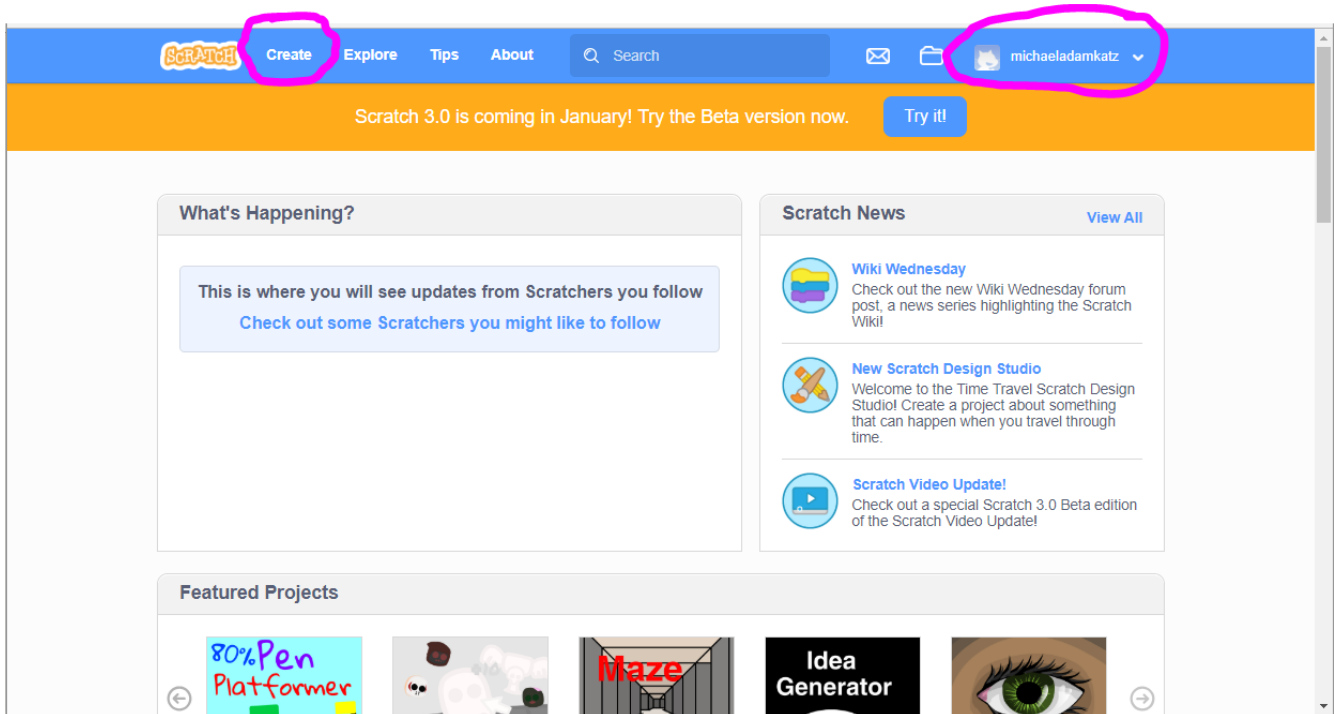This project uses one sprite and a small amount of code to make a racing game.


Making this game involves drawing the track backdrop, and making the code for the cat/car sprite.

When you start Scratch at **https://scratch.mit.edu/** you will be at the home screen shown below:

First, if you don't already have a Scratch account, you should make one. Use the upper-right corner of the screen to create an account, to log in, or to see if you are already logged in. In the picture above, you can see that I'm logged in with my Scratch account name, "michaeladamkatz".

Once you are logged in to your Scratch account, click Create as shown on the top of the screen above. This starts you with a new project as shown below.
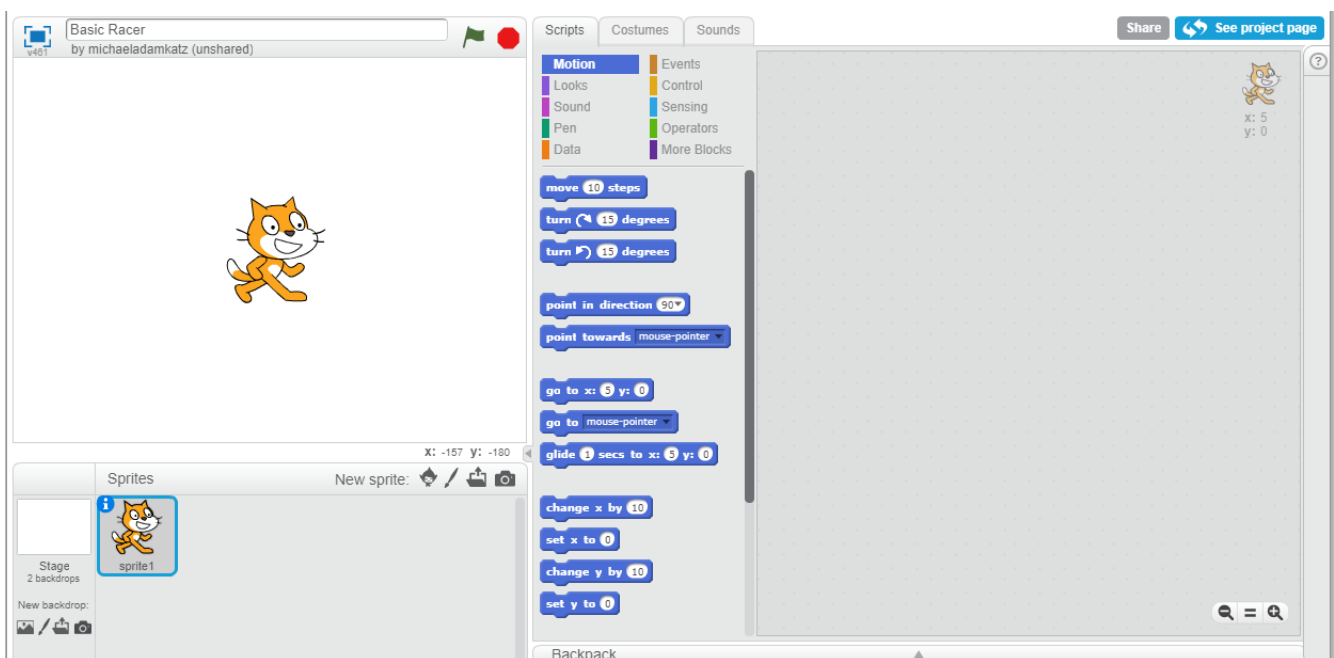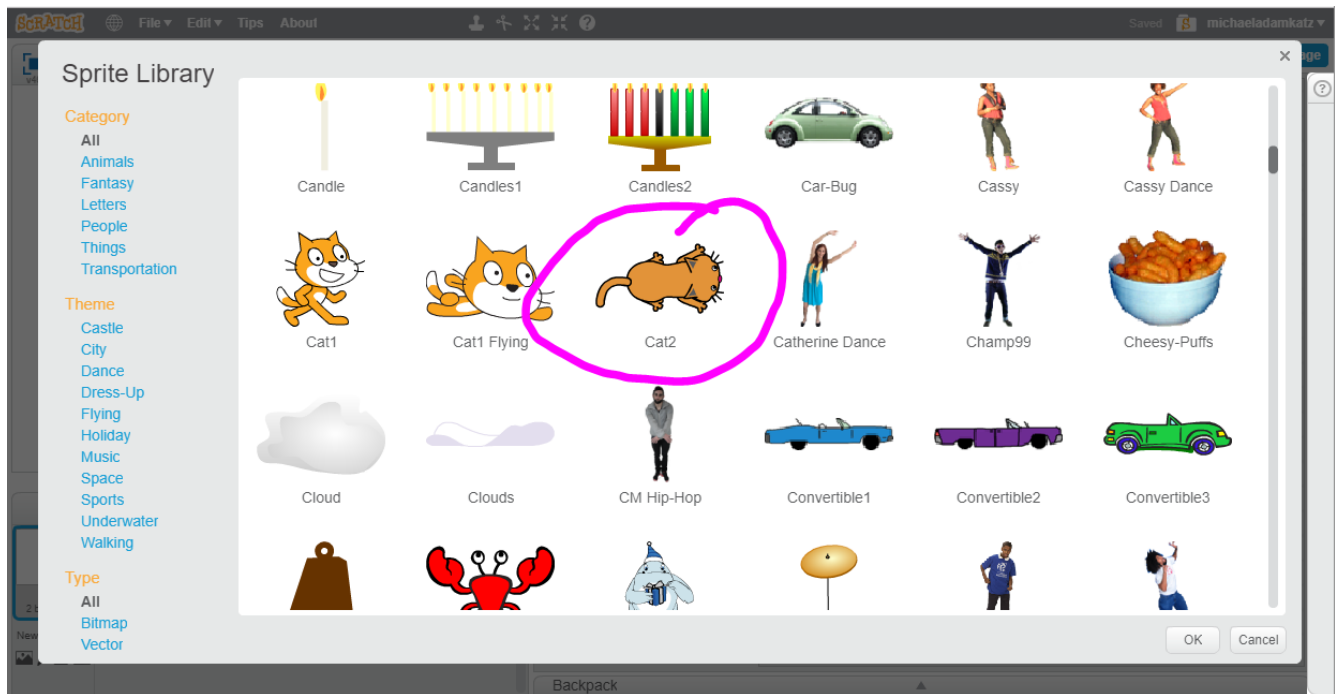
We don't want to use the cat sprite for this project, so right-click (or hold down the shift key and left-click) on the cat sprite icon, and choose "delete" from the popup menu:
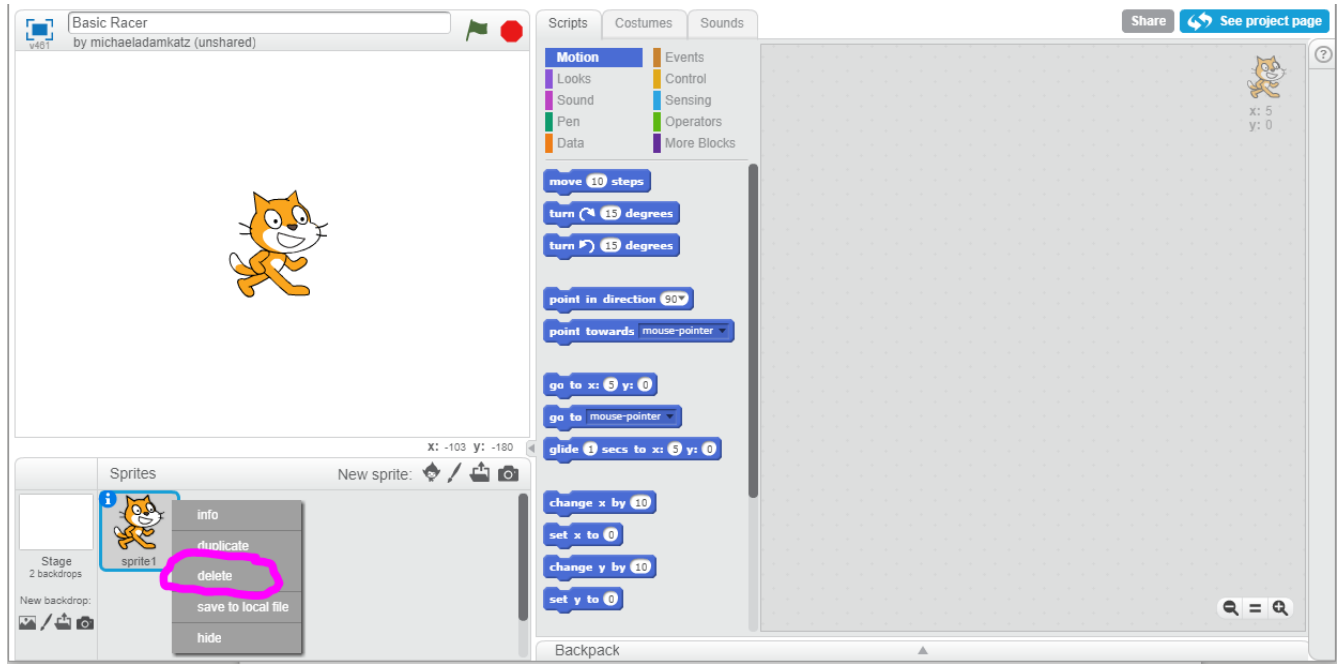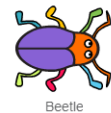

Then click the icon shown below to add a new sprite from Scratch's sprite library:
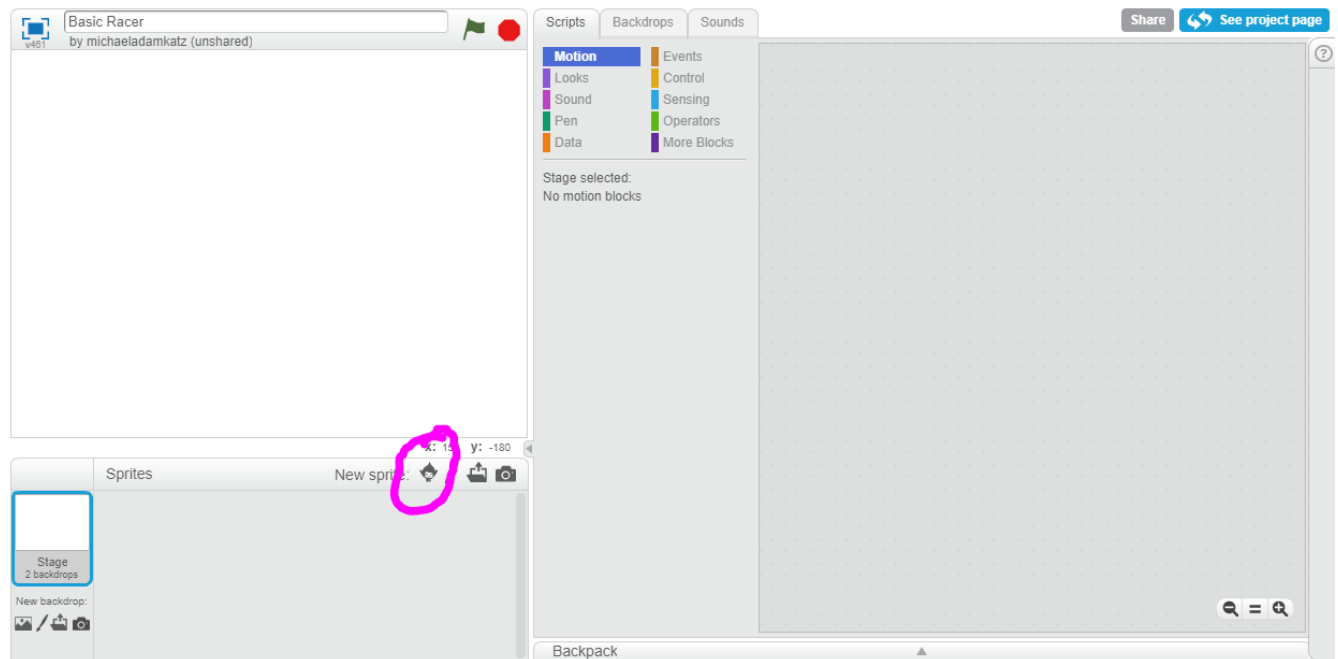
Scroll down the list and choose the top-down cat:

You can also choose a different "top-down" sprite, like the beetle or
the mouse . Or you can draw your own top-down sprite. Can you
draw a top-down car? (You can actually choose any of the sprite library
sprites for this game, but you'll see that the ones that are drawn from a top-
down viewpoint work best.)

We will add code for the sprite a bit later. for now, make the cat small by
clicking on the purple "Looks" category. Find the block that says "set size to
100%" and change the number to 30. Then click on the block to make the cat
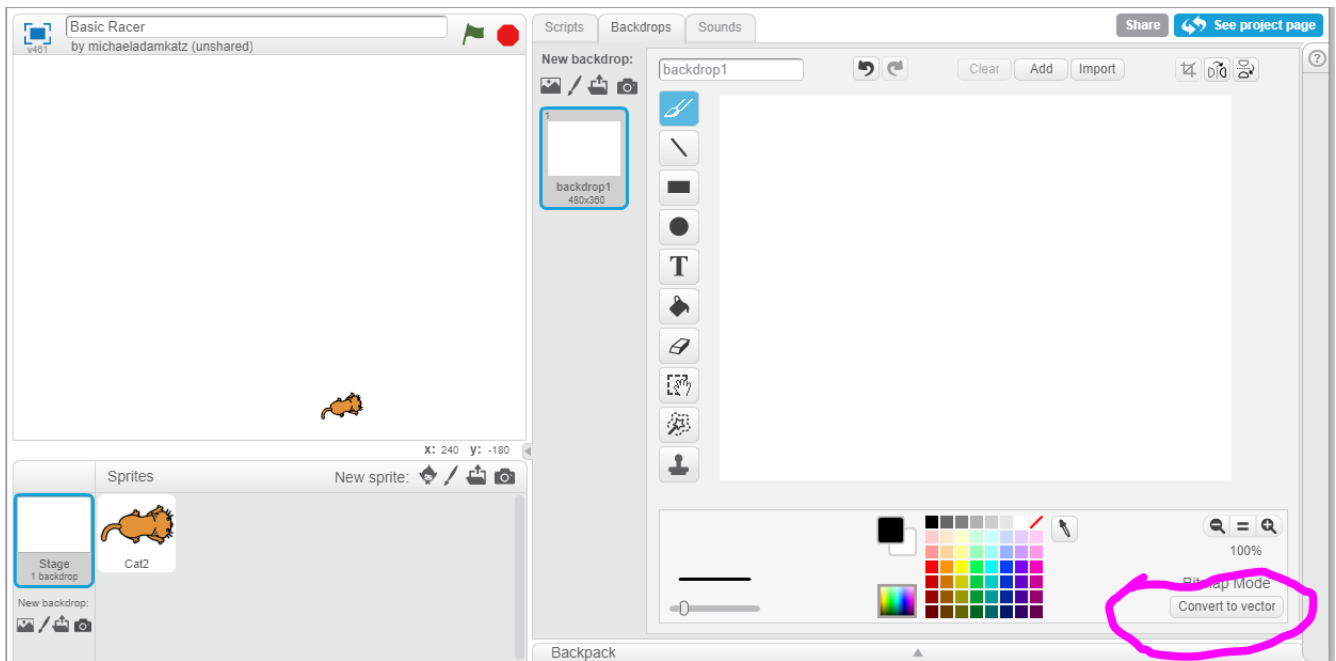change to 30% of its normal size:
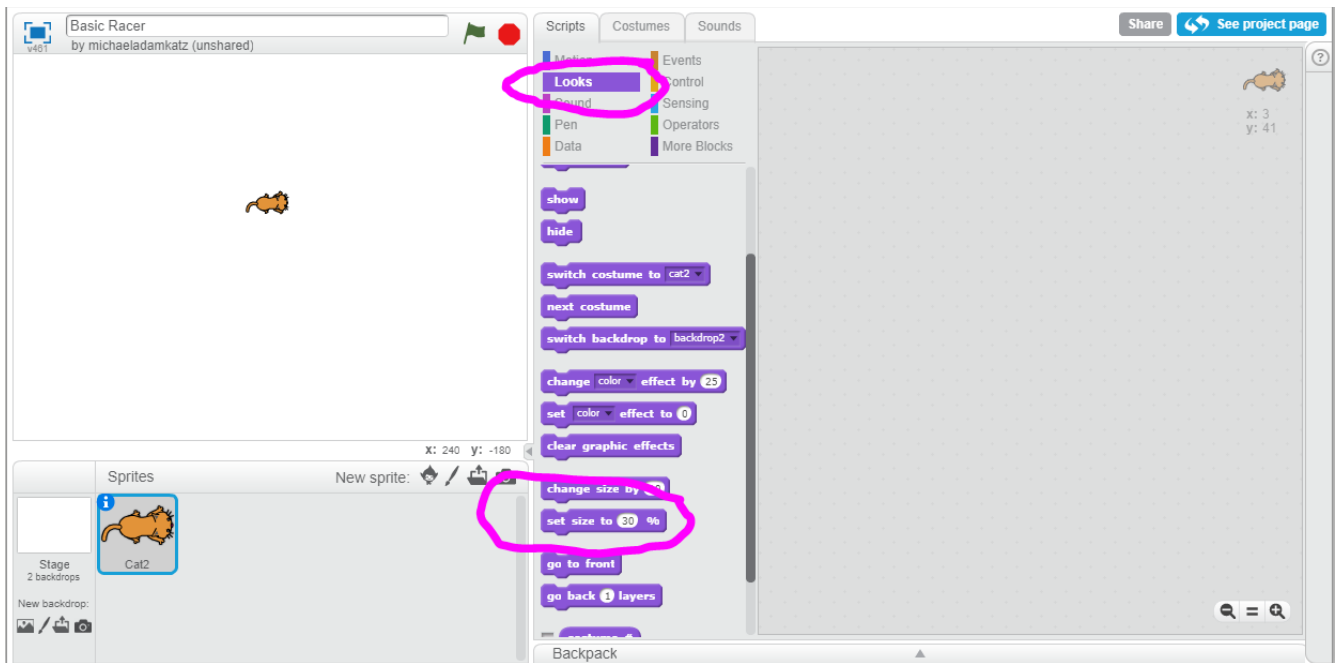
You can also drag the cat on the screen to move it out of the way a bit.

To make the track backdrop, click on the "Stage" in the lower-left of the screen:
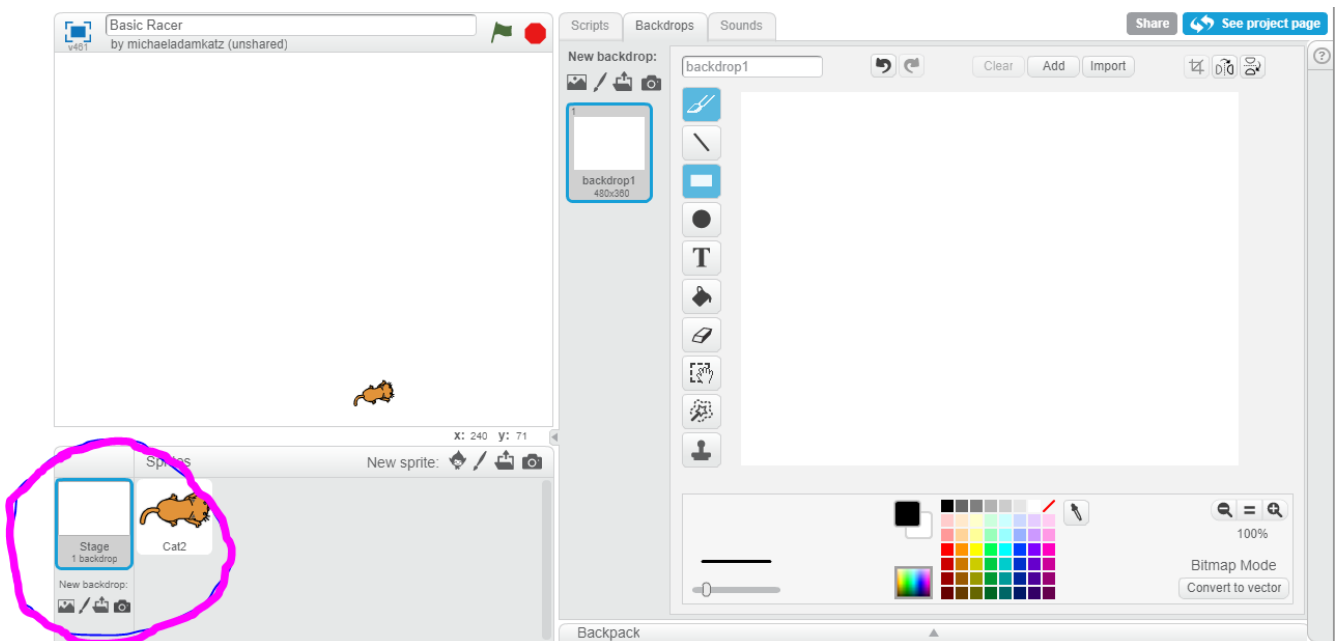
We want to draw in vector mode, so click the "Convert to vector" button in the lower-right of the screen:
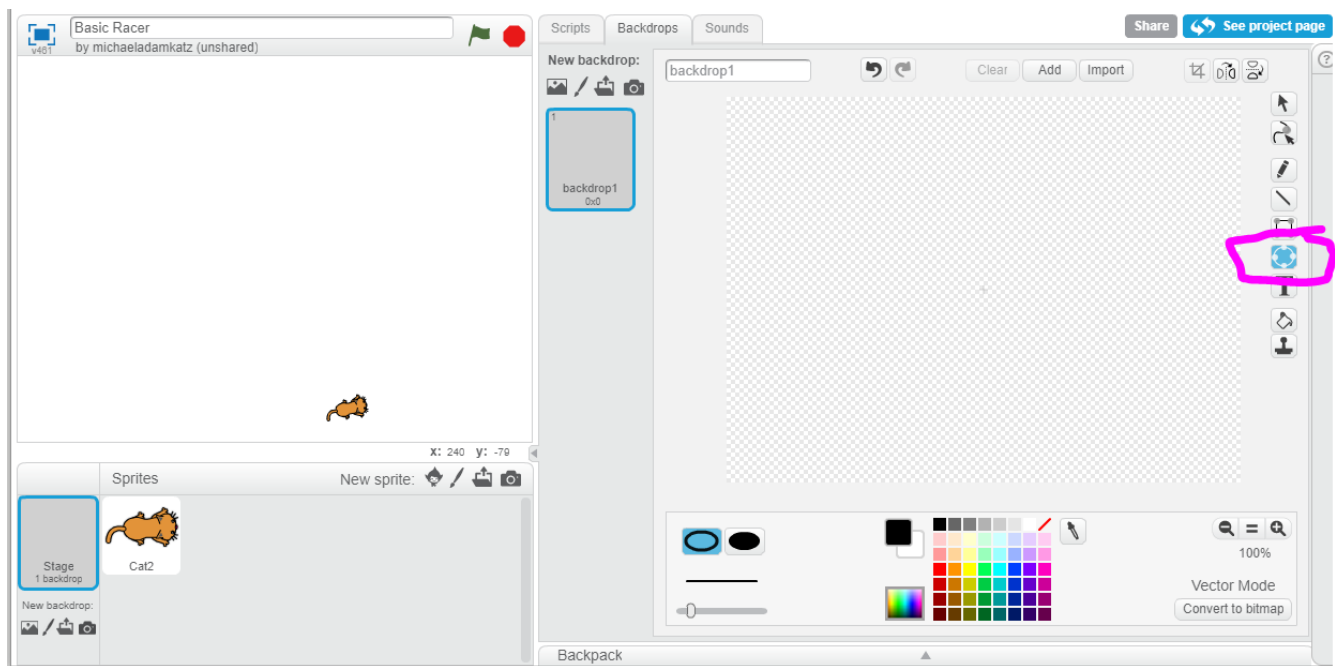
Now a tricky part is we need to delete the white "background rectangle" to keep it from getting in our way, so click the arrow tool, then click on the white backdrop, then press the "Backspace" key on your keyboard to delete it.
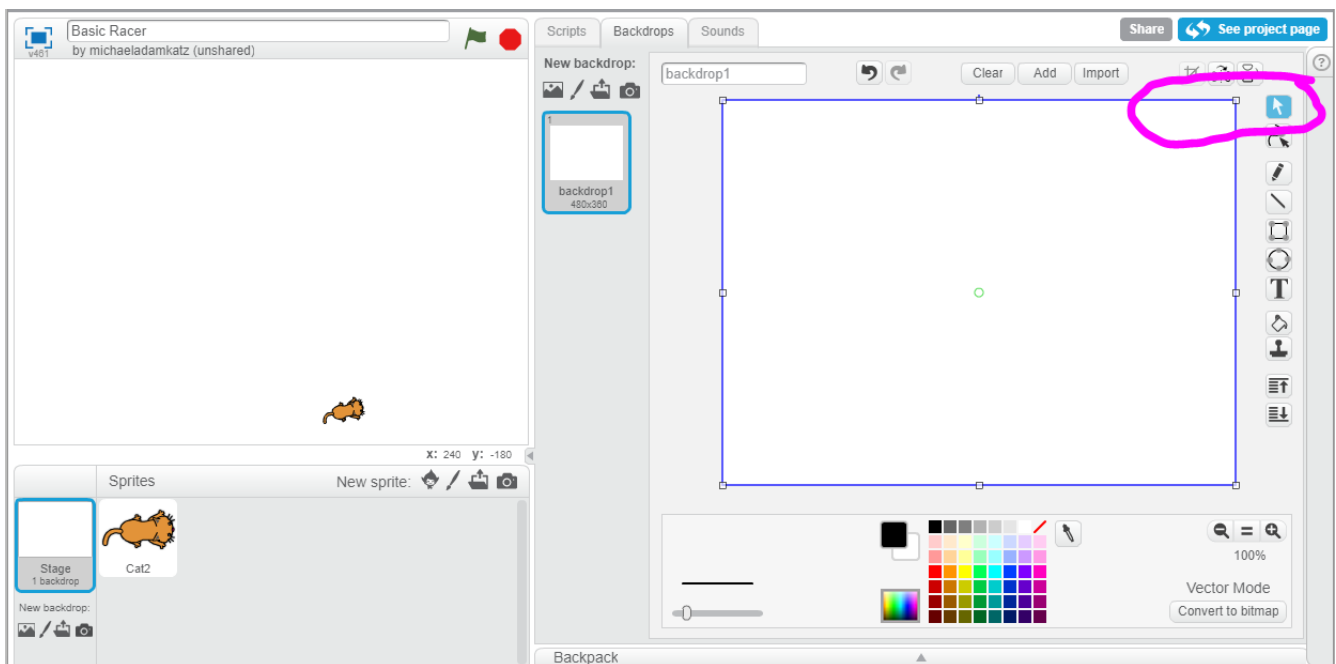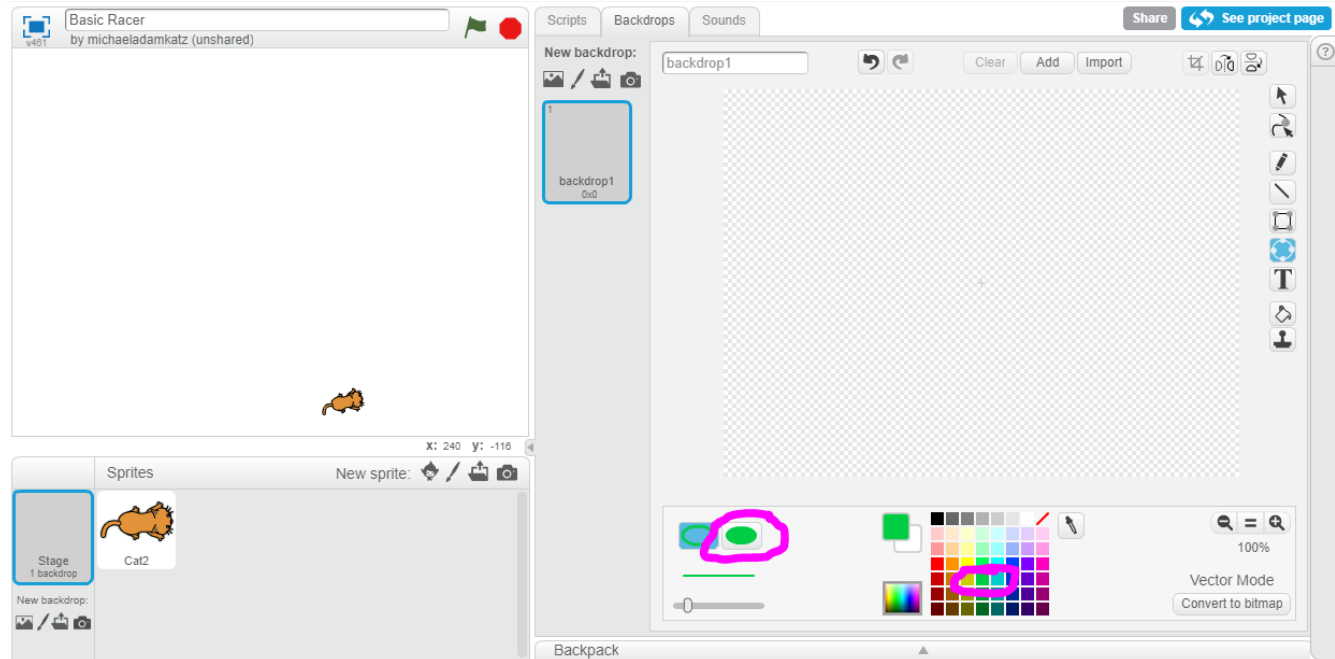

Once it's deleted, the background with change to a light gray checkerboard pattern.
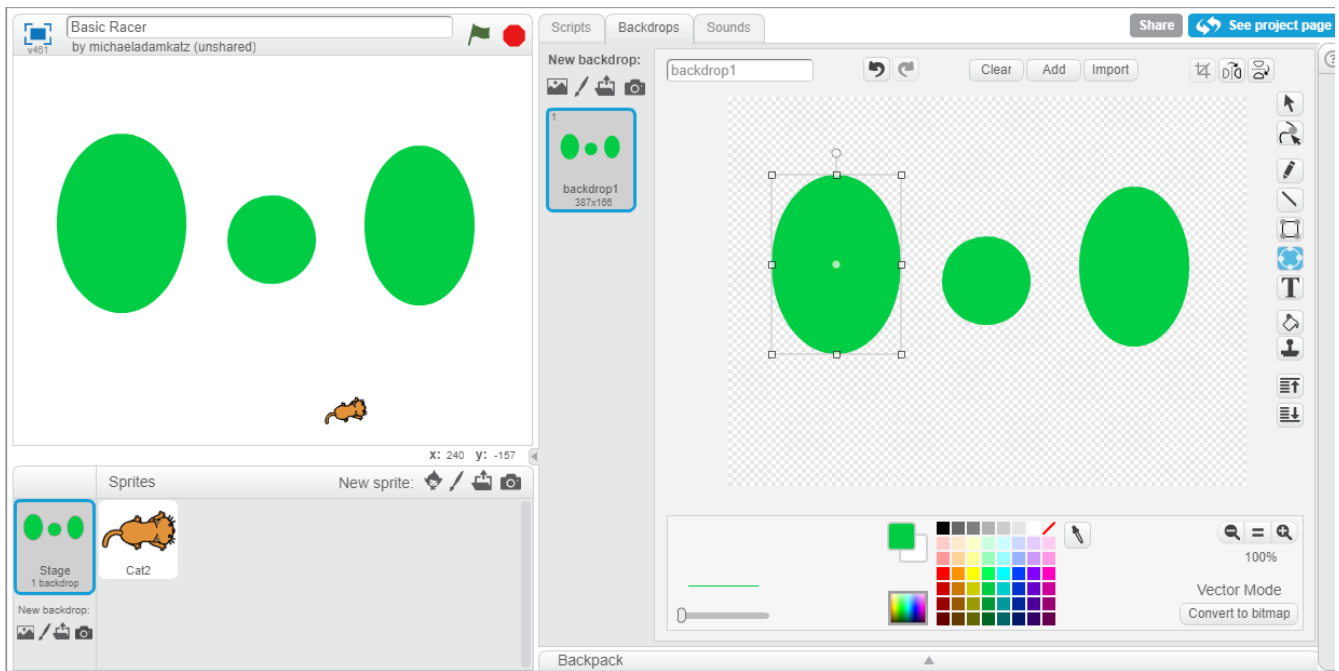
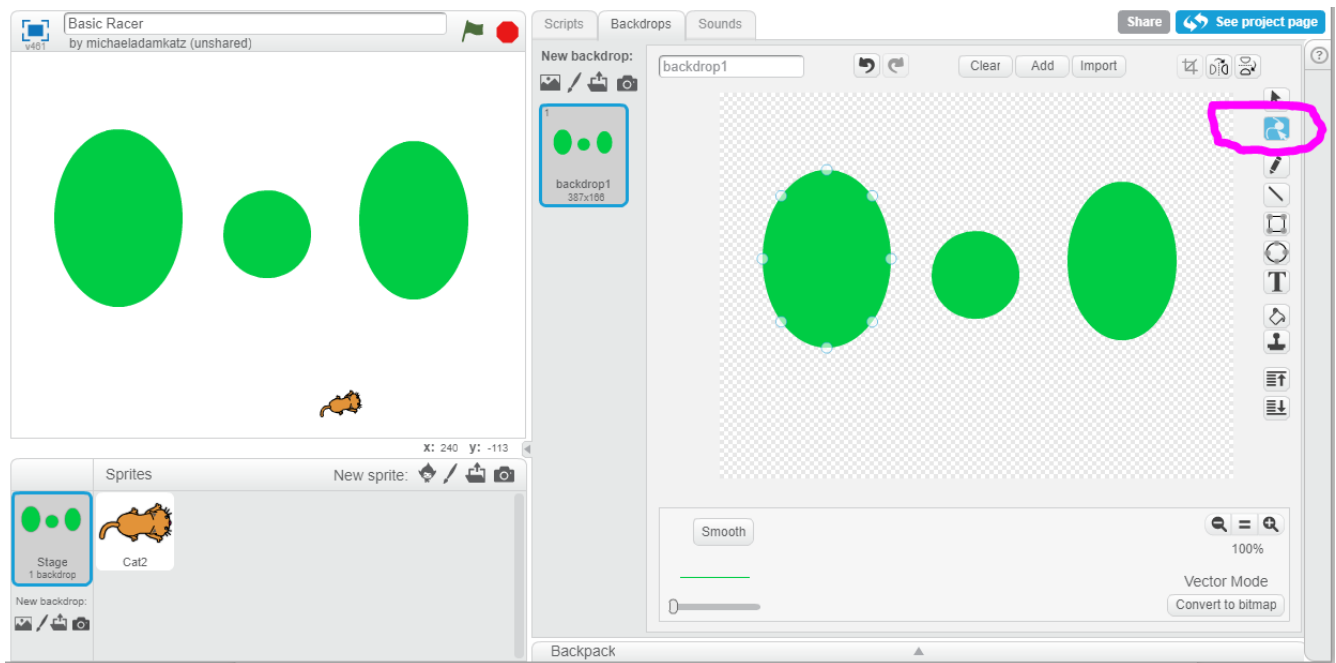Select the circle tool.

Click on the green color, and also click on the solid oval shape.

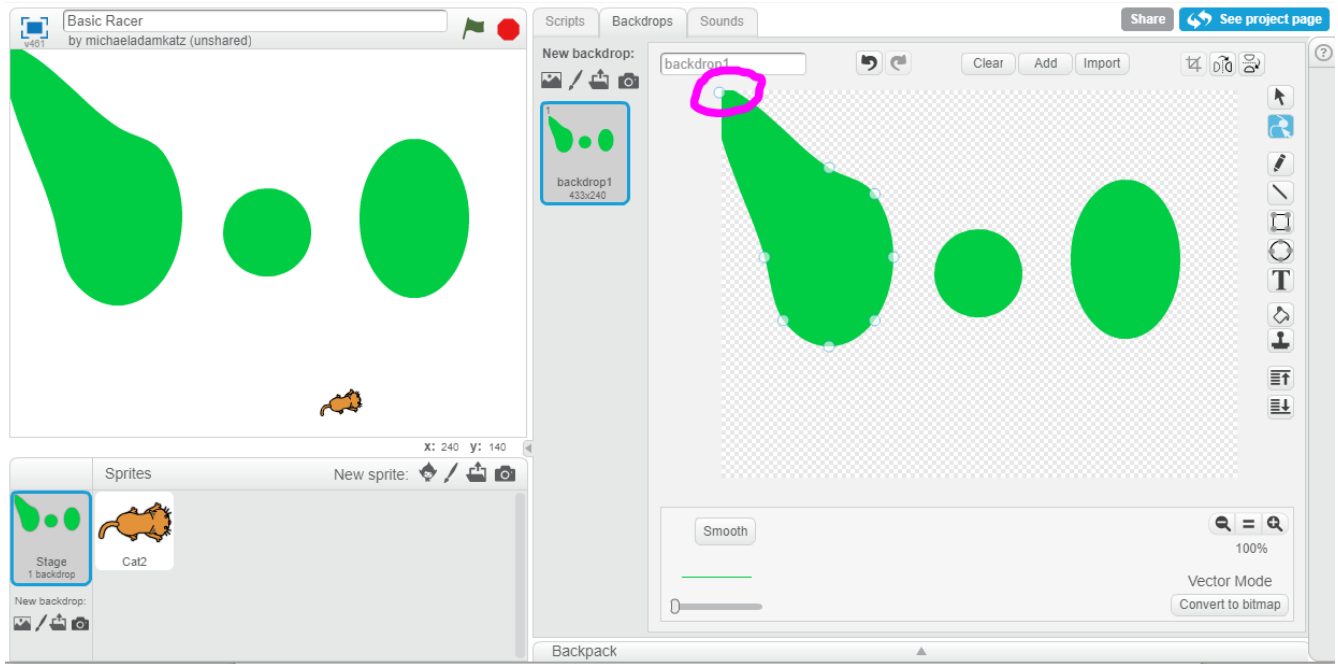Then draw three ovals on your backdrop. These ovals will magically become our track.

To make the ovals into the track, click the "Reshape" tool, which is the second from the top. Then click on the left oval.
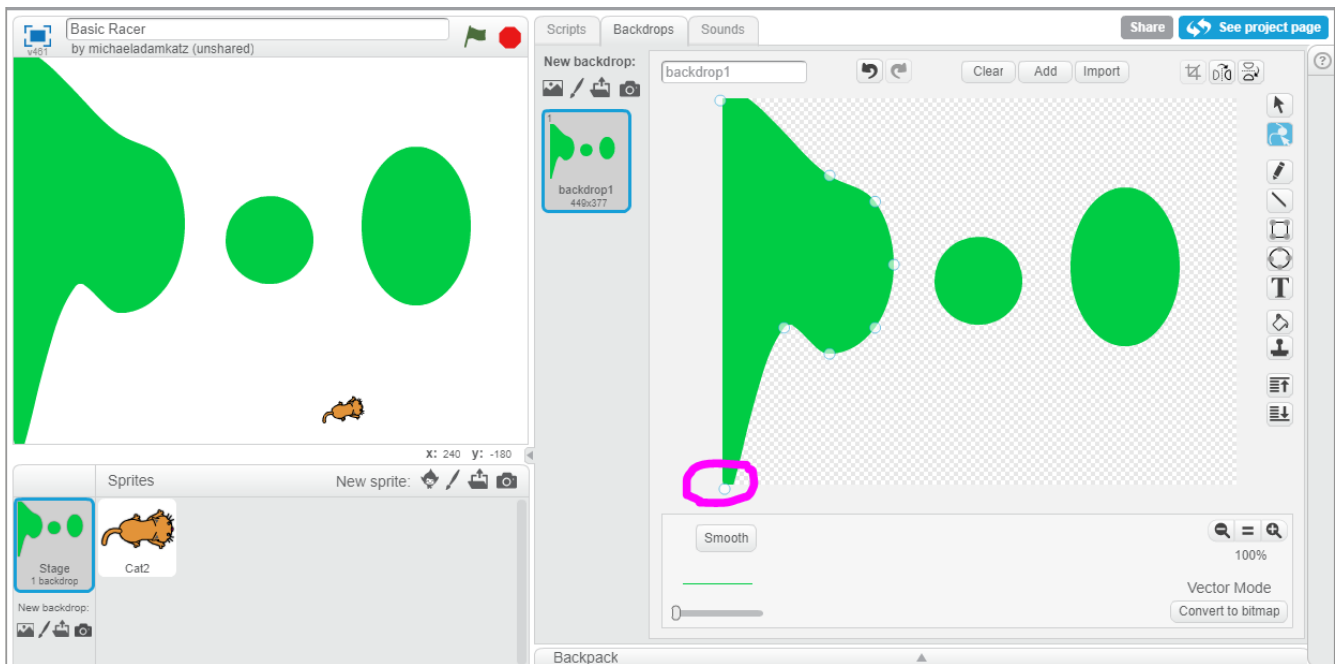

Click on one of the points of the oval and drag it just off the upper-right corner of the screen:

And then drag another point just off the lower-right corner of the screen:

Then drag the next points as shown below:
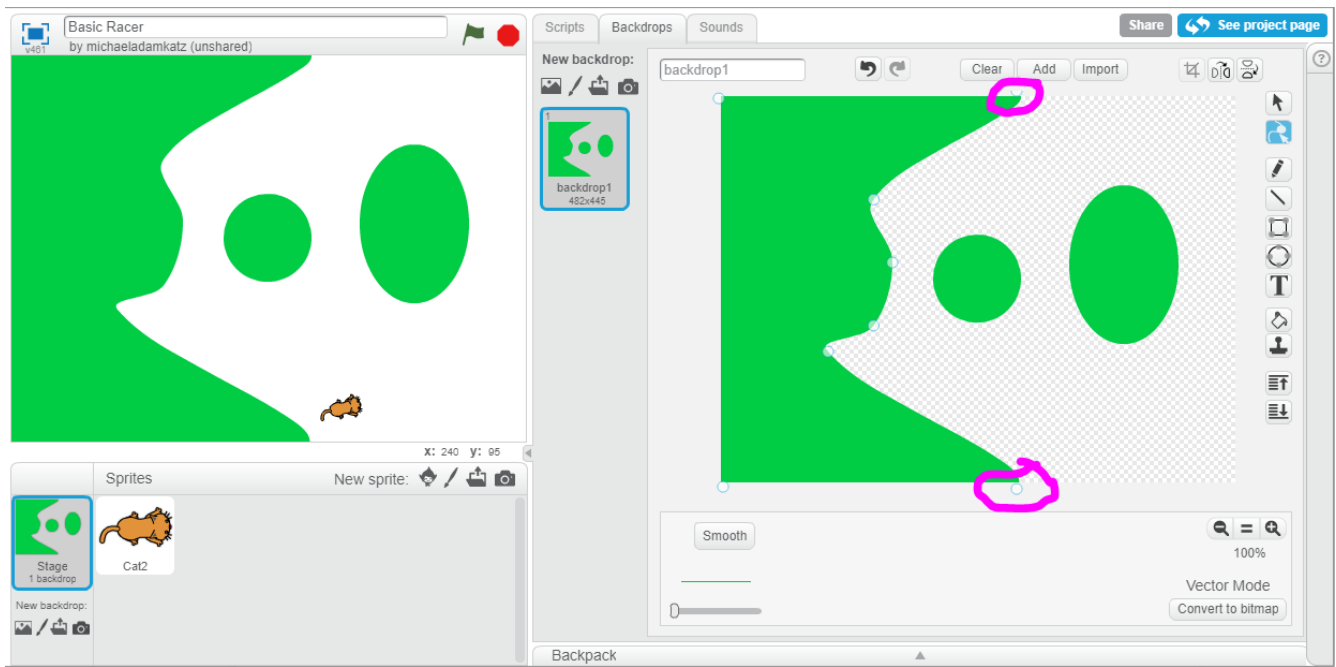
Now continue to use the Reshape tool to make the left side of your track look something like the picture below. Click to drag points. You can add a new point by clicking right on the edge of the shape. You can remove a point by clicking it. Ask a mentor if you need help with this.
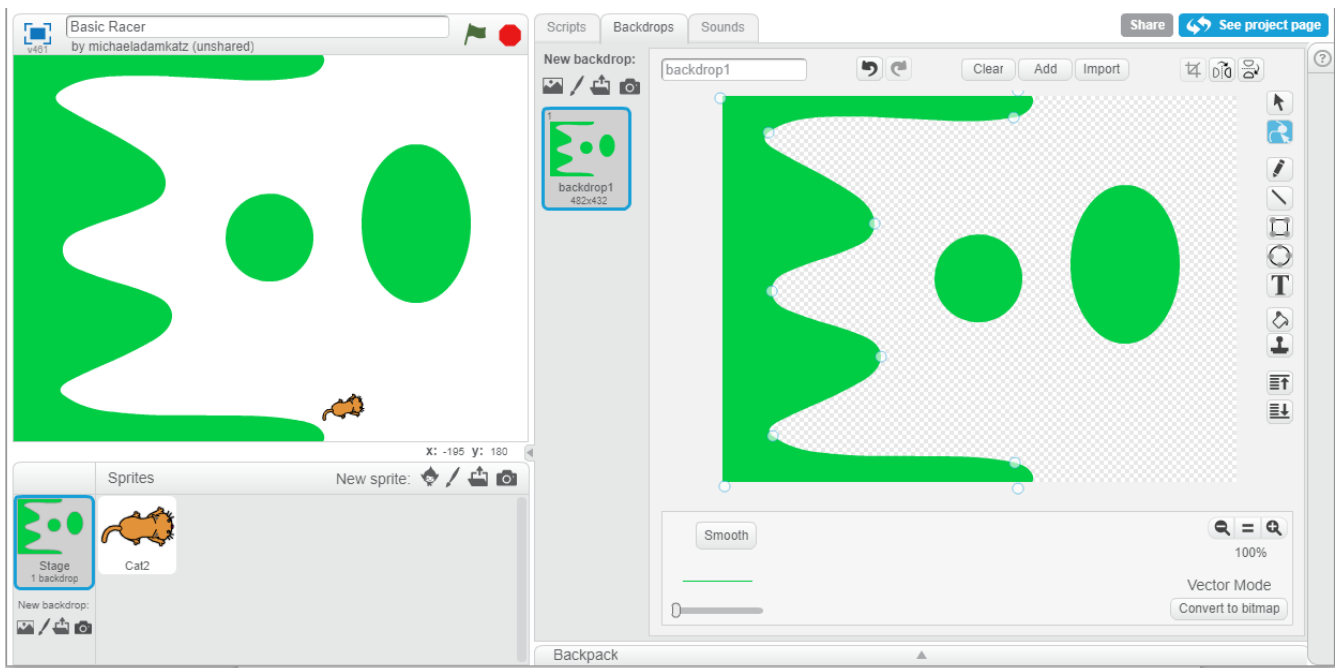
Now use the Reshape tool to shape the right oval in a simlar way:

Finally, use the Reshape tool to shape the middle oval something like the following:

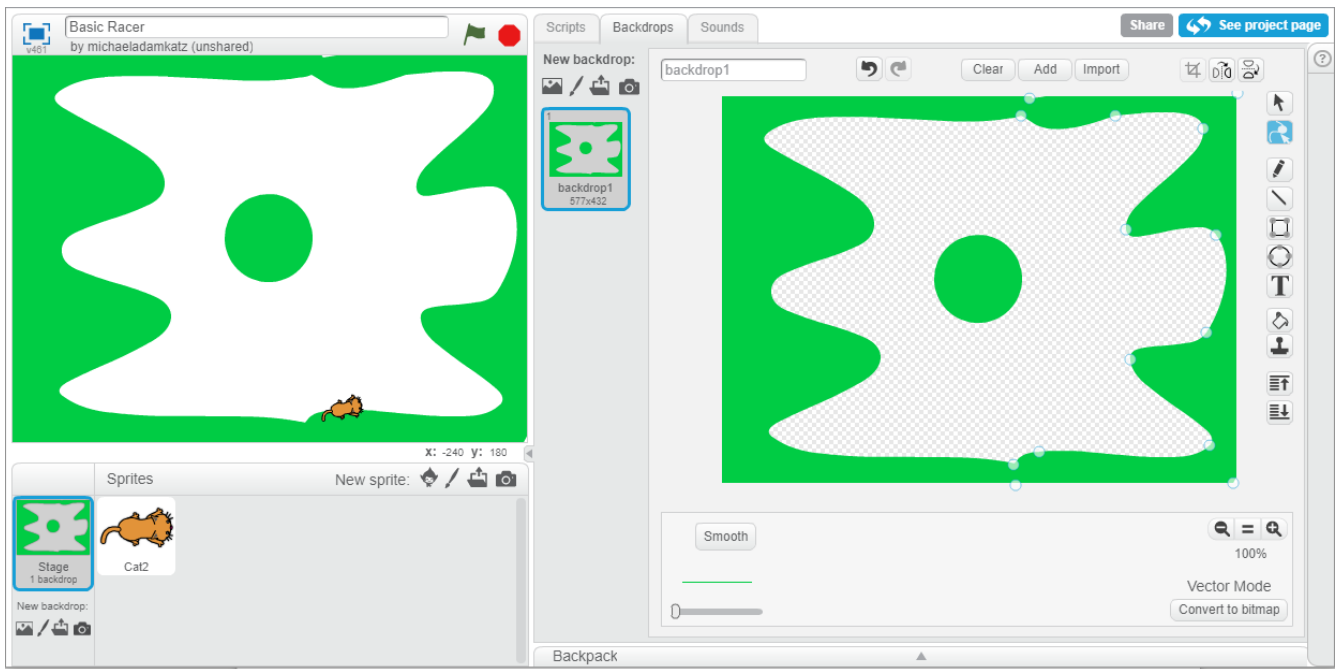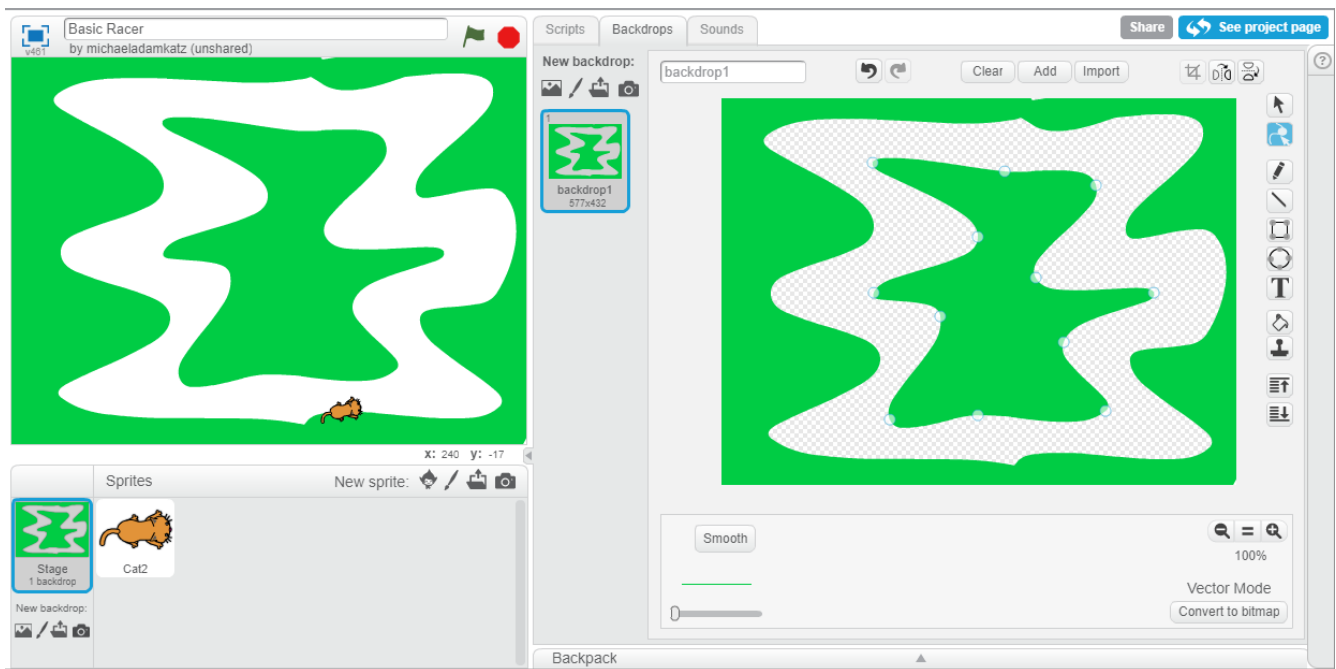Try to leave enough room so that the sprite will be able to fit everywhere along the track. But you can always fix things up later. That's the great thing about Vector Mode – you can always fix things later.

Finally, we are ready to create the script to control the cat. Click back on the cat's sprite icon. Then make the cat's script look like what is shown in the picture below:
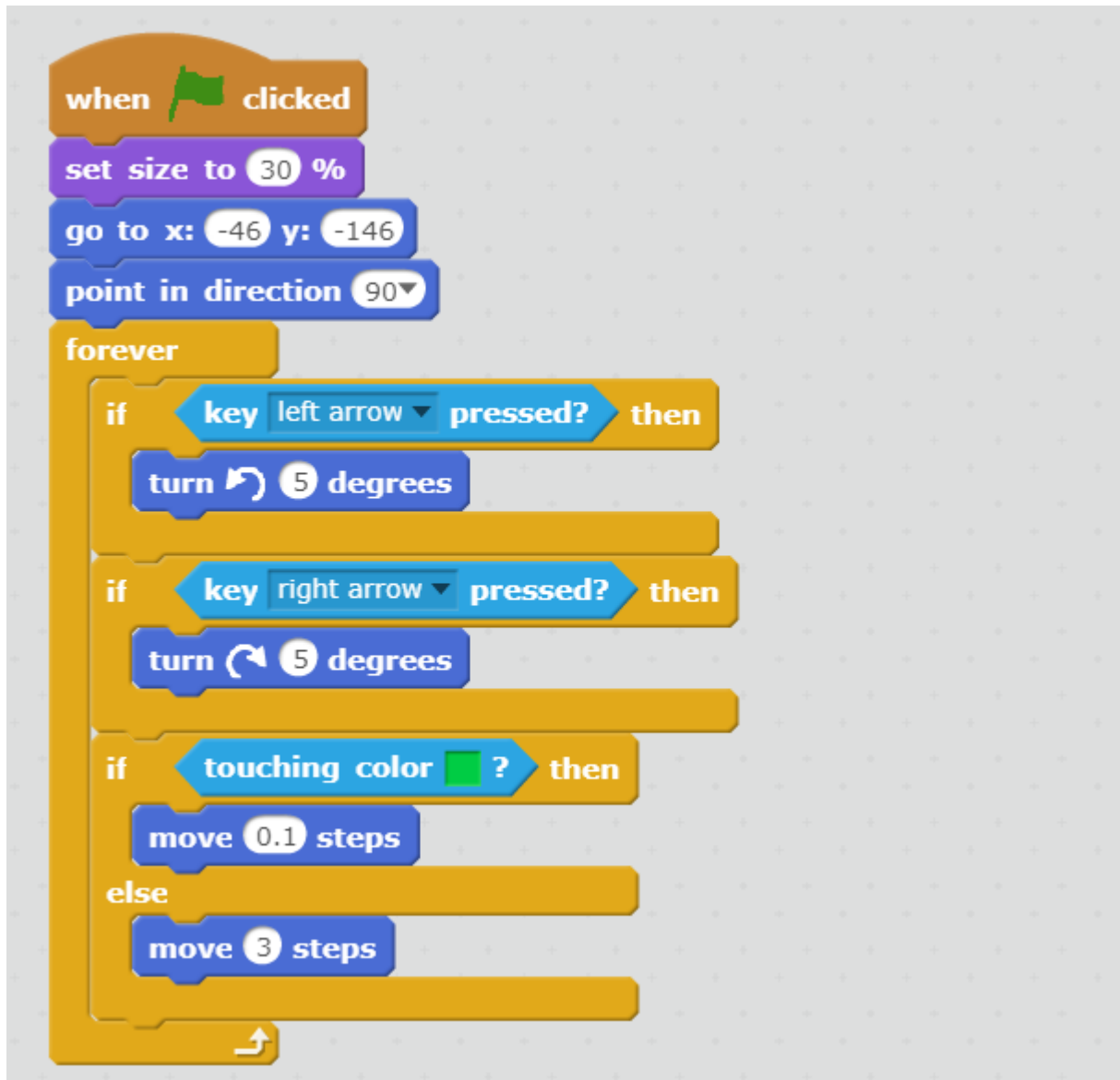

Here are some tips about this script and how to make it:

- Use the colors to know which block catory to look in for each block.
- Drag each block out of the block menu area into the scripting area.
- If you don't want a block in the scripting area any more, drag it back into the block menu area to delete it.
- For the "set size to" block, you can make your sprite even smaller than 30% if it's necessary to make it fit through all the passages on your

track.

- The "go to x y" block is for positioning the cat at the start of the game. An easy way to get the right numbers for this block is simply to drag the cat to the place you want it to start, and the numbers in the "go to x y" block in the block menu area automatically update to that position. So just drag the "go to x y" block with those numbers from the block menu area to the scripting area.
- For the "touching color" block, the way to set the color is to click right on the little color square in the "touching color" block, and then click on the green track area of your game.
- Feel free to play around with the numbers in the "turn" and "move" blocks in this script to try different speeds.

Ask a mentor if you need help.

If it's all working, you should be able to click the green flag at the top of the screen, and then "drive" your cat around the track using the left and right arrow keys.