

# Conditionals Mini Lesson

## Summary

In this lesson, students will learn how to create conditional statements to help different paths or events trigger in their video games.

## Background

Conditional statements are the main form of logic in coding. Taking the form of an “If, then, else” statement or an “elseif” statement, this is the core way to implement decision making.

## Materials

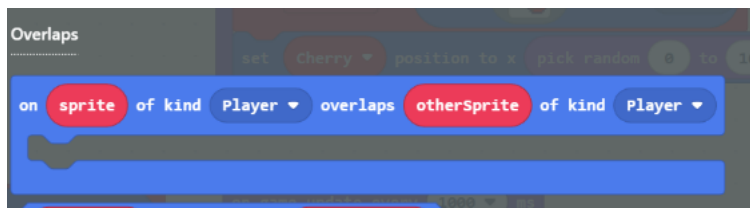
Chromebooks

## Lesson

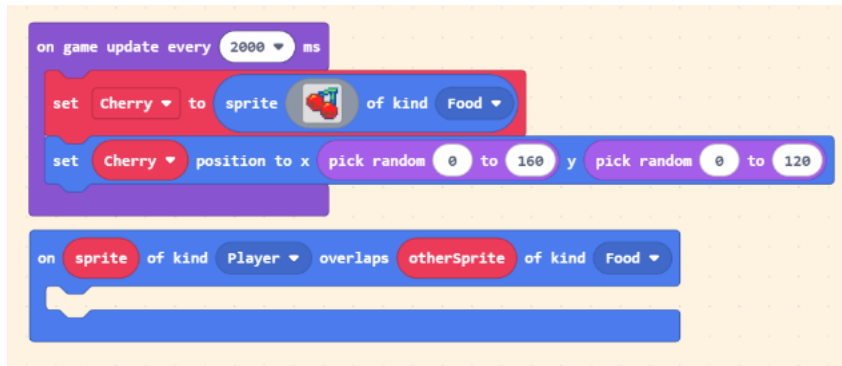
Today we will learn how to add conditions to collect points, have health taken away, and create a win condition.

To make us able to collect points and get hurt by enemies, we are going to code a specific type of conditional in MCA called an overlap. Think of this block as telling us “If we overlap another sprite, THEN something will happen.”

The overlap block is found in the sprites menu, it’s the first C shaped block, quite far down the menu.

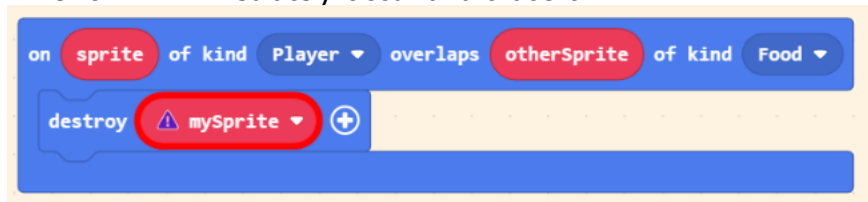


Put it in an empty spot in your workspace. Read the block out loud to students. The first thing we need to do is to change the second “Player” to be a different kind. We will start with food.

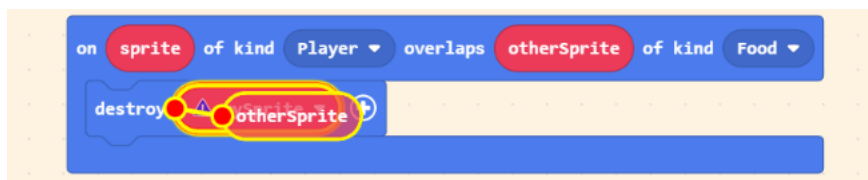


Next, walk through the steps of what we want to have happen. First the thing we touch should disappear (so it looks like we've collected it), then our points should go up.

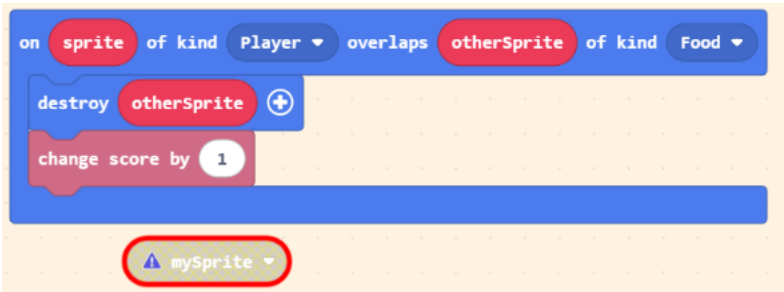
In the sprites menu, we will find a block that says "Destroy mySprite." Place it inside the overlap.



The next part is an MCA trick, so call all students attention to the screen so they can see what you do. You need to grab the bubble that says "otherSprite" and drag it to replace the errored "mySprite" in the destroy block. This will prevent a bug where the last spawned food will disappear and not the one you are overlapping.



Next, we need to add in a block to tell our game what to do when we collect our item. From the pink Info menu, grab the block "Change score by" and place it in your overlap event. Students may adjust their number to whatever they feel like.

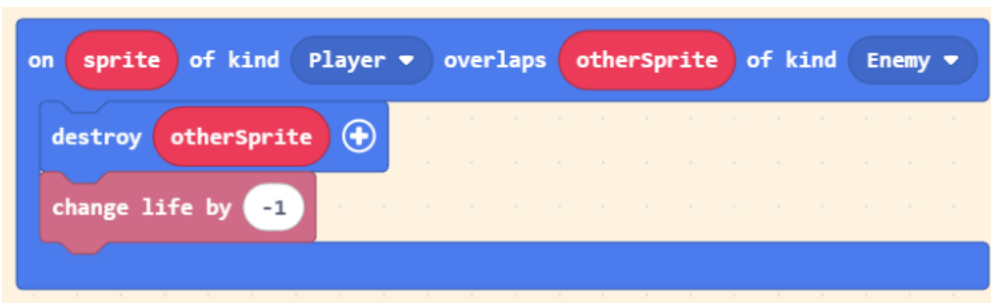


Give several minutes to allow for debugging time.

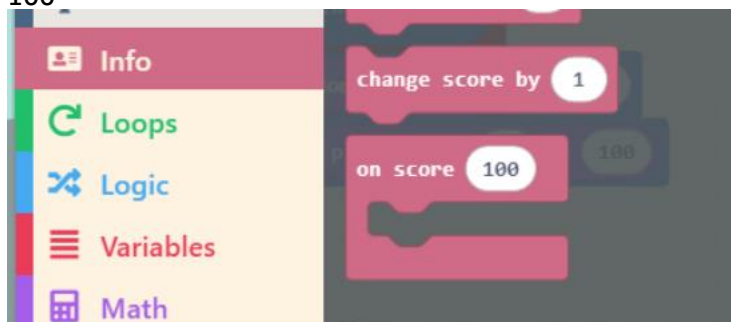
Once students are ready to move on, we can do the same trick to duplicate this block and make it work for the enemies. Direct students to right click on their overlap block and select duplicate.

The block will gray out, showing that it is not active, and that's ok. It will fix itself once we change it to enemy.

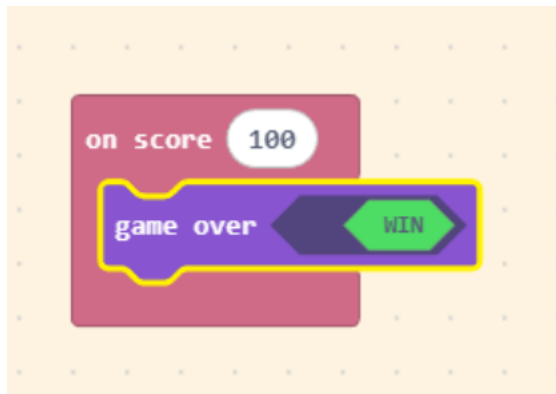
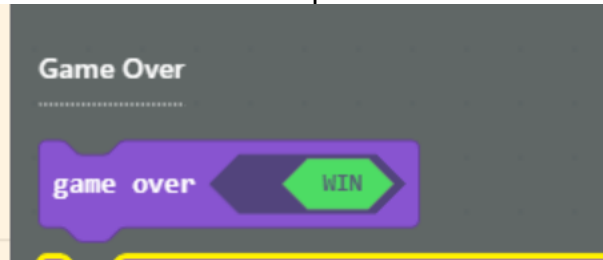
On our new, grayed out overlap block, change the kind "food" to kind "enemy." Then, remove the pink change score block, since we don't want to get a point increase for hitting an enemy! From the pink info menu, grab the "Change lives by" block and put it into this overlap section.



To create the win condition, from the Pink Info menu, find the event block that says "On Score 100"



Place it in an empty section of your workspace. Then, from the purple Game menu find the "Game over <WIN> block and place it inside the On Score event block.



Students may adjust their scores to reflect how difficult they'd like their game to be.