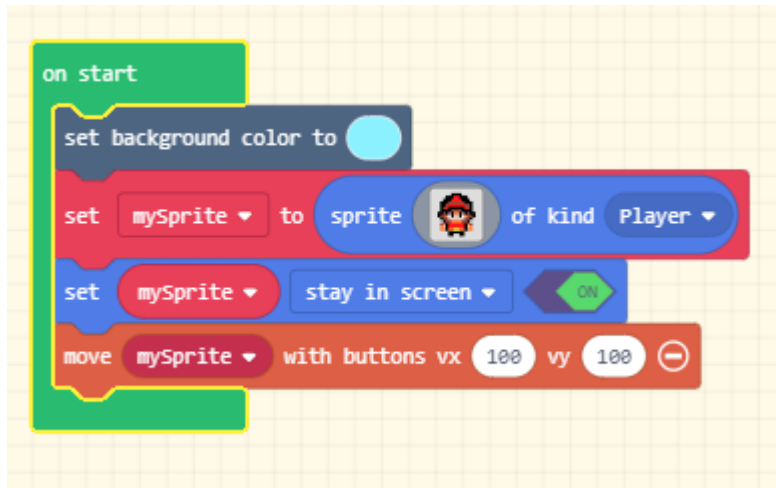
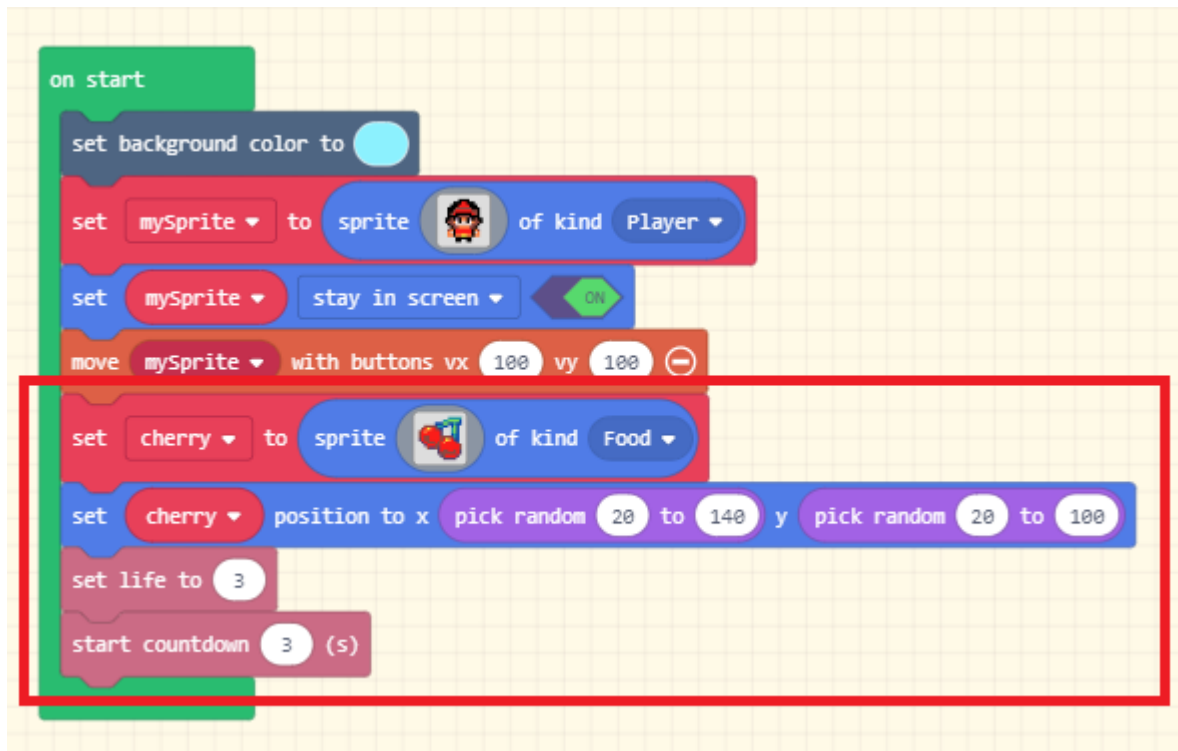## Step 2 – Add in different sprites for moving

Whilst you can move your sprite around the screen, the sprite does not respond dynamically to the controls. Add the code below to change the picture of the sprite depending on which button is pressed to move it. As before, either draw your own sprites or select them from the gallery.

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Step 3 – Add the Cherry and countdown

Now its time to add some challenge to the game. Create a new sprite of type Food for your character to catch and eat. The food in the example below is a cherry but you draw anything you like or pick something from the gallery. We also set the countdown timer and the number of lives the player has. Add the code highlighted by the red box to the end of the code you created in step 1.

When the player catches the food and eats it, we want to create a nice special effect, score some points and then randomly place the Cheery somewhere else. Add the following code to your game.

Experiment
Try the different effects that are available when the player catches the food.

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Step 4 – Add the ghost

Chasing and catching food is easy as it doesn't run away. To add a challenge, now we will add a ghost (a sprite of type Enemy) that will lose the player a life if they touch. Add the code highlighted by the red box below to the code you wrote in steps 1 and 3.

Add the code below to your game which loses the players life if the ghost touches it. Additionally, it also puts the ghost in another random position on the screen.
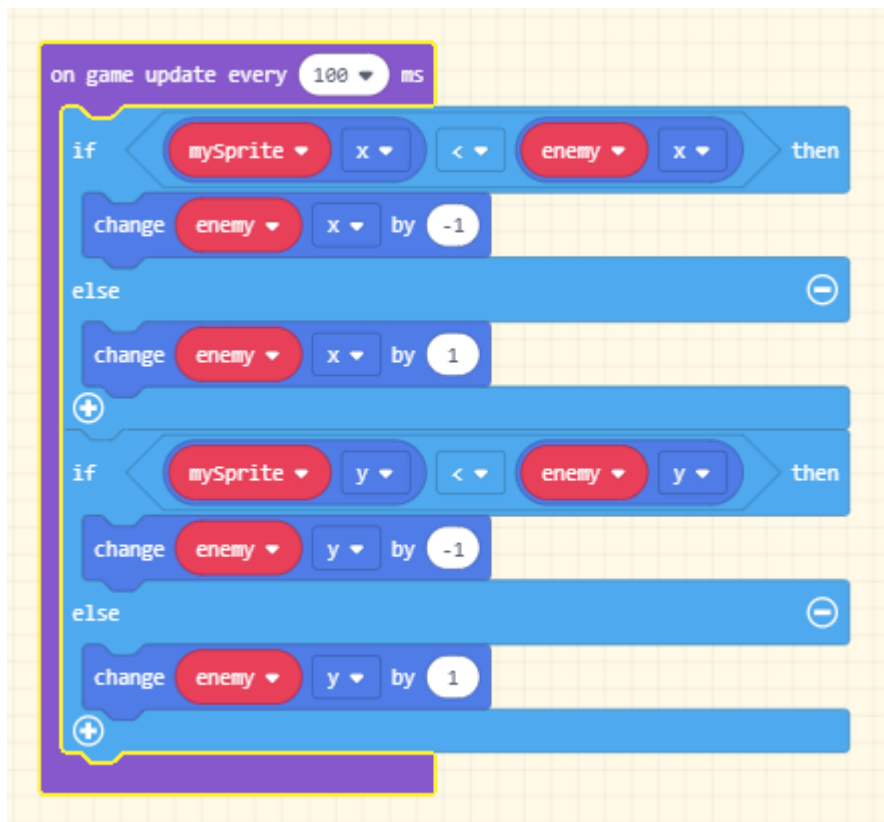

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Experiment
Try the different effects that are available when the ghost catches the player.

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Step 5 – Make the ghost chase the player

Ghosts that stay still aren't much fun and are easy to avoid. Ghosts that chase you are much trickier. Add the code below to your game to make the ghost chase the players sprite.

Experiment

The ghost can easily be made to go faster or slower and there are two ways to do this.
1. Change the number used in the "on game update every 100 ms" block. This number controls how often the ghost movement code is executed. Try both a larger number and a smaller number and see what difference it makes.
2. Change the number that is used to change the enemy x or y value. This number controls how big a move the ghost makes each time. Try larger numbers and see what difference it makes to the smoothness of the ghosts movement.
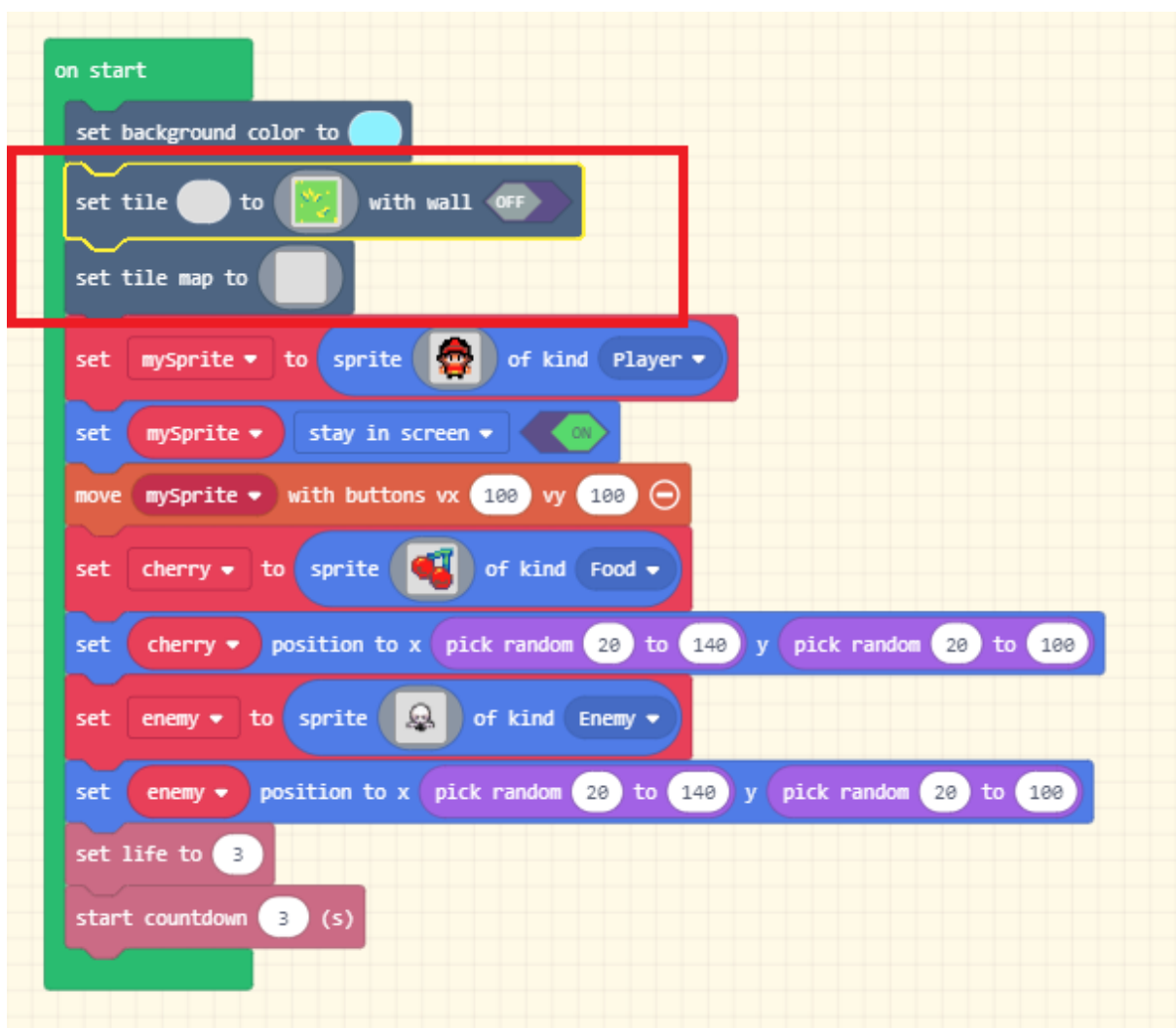

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Step 5 – More colourful backgrounds

A plain colours background is not very exciting, but with a little bit of practice it is easy to make a patterned background using the tile and tile map blocks.

The tile block is used to assign a 16 x 16 tile to one of the available 16 colours. Select a grass tile from the gallery and assign it to the first colour.

The tile map is a 10 x 8 grid that is used to select a set of 16 x 16 tiles to display. Each 16 x 16 tile is represented by one of the 16 available colours. By default, the tile map contains just the default colour.

Experiment

Choose some different tiles for the first 4 colours (you will need 4 tile blocks for this). Then use those 4 colours in the tile map and see what happens.
What types of background can you make?

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Extending the game

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

- Award the player an extra life for each 10 cherries that are caught.
- Make the ghost get faster as the players score increases.
- Add in another ghost each time the player gets 10 cherries.
- Add in extra sound effects to the game. Maybe play a melody on the home screen or something when the players game ends