

# HALLOWEEN SCRATCH LESSON



STEP 3: HANDLE THOSE CLONES

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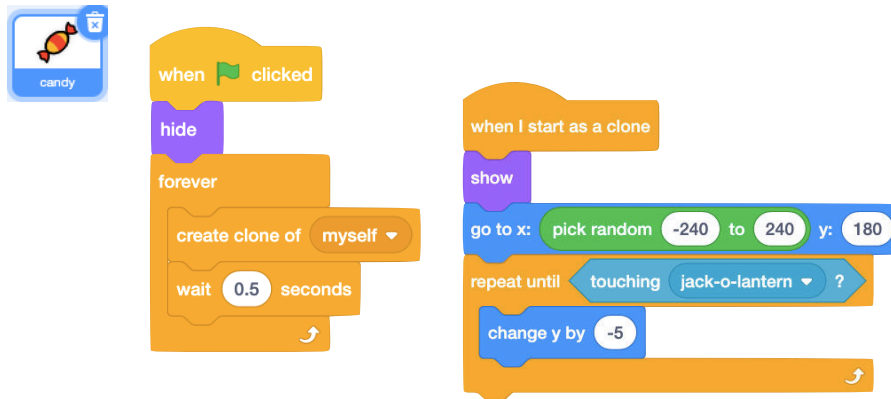
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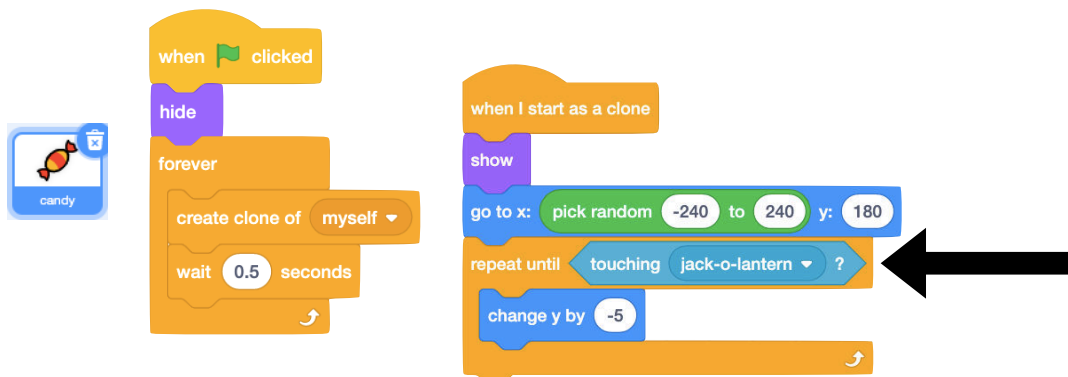
Thank you!



Now that our clones are dropping as expected, we need to handle their landing...



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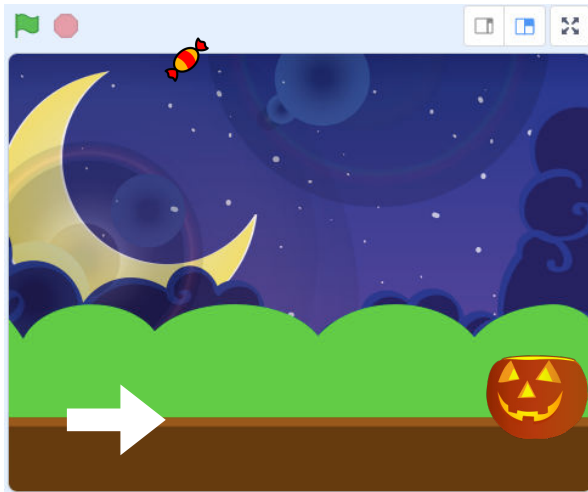
Right now we're stopping the candy from dropping when it lands on the pumpkin,



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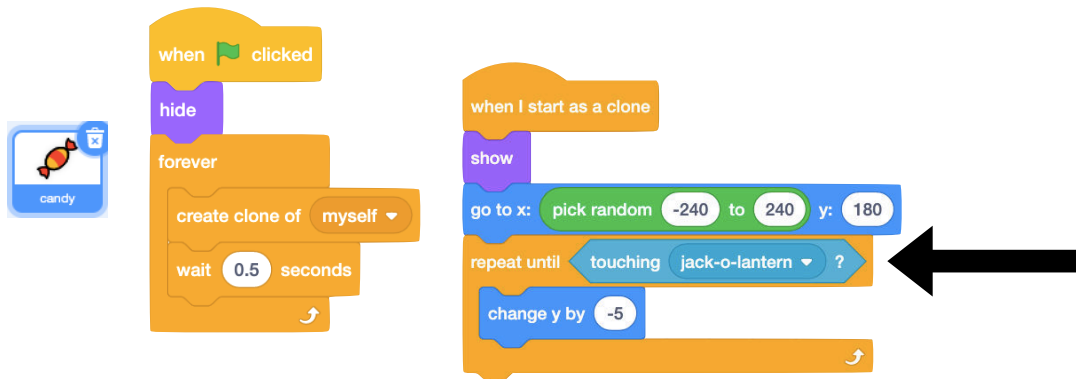
but we also need to stop it from dropping when it lands on the ground...



Remember, at this point, we're going to end the game!



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Since we're going to stop dropping the candy if **either** condition is satisfied, we're going to need to place this condition inside an 'or' block, and add another condition to the mix...

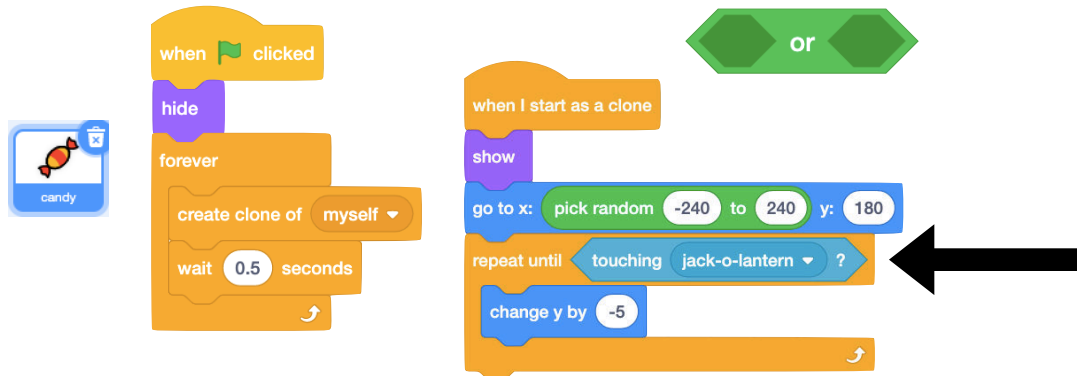


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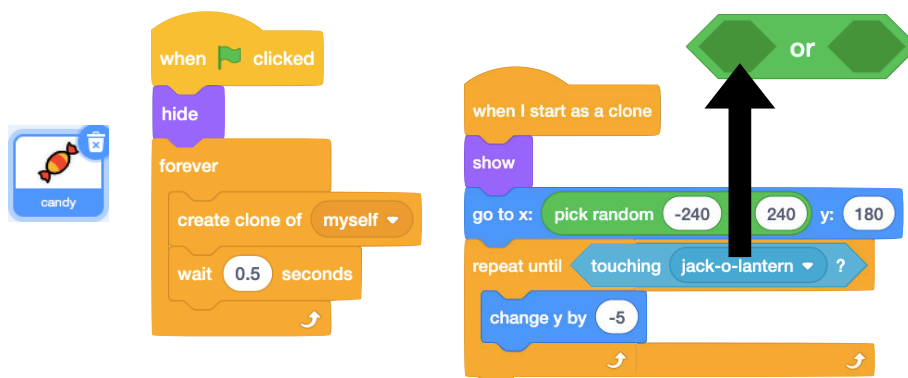
So let's get an 'or' block from 'Operators'...



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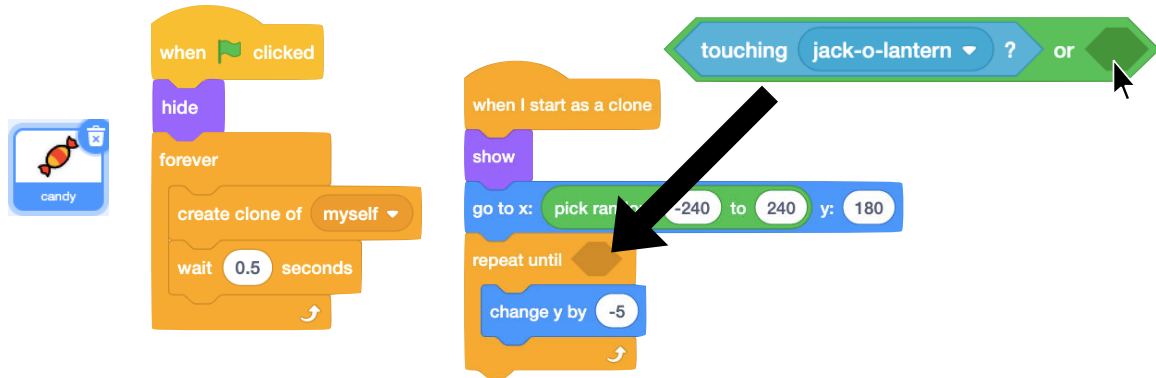
And drag the 'touching' block into the spot on the left...



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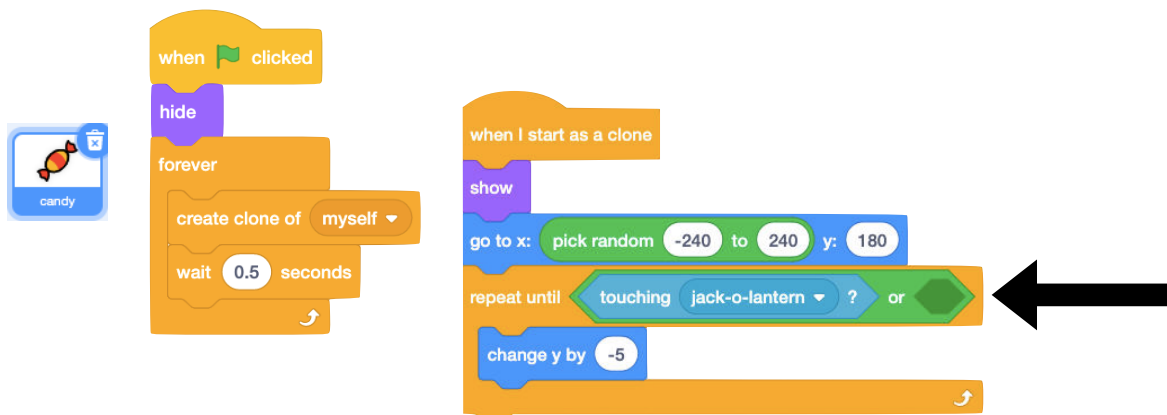
**Place your cursor on the green part of the 'or' block (we always drag using the bottom block),  
and drag this block back inside the 'repeat'...**



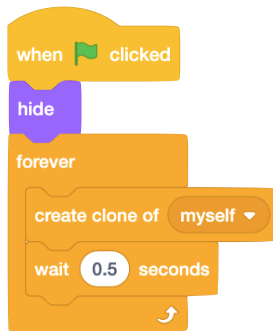
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**Here is what you should have...**



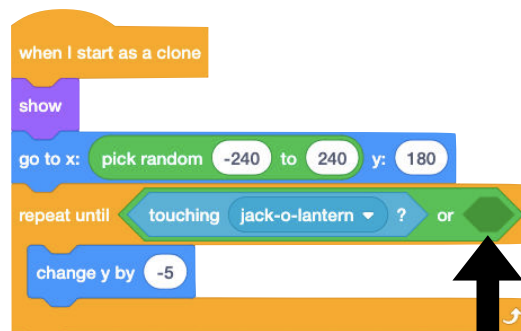
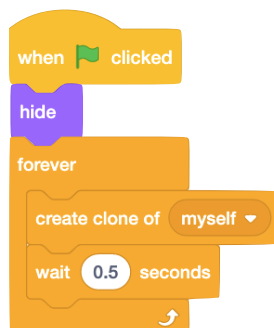
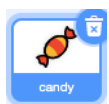
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Now again, we need to check in here, whether the candy is touching the ground. We'll do that by checking whether it's touching the color of the ground!



So, let's get a 'touching color' block from 'Sensing'...





And place it on the other side of the 'or' block...



```
when green flag clicked
hide
forever loop
  create clone of myself
  wait 0.5 seconds
```

```
when I start as a clone
show
go to x: pick random -240 to 240 y: 180
repeat until touching jack-o-lantern ? or
  change y by -5
```



```
when green flag clicked
hide
forever loop
  create clone of myself
  wait 0.5 seconds
```

```
when I start as a clone
show
go to x: pick random -240 to 240 y: 180
repeat until touching jack-o-lantern ? or touching color ?
  change y by -5
```





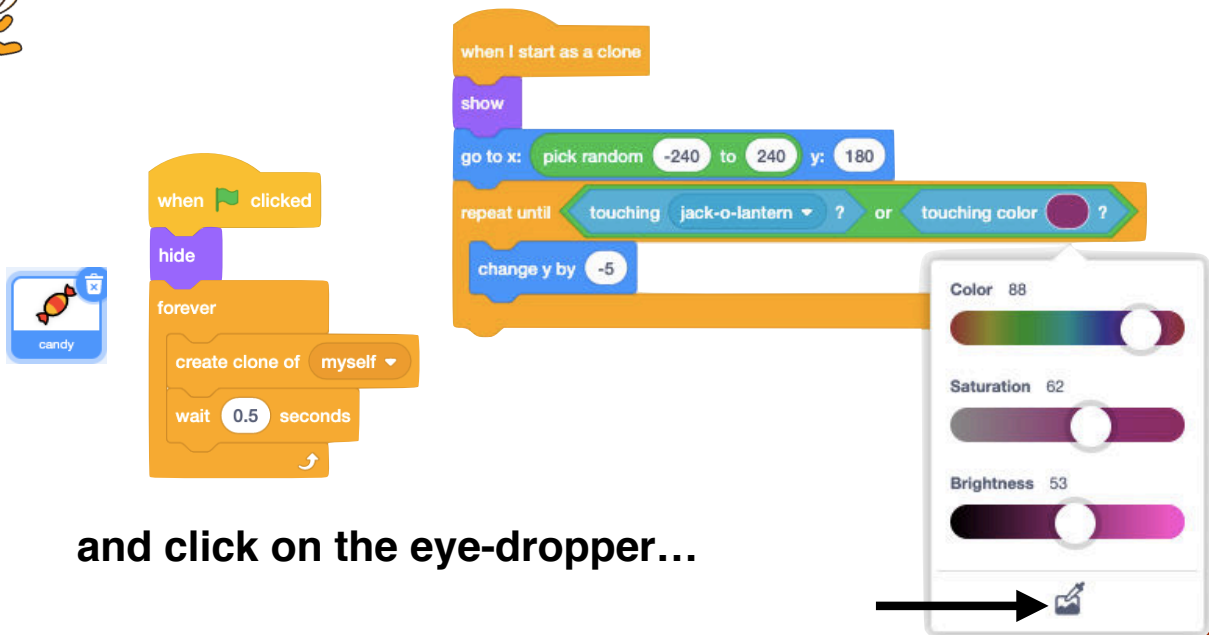
Click on the color inside the 'touching color' block,



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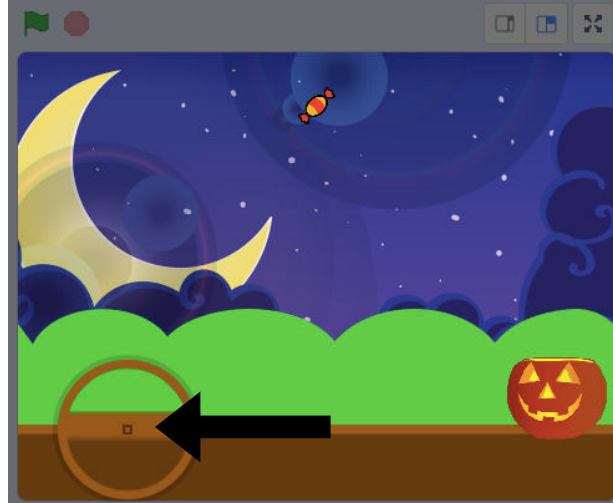
and click on the eye-dropper...



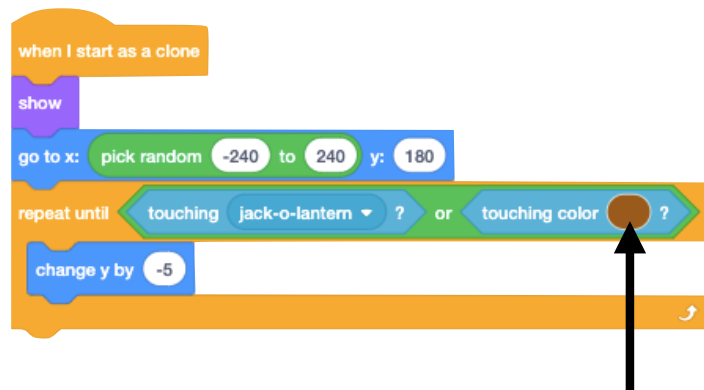
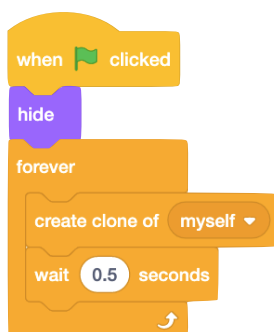
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**Drag your cursor over to the light brown of the ground...  
and click!**



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**The color inside the 'touching color' block  
should now match the light brown of the ground!**

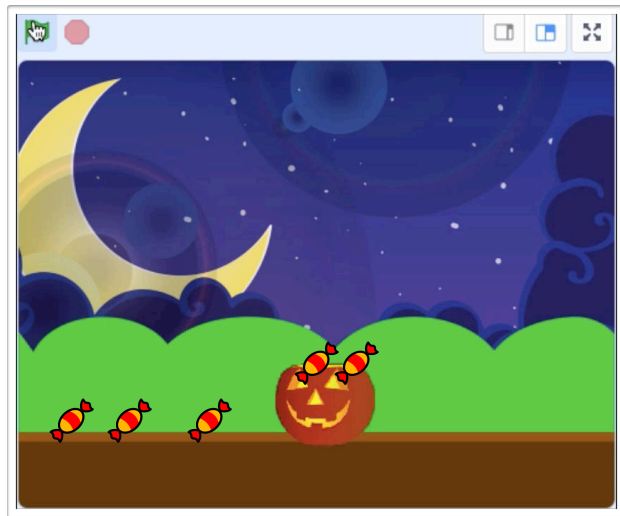
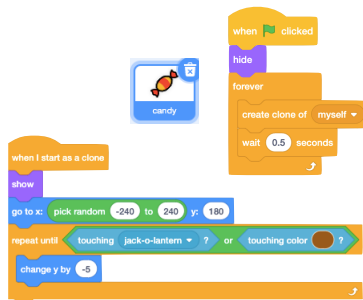


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## Test it!

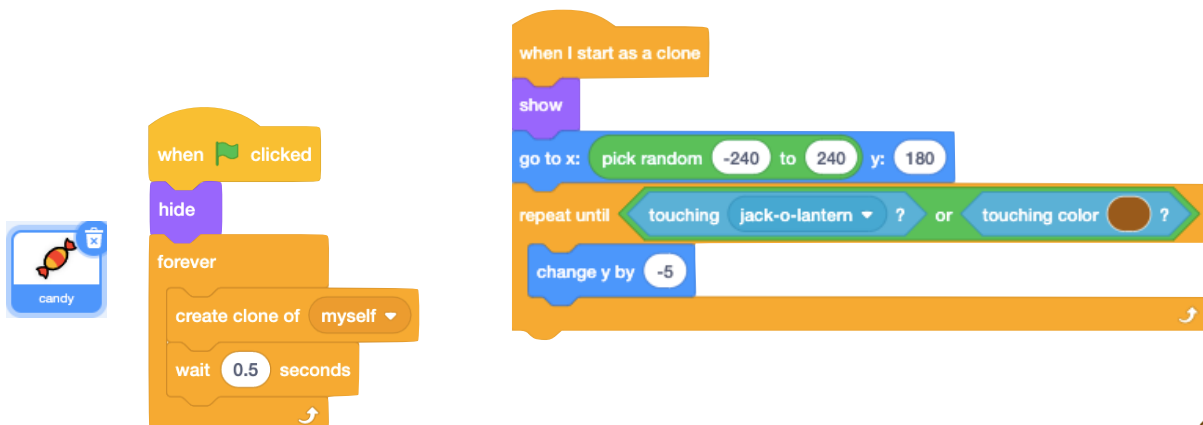
The candies should now stop dropping when they reach the pumpkin **OR** when they reach the ground!



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Our candy clones are still not behaving as we'd like them to, but at least they are stopping their descent when we expect them to!

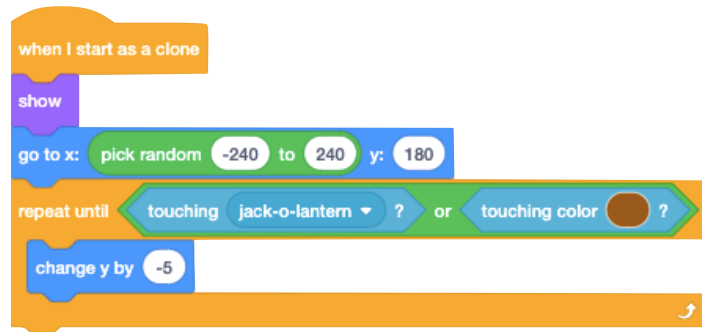
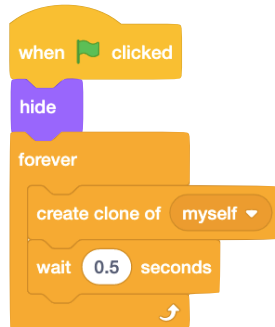


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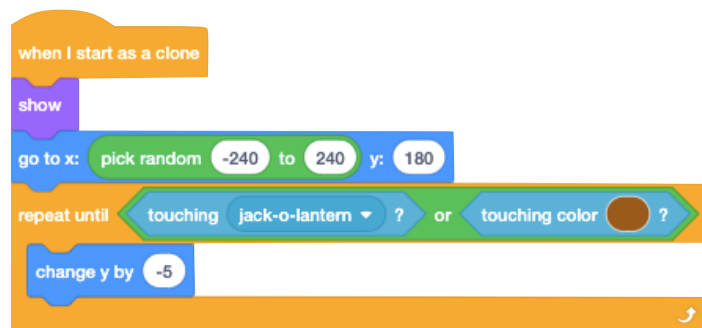
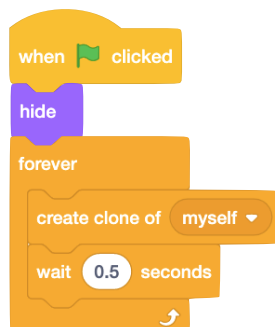
Now, what should happen when our candy clones stop their descent?



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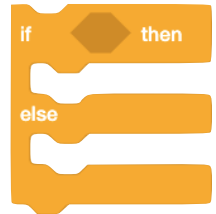
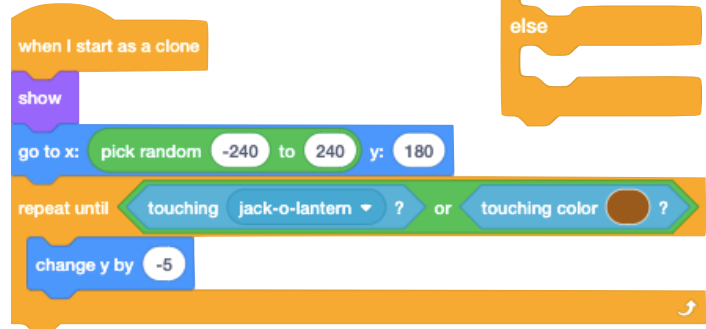
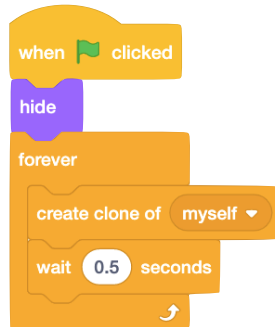
Well, that depends! We have one set of actions for when a candy lands on the pumpkin, and a different set of actions for when a candy lands on the ground!



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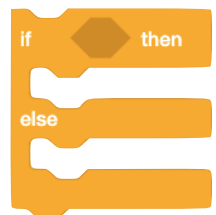
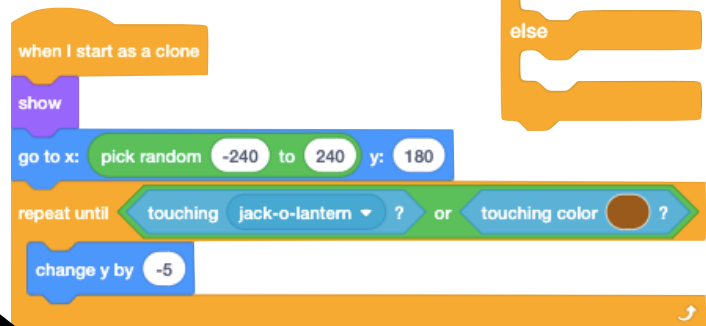
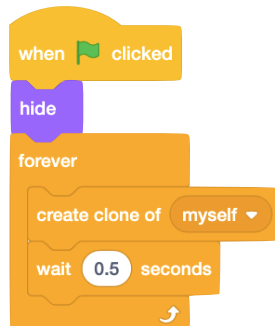
So, let's get an 'if then else' block from 'Control' so we can handle both scenarios...



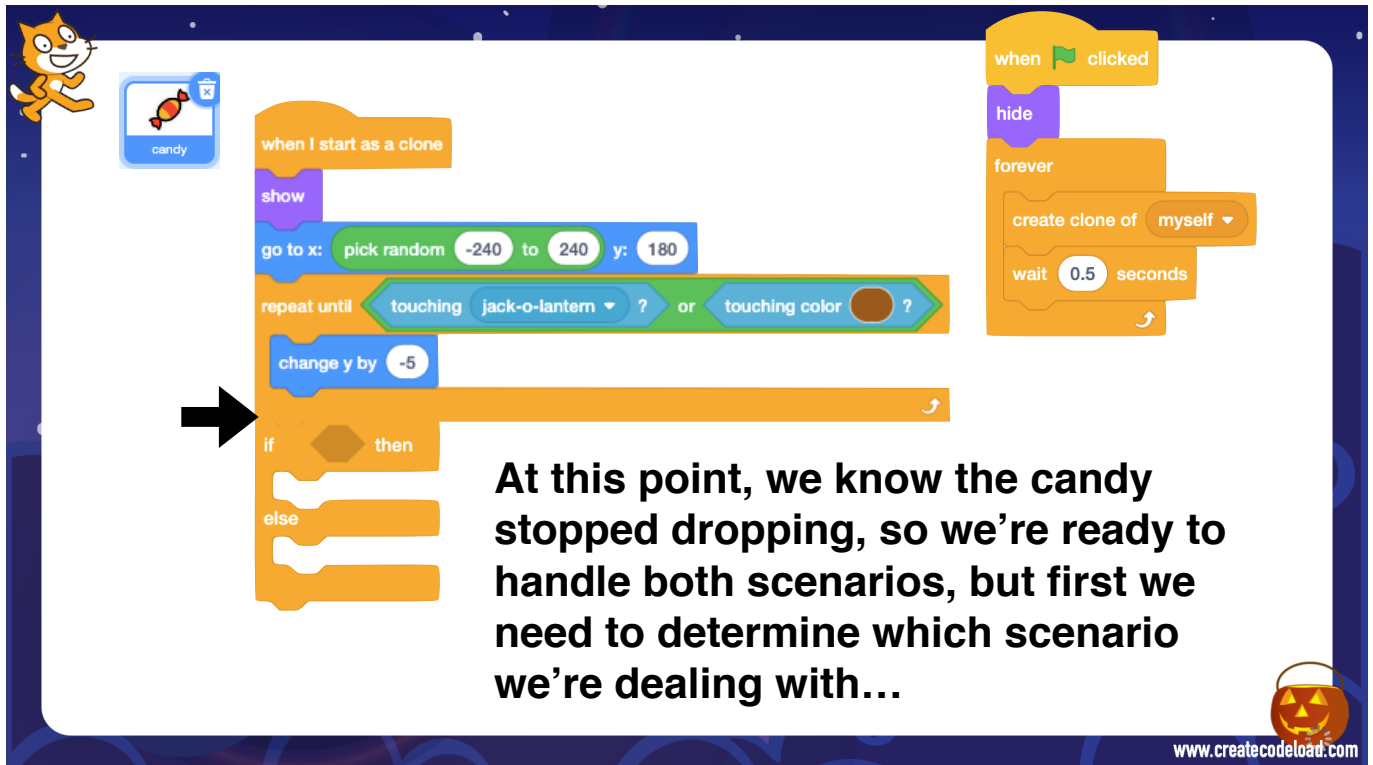
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And let's place our 'if then else' block right after we 'get out' of the 'repeat until',



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when I start as a clone

show

go to x: pick random -240 to 240 y: 180

repeat until touching jack-o-lantern ? or touching color brown ?

change y by -5

if then else

when clicked

hide

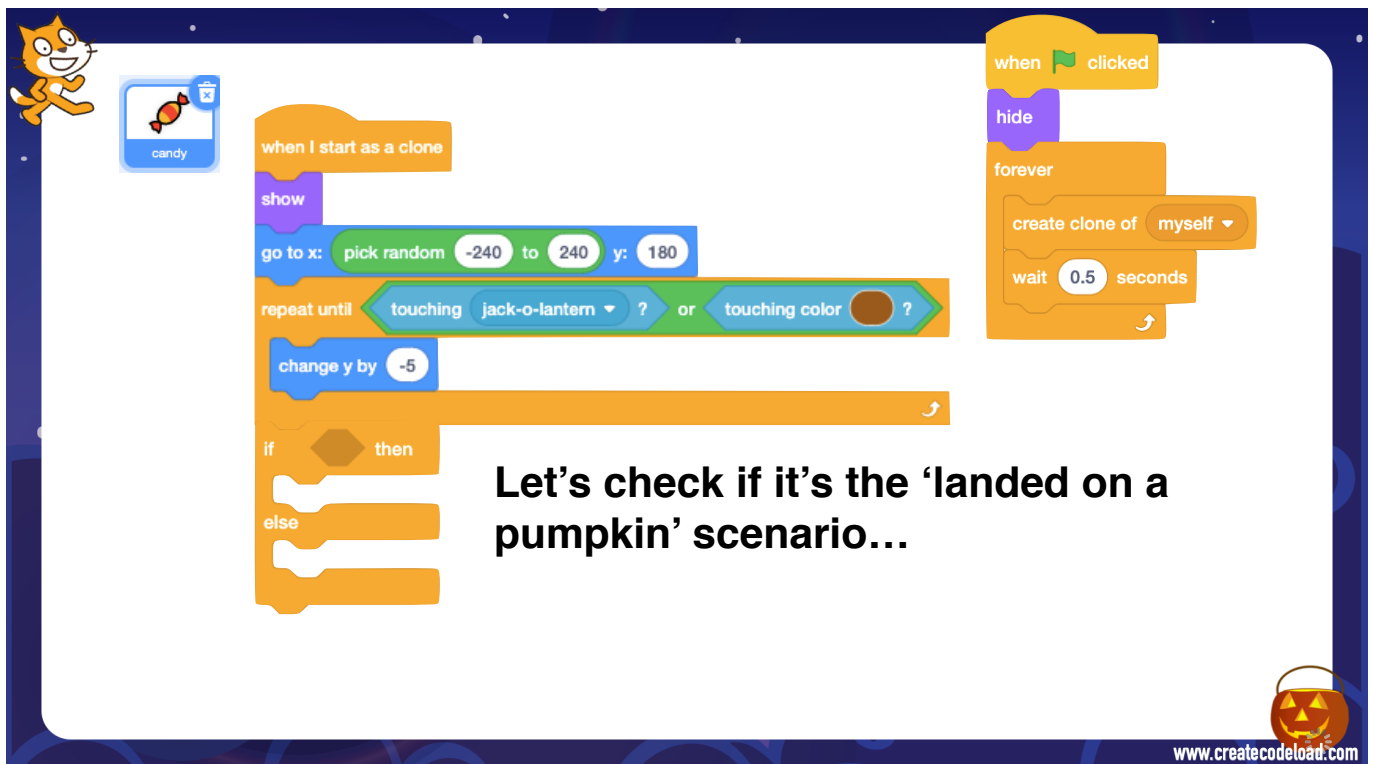
forever

create clone of myself

wait 0.5 seconds

At this point, we know the candy stopped dropping, so we're ready to handle both scenarios, but first we need to determine which scenario we're dealing with...

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when I start as a clone

show

go to x: pick random -240 to 240 y: 180

repeat until touching jack-o-lantern ? or touching color brown ?

change y by -5

if touching jack-o-lantern ? then else

when clicked

hide

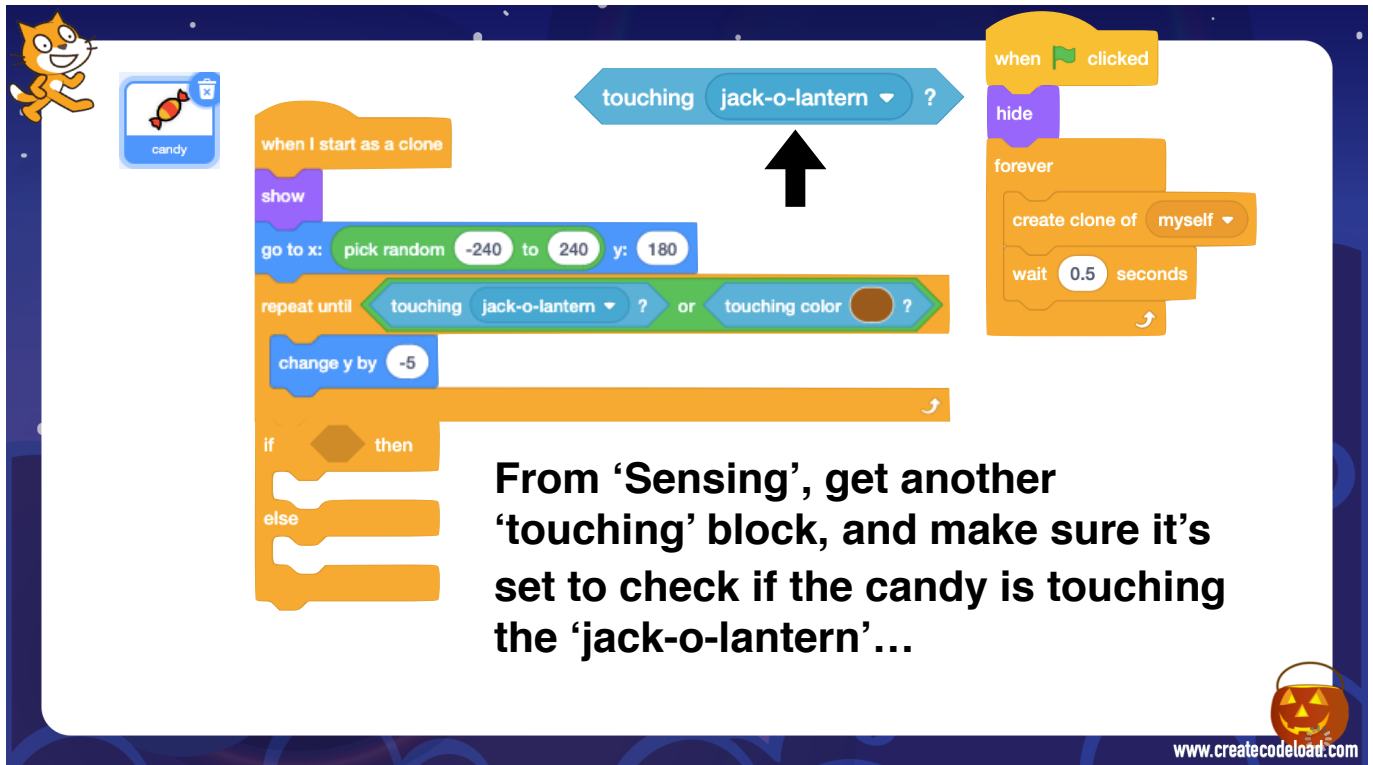
forever

create clone of myself

wait 0.5 seconds

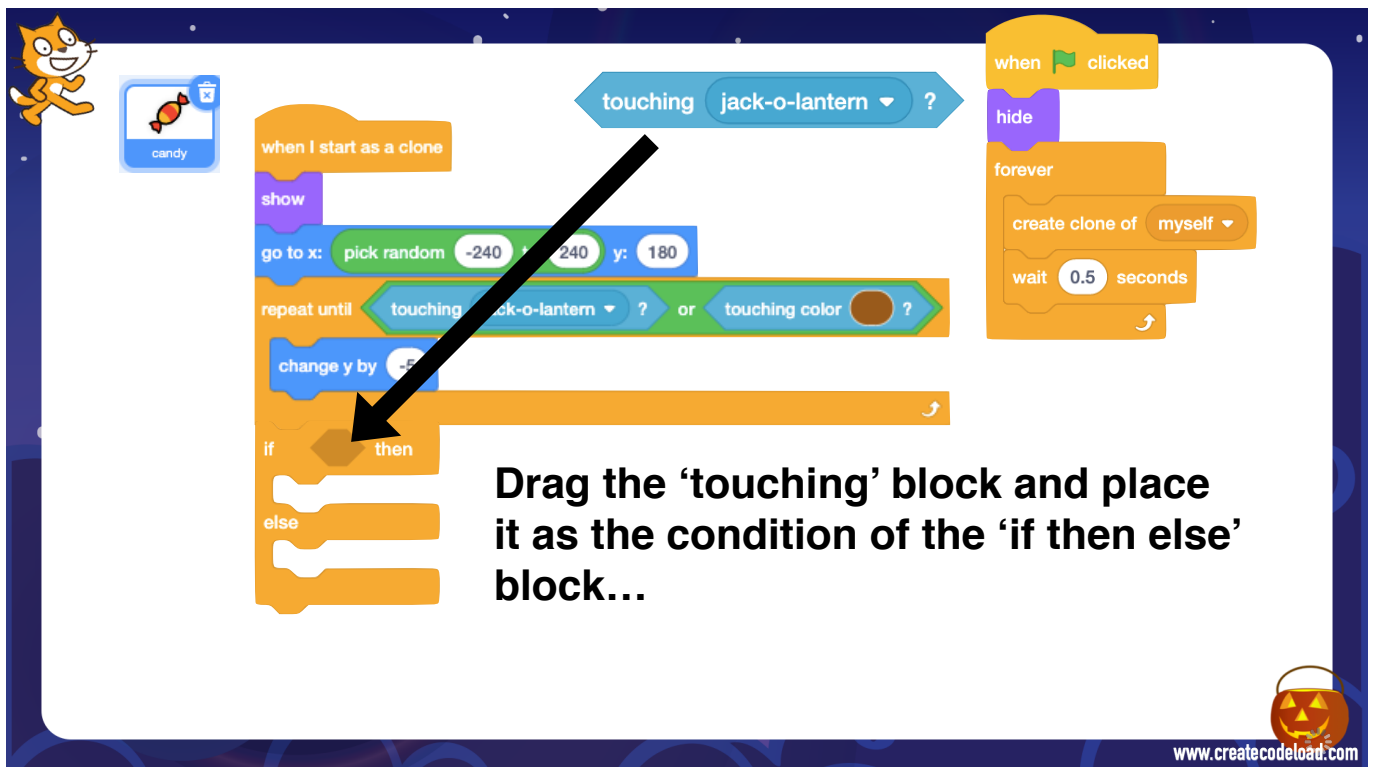
Let's check if it's the 'landed on a pumpkin' scenario...

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From 'Sensing', get another 'touching' block, and make sure it's set to check if the candy is touching the 'jack-o-lantern'...

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Drag the 'touching' block and place it as the condition of the 'if then else' block...

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when I start as a clone

show

go to x: pick random -240 to 240 y: 180

repeat until touching jack-o-lantern ? or touching color brown ?

change y by -5

if touching jack-o-lantern ? then

else

when clicked

hide

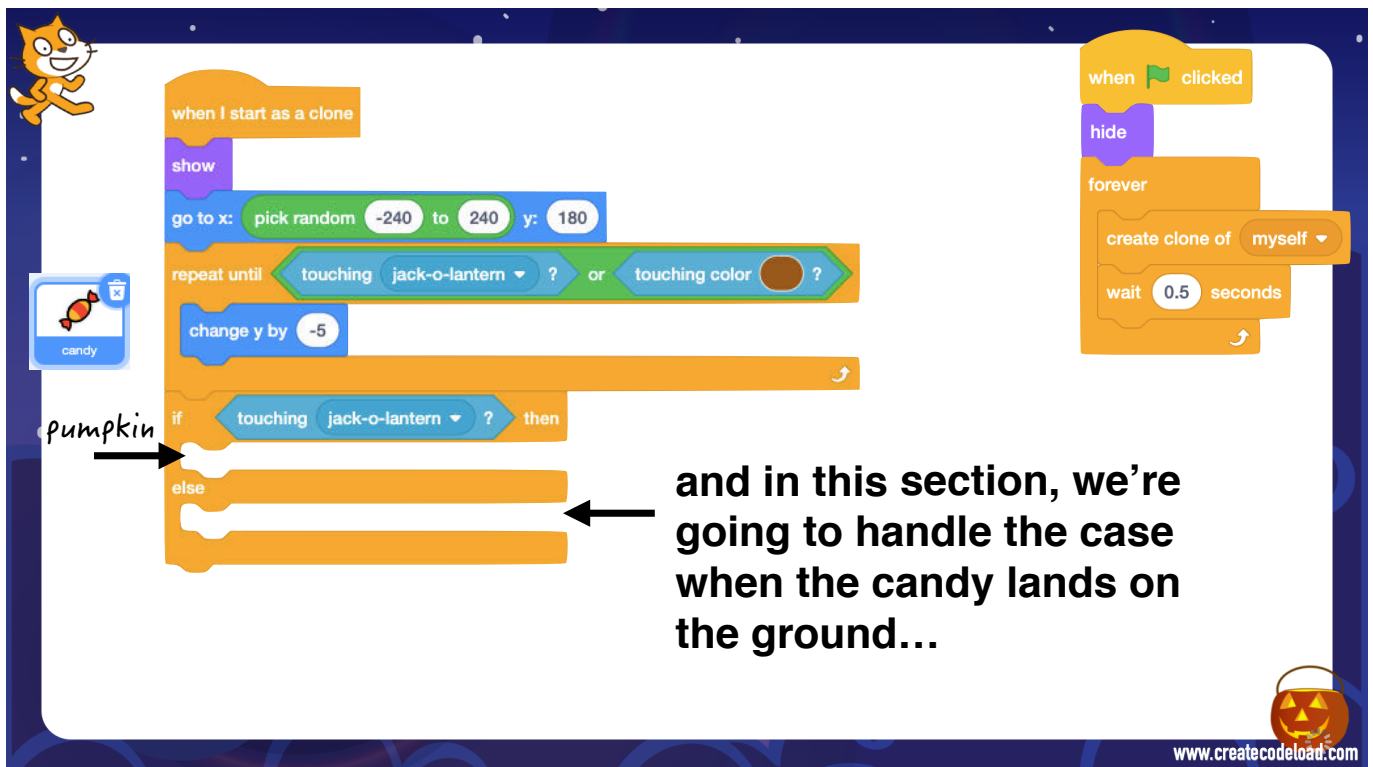
forever

create clone of myself

wait 0.5 seconds

Now in this section of our 'if then else' block, we're going to handle the case when the candy lands on the pumpkin...

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when I start as a clone

show

go to x: pick random -240 to 240 y: 180

repeat until touching jack-o-lantern ? or touching color brown ?

change y by -5

if touching jack-o-lantern ? then

else

when clicked

hide

forever

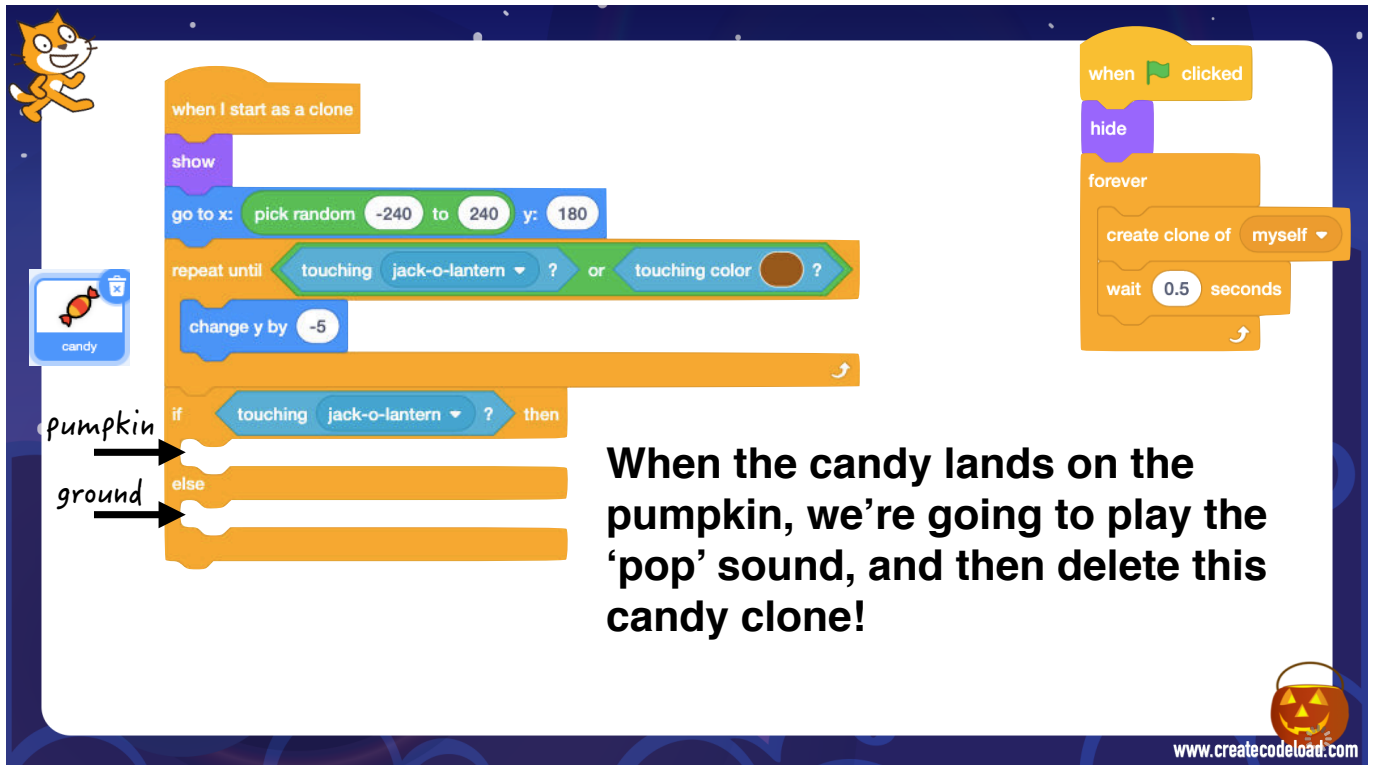
create clone of myself

wait 0.5 seconds

pumpkin

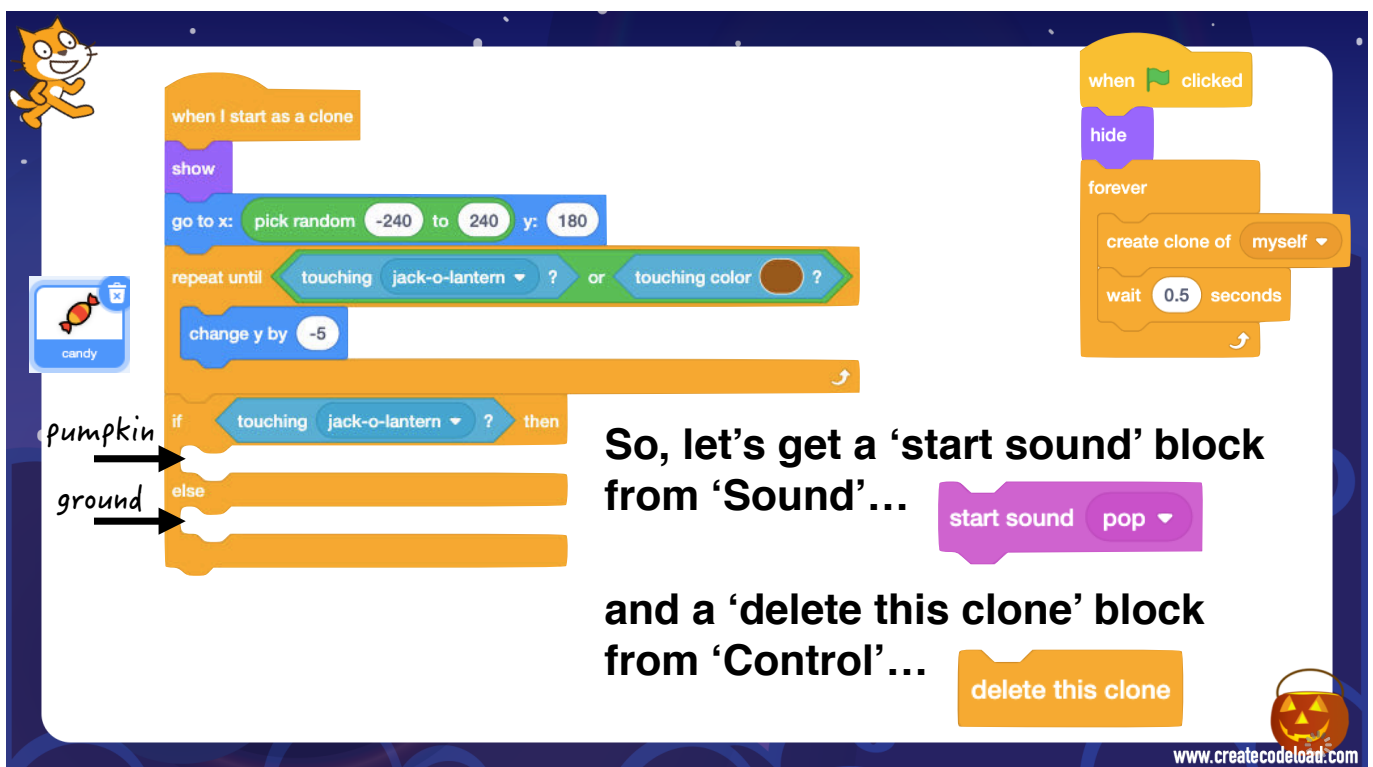
and in this section, we're going to handle the case when the candy lands on the ground...

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When the candy lands on the pumpkin, we're going to play the 'pop' sound, and then delete this candy clone!

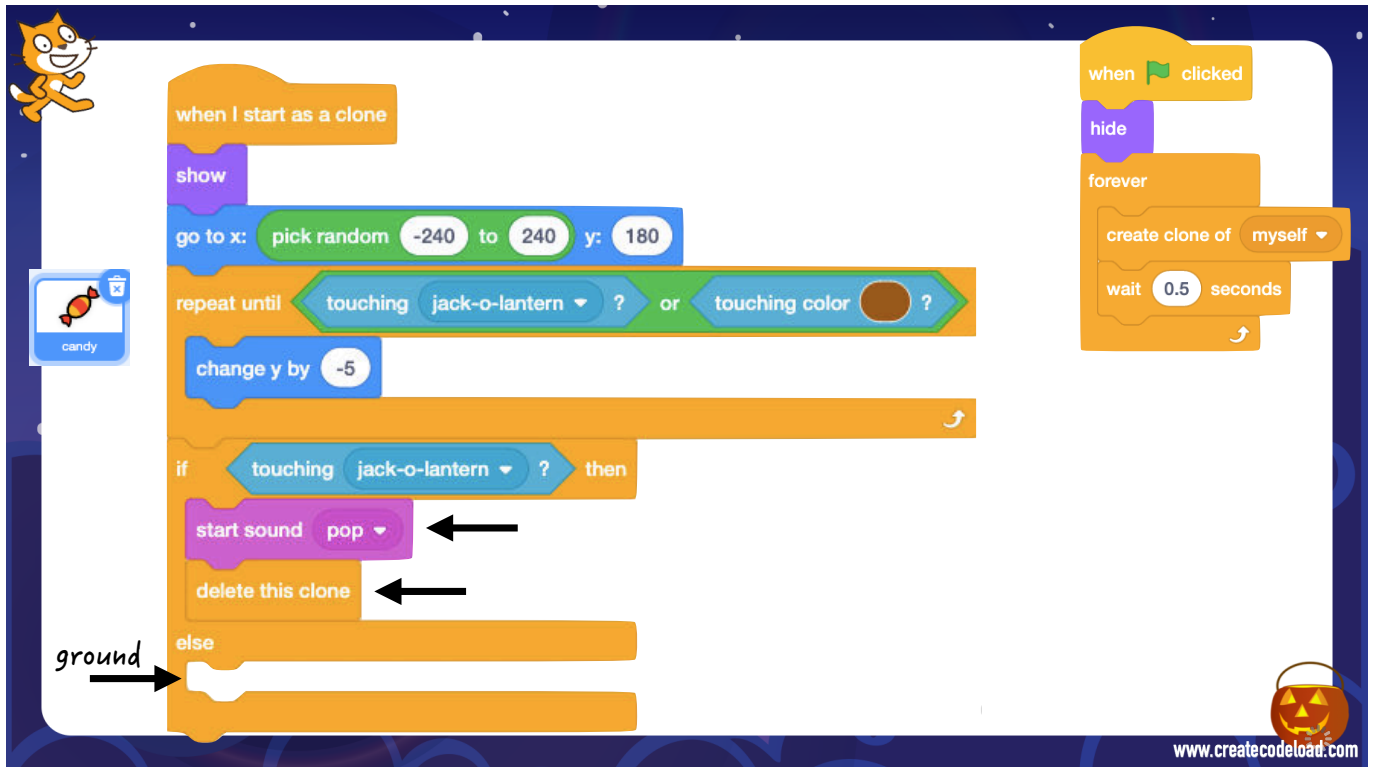
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So, let's get a 'start sound' block from 'Sound'...

and a 'delete this clone' block from 'Control'...

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when I start as a clone

show

go to x: pick random -240 to 240 y: 180

repeat until touching jack-o-lantern ? or touching color brown ?

change y by -5

if touching jack-o-lantern ? then

start sound pop

delete this clone

else

ground

when clicked

hide

forever

create clone of myself

wait 0.5 seconds

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when I start as a clone

show

go to x: pick random -240 to 240 y: 180

repeat until touching jack-o-lantern ? or touching color brown ?

change y by -5

if touching jack-o-lantern ? then

start sound pop

delete this clone

else

ground

When a candy touches the ground, we should show this

Happy Halloween!!!  
Your Score is

backdrop, and then end the game!

when clicked

hide

forever

create clone of myself

wait 0.5 seconds

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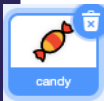




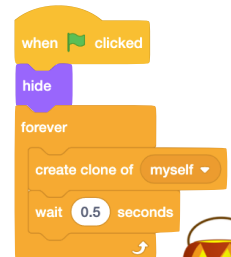
So, let's get a 'switch backdrop to' block from 'Looks',

switch backdrop to Happy Halloween

and make sure it's set to switch to the 'Happy Halloween' backdrop!



ground



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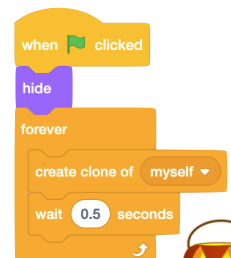
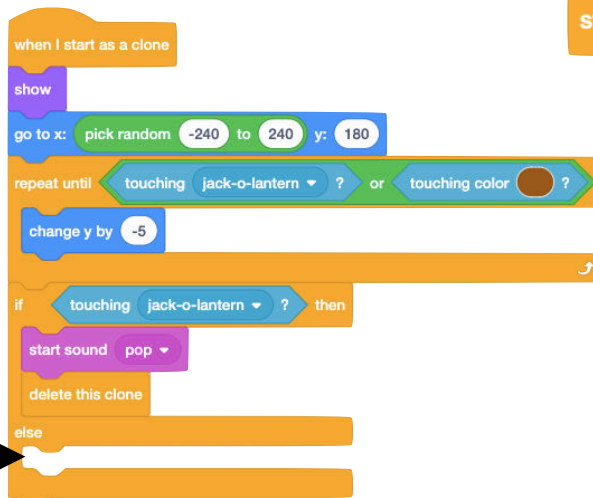
And let's get a 'stop all' block from 'Control'...

stop all

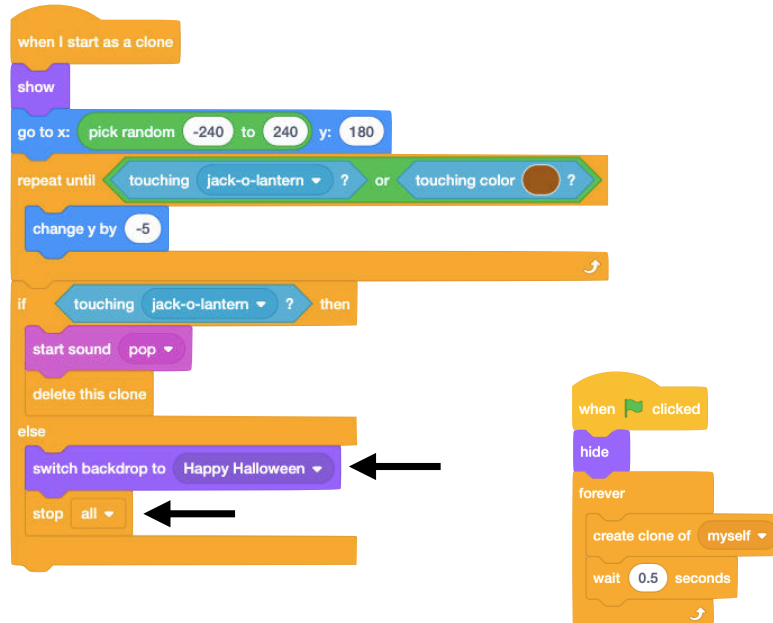
switch backdrop to Happy Halloween



ground



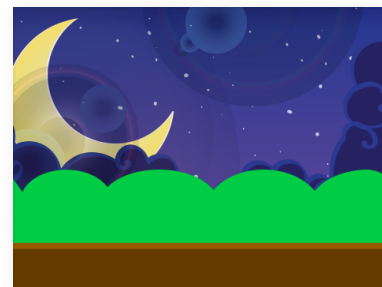
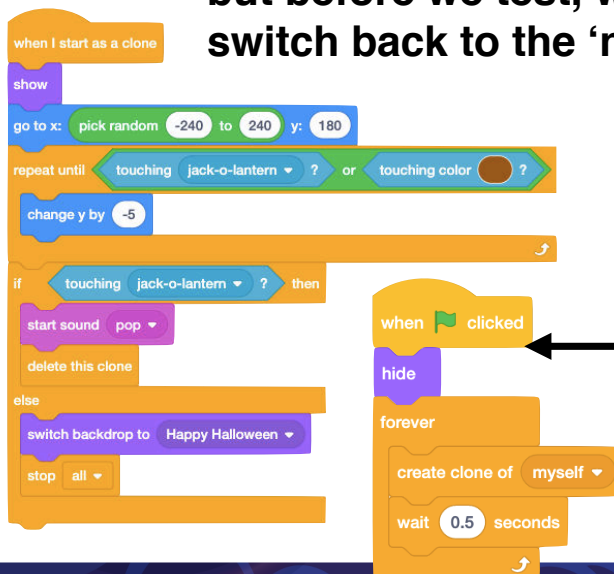
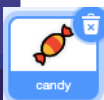
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Ok, we've handled both landing scenarios, but before we test, we need to remember to switch back to the 'night sky' backdrop



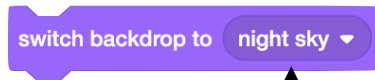
when we start a new game...



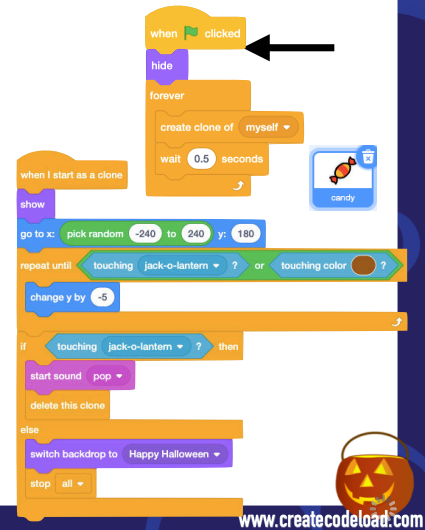
www.createcode.com



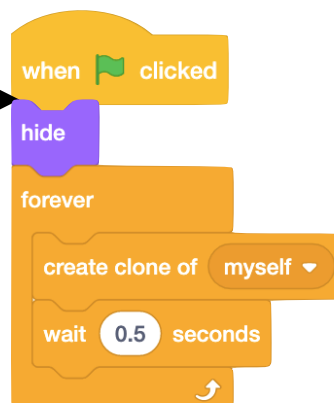
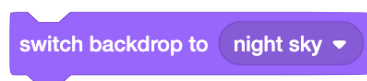
So, let's get another 'switch backdrop to' block from 'Looks',



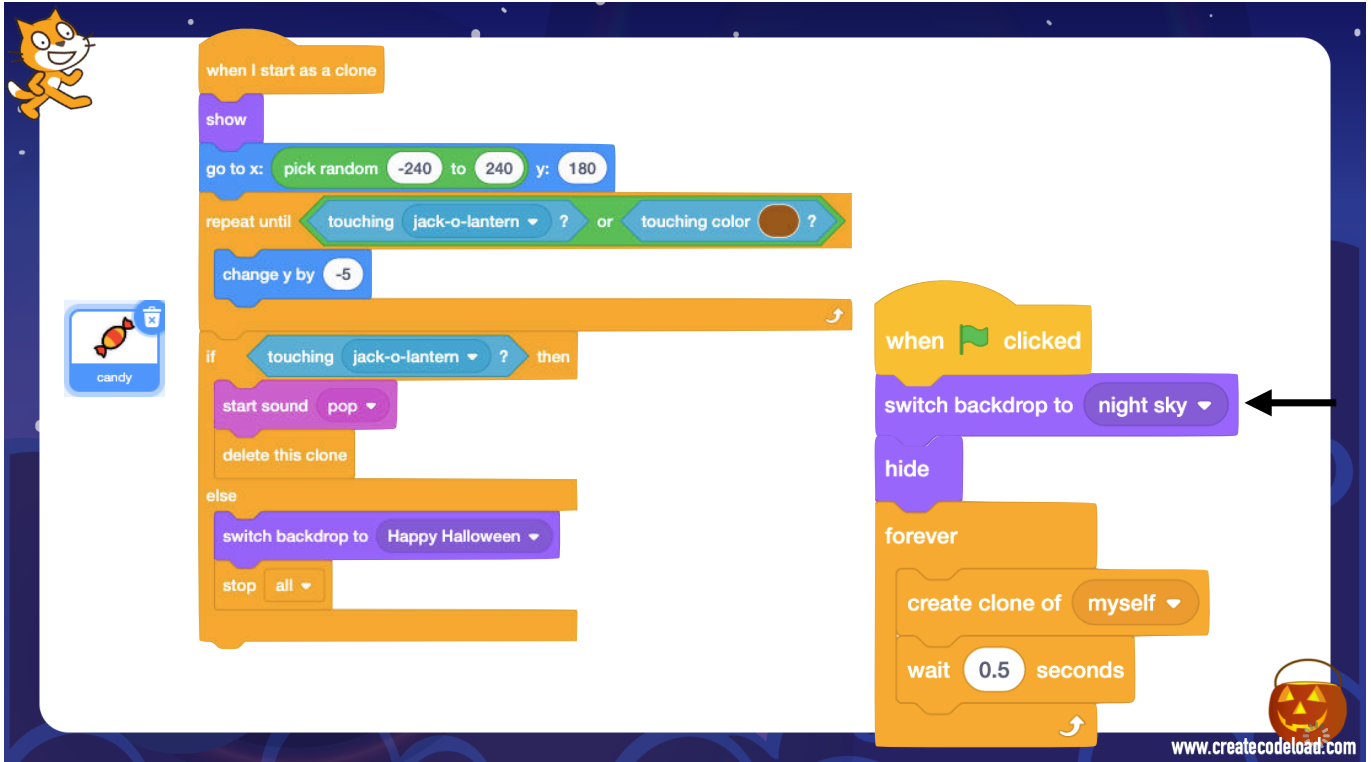
and this time make sure it's set to switch to the 'night sky' backdrop!



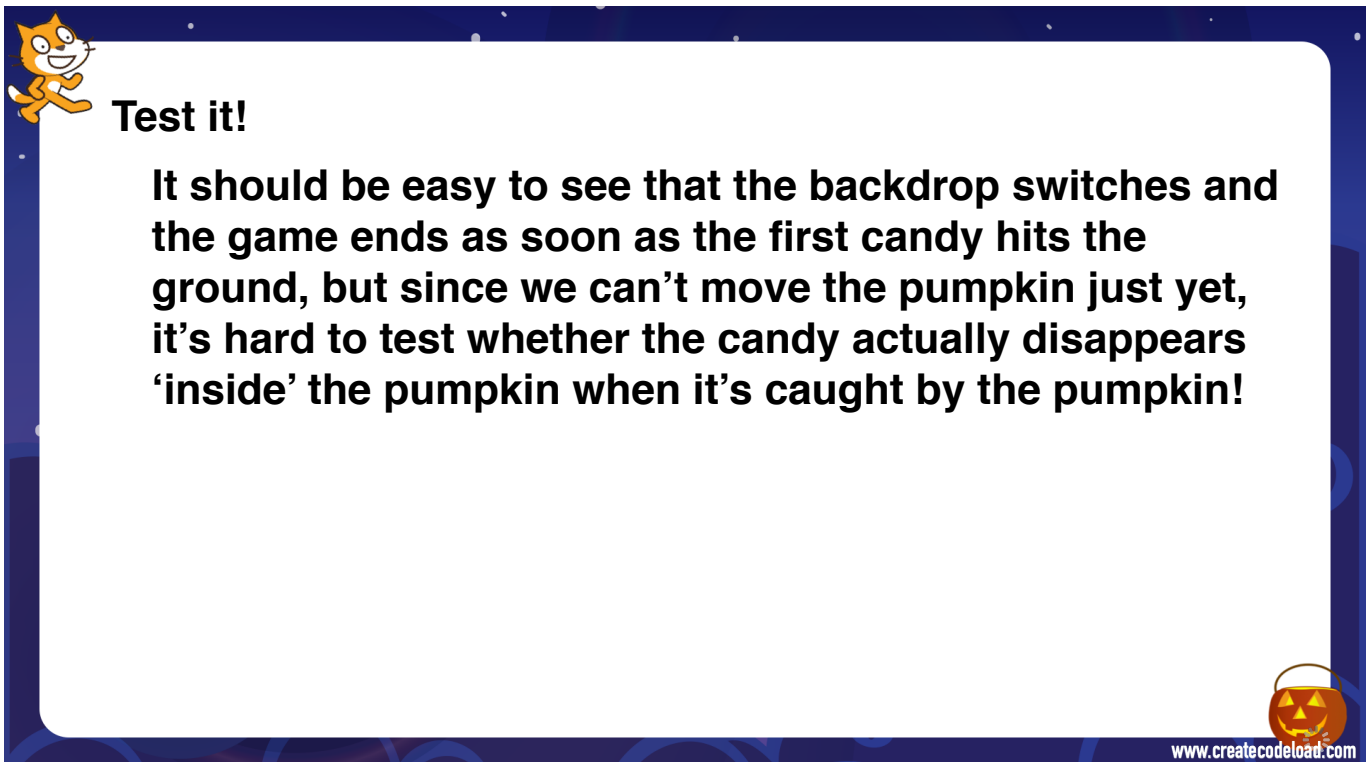
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The image shows a Scratch script with two main parts. The first part, 'when I start as a clone', includes a 'show' block, a 'go to x: pick random -240 to 240 y: 180' block, a 'repeat until' loop with conditions 'touching jack-o-lantern ?' or 'touching color ?' (brown), and a 'change y by -5' block. An 'if' block follows, checking 'touching jack-o-lantern ?'. If true, it plays a 'pop' sound and deletes the clone. If false, it switches the backdrop to 'Happy Halloween' and stops all. The second part, 'when clicked', switches the backdrop to 'night sky', hides the object, and enters a 'forever' loop that creates a clone of 'myself' and waits 0.5 seconds. A 'candy' sprite is shown on the left, and a 'jack-o-lantern' backdrop is shown on the right. The URL 'www.createcode.com' is at the bottom right.



The image shows a Scratch script with two main parts. The first part, 'when I start as a clone', includes a 'show' block, a 'go to x: pick random -240 to 240 y: 180' block, a 'repeat until' loop with conditions 'touching jack-o-lantern ?' or 'touching color ?' (brown), and a 'change y by -5' block. An 'if' block follows, checking 'touching jack-o-lantern ?'. If true, it plays a 'pop' sound and deletes the clone. If false, it switches the backdrop to 'Happy Halloween' and stops all. The second part, 'when clicked', switches the backdrop to 'night sky', hides the object, and enters a 'forever' loop that creates a clone of 'myself' and waits 0.5 seconds. A 'candy' sprite is shown on the left, and a 'jack-o-lantern' backdrop is shown on the right. The URL 'www.createcode.com' is at the bottom right.

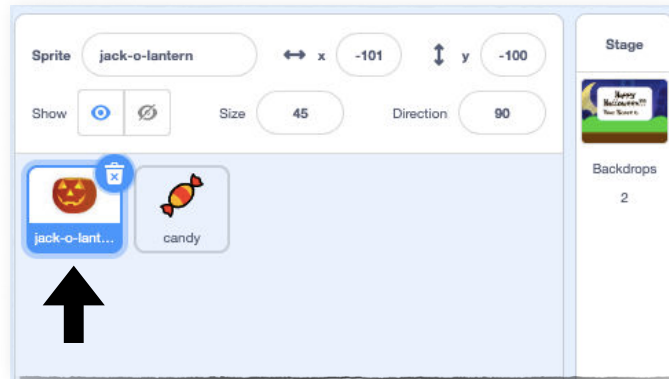
## Test it!

It should be easy to see that the backdrop switches and the game ends as soon as the first candy hits the ground, but since we can't move the pumpkin just yet, it's hard to test whether the candy actually disappears 'inside' the pumpkin when it's caught by the pumpkin!



**So let's give our user the ability to move the pumpkin, and then we'll be able to test our code more effectively!**

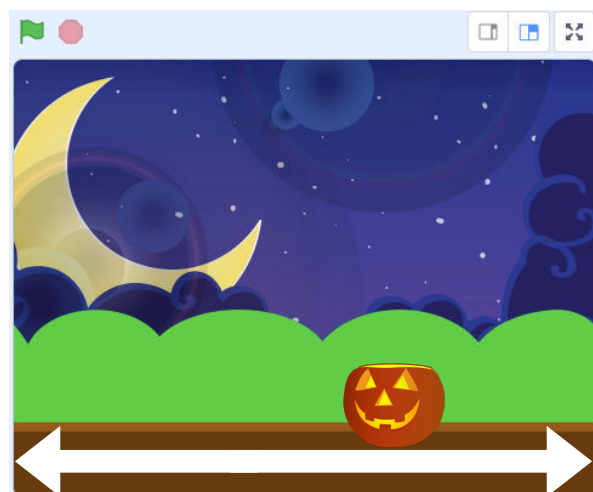
**Switch over to the pumpkin sprite by clicking on its thumbnail...**



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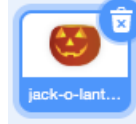
**We want our pumpkin to stay on this horizontal line, and since y is just about -100 along this line, we can set our pumpkin's y position to -100 as soon as the flag is clicked...**



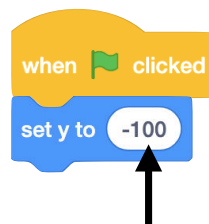
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So again, make sure you're working behind your pumpkin sprite...



Get the 'when flag clicked' block from 'Events',  
and the 'set y to' block from 'Motion',  
and make sure you're setting y to -100 at this point...

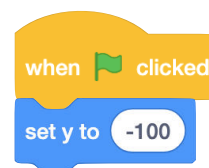
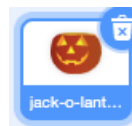


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Now for the x value...

We want the  
pumpkin's x-position  
to **constantly** follow  
the x-position of the  
mouse-pointer!



So, let's get a 'forever' block from 'Control',  
a 'set x to' block from 'Motion',  
and a 'mouse x' block from sensing...



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**Put it all together, and now, for the entire duration of the game, the x-position of the pumpkin, will be constantly determined by the x-position of the mouse-pointer, so you'll be able to move the pumpkin from side to side using the mouse-pointer!**



**Test your program... remember to move the pumpkin by using the mouse-pointer and not the arrow keys!**

**You should be able to 'catch' the candy, and the game should end as soon as a candy hits the ground!**

