Phoenix
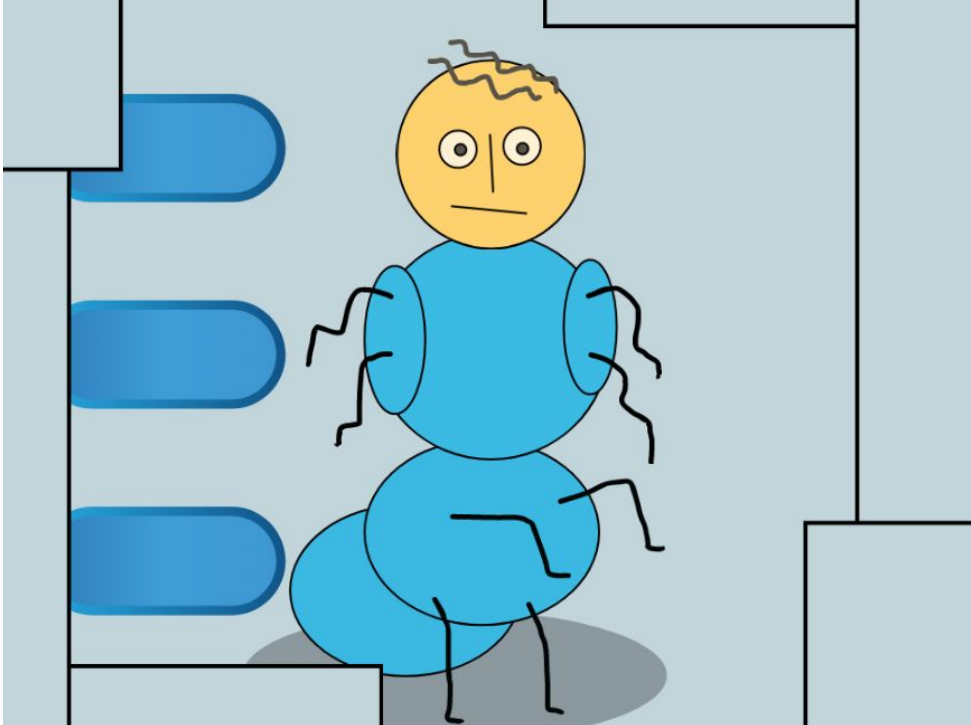

You will need:

Access to the Scratch website, from a computer or laptop.
(It might also work from an ipad or tablet)

This tutorial is mainly for children and people who have not used Scratch much before. If you get stuck, let us know in the comments section for the example project.

Setup:

If you haven't used Scratch before, click join scratch at the top and create an account. You might need your parent's email to do this, so ask for help. If you can't make an account, you can follow along, but you won't be able to save your work.

Once you've made an account follow the Phoenix Scratch studio here. This is where you can find the template versions of all the workshops we create. Feel free to remix them and post the new things you create.

Wait, what is Scratch?

Scratch is a free, online, ==block-based== code editor. You might have used it in school. If you've been to one of our family workshops, you've probably seen us using it there.

There are lots of different tutorials available for using Scratch. Here we are going to focus on showing you ways of using Scratch that link to the work we do at Phoenix. This will include things like animation and drawing.

Monster Maker

We recently ran a workshop where you could draw parts of a character to be added to a Scratch project that would then remix them with other people's drawings. In this project we show you how to make your own remixing machine.
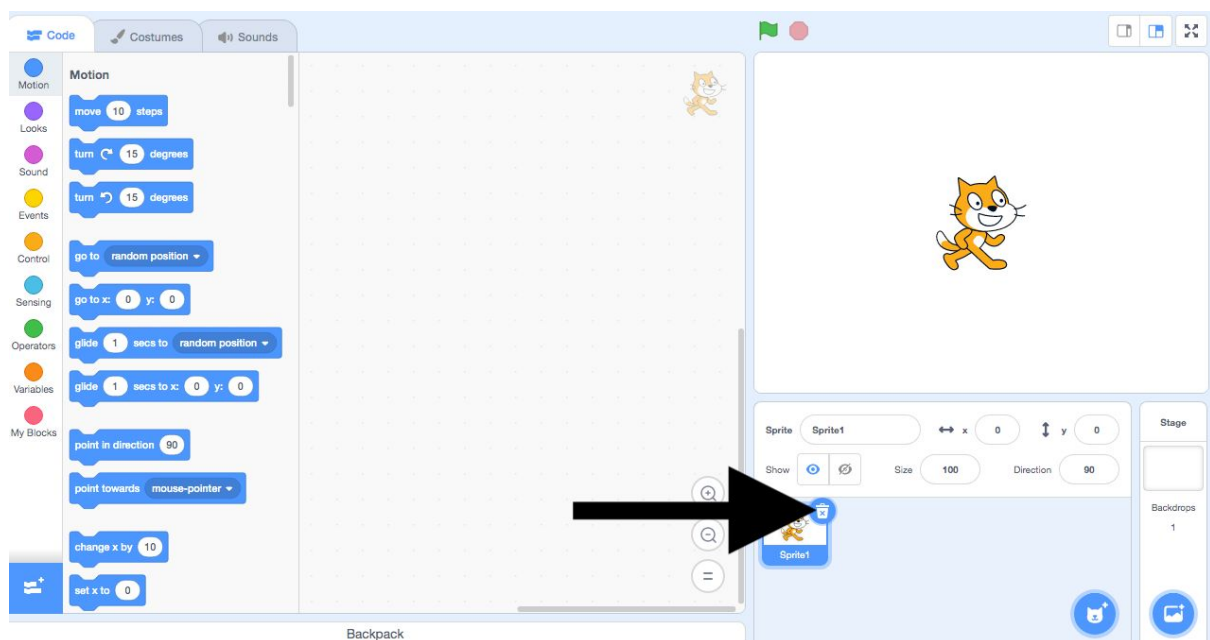
To get started, click **create**, or **remix** this project,

https://scratch.mit.edu/projects/379415671/

Step 1
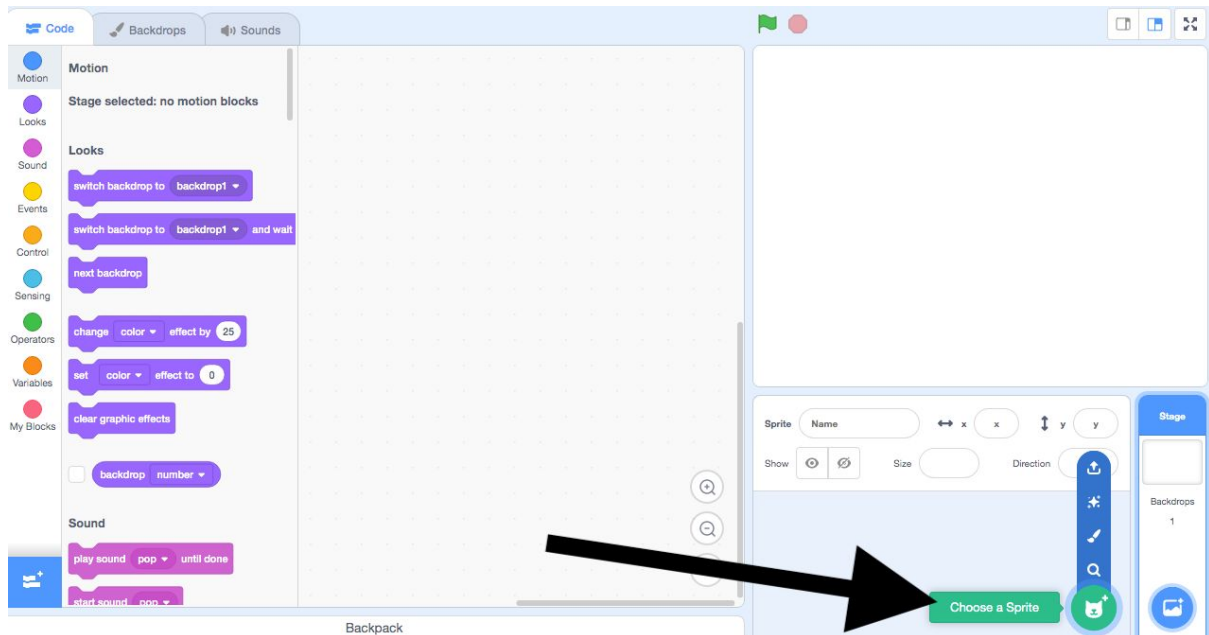(if you are remixing the template project, skip this step)

First of all we are going to get rid of the default sprite, Scratch Cat. Click the bin icon to remove Sprite Cat.
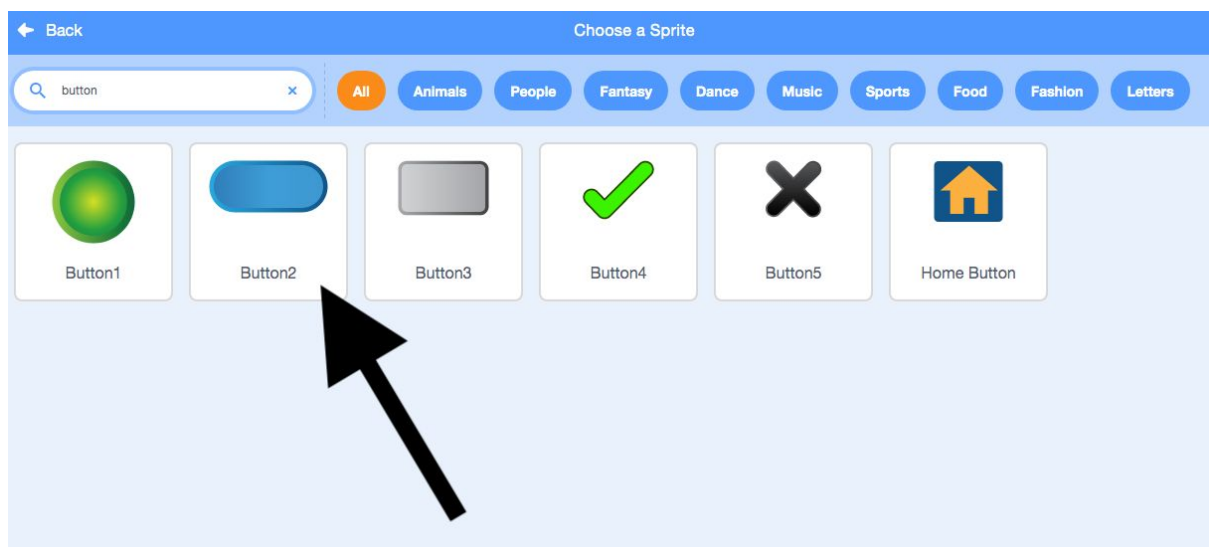
Step 2

We need to decide how we are going to operate the remixing machine. Scratch has some built in button sprites, so we'll start by using them.

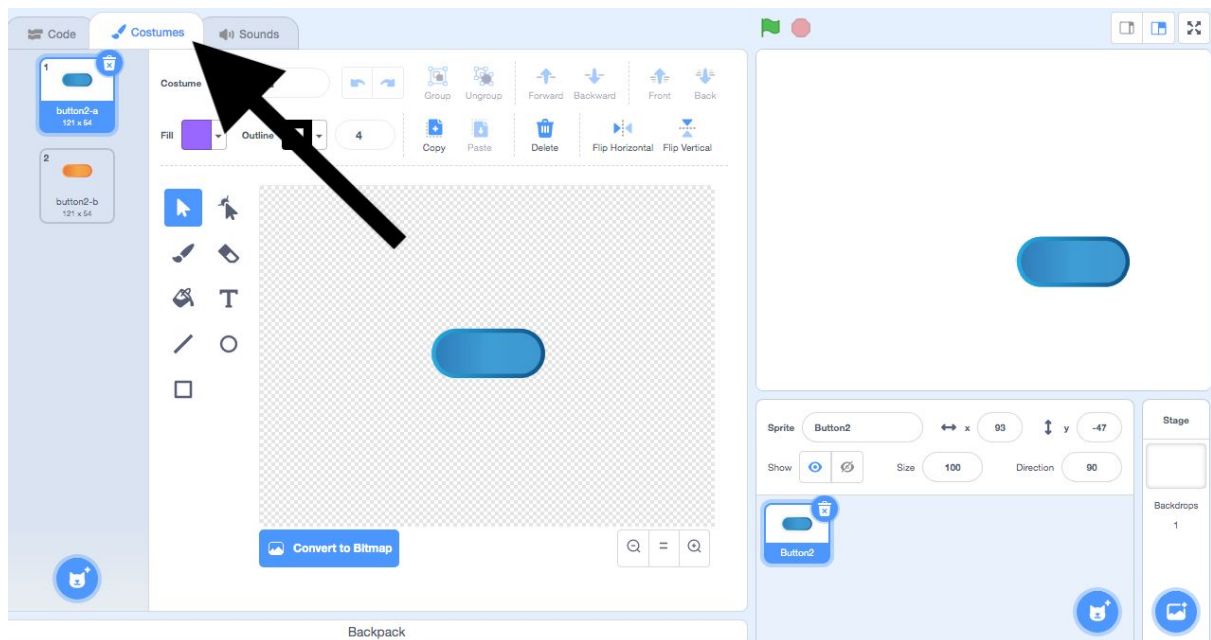To find the buttons, click 'Choose Sprite'

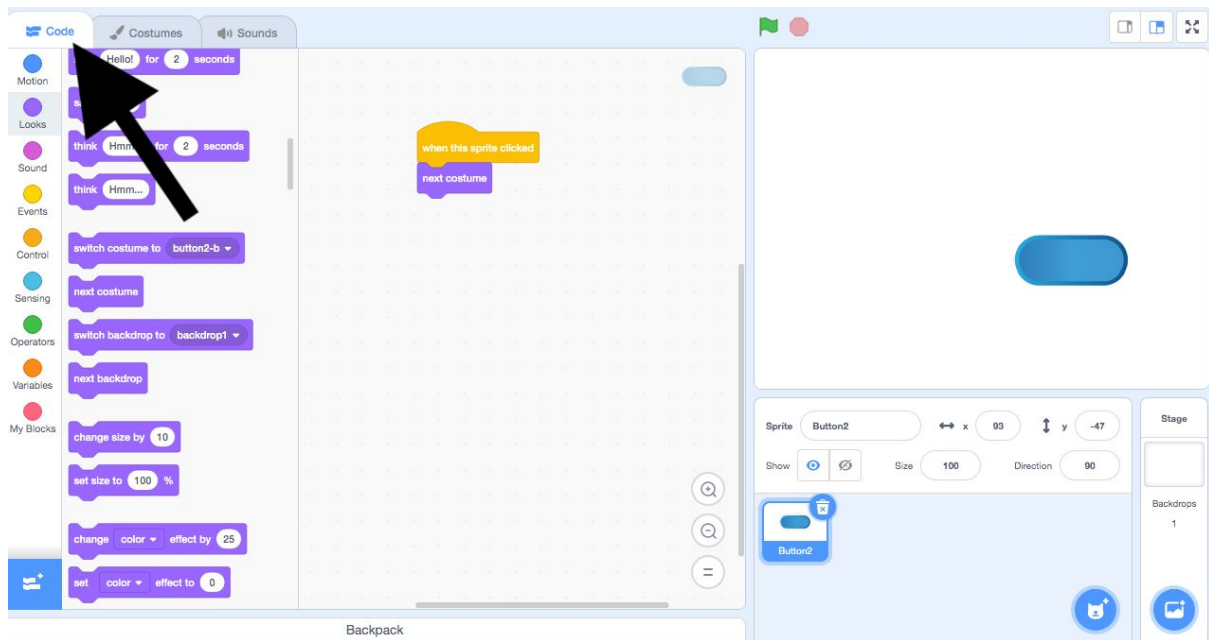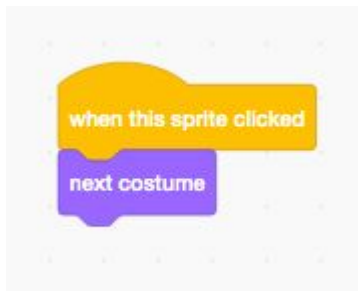Search 'button' in the search field, and click on Button2.

Now we have the button sprite loaded into our project. It is really just the same as any other sprite, except that it has a second costume. This helps us animate the button.

You can click 'costumes' to view these.

Step 3

Let's test out our button with this code.

Try to copy these blocks as shown in the image. You can find each of these blocks in the menu on the left. Blocks are split up by category. You'll find most of the ones for this tutorial in, Events, Control, Motion and Pen.

Click the Green Flag to run the program and then click on the button to see what happens.

Hint

The blocks are stored in different sections. When you are looking for a block we have used, match the colour of the block to the circle on the left side. For example, movement related blocks are always blue.
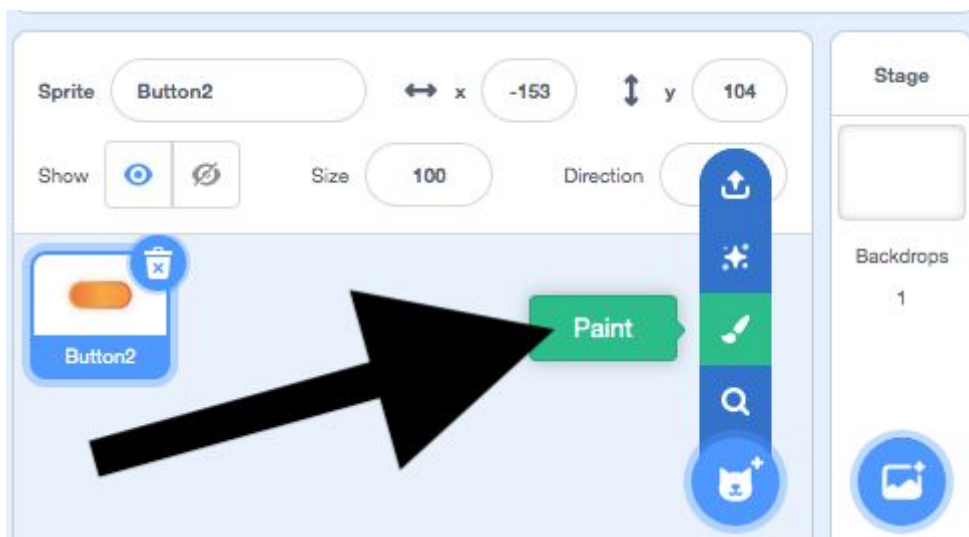
Step 4

Now that we have our button, we need a way of making it actually control something. To do this we are going to add in the broadcast message1 block. This is a way of allowing sprites to talk to each other.
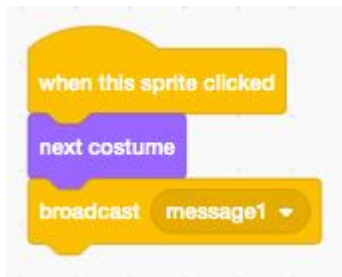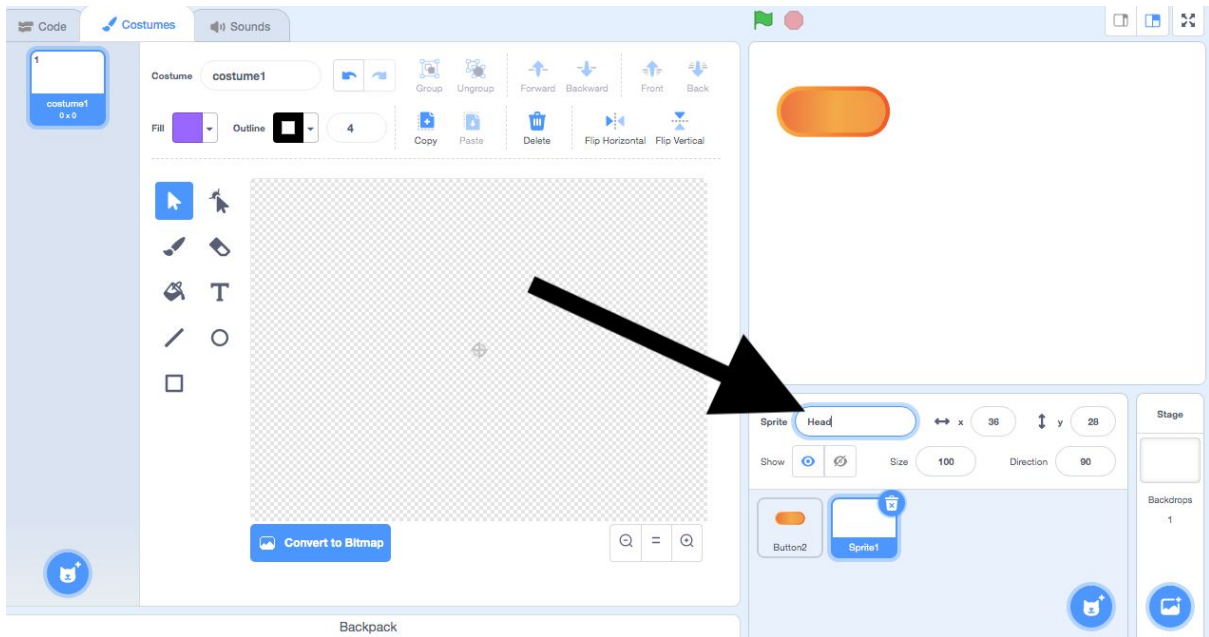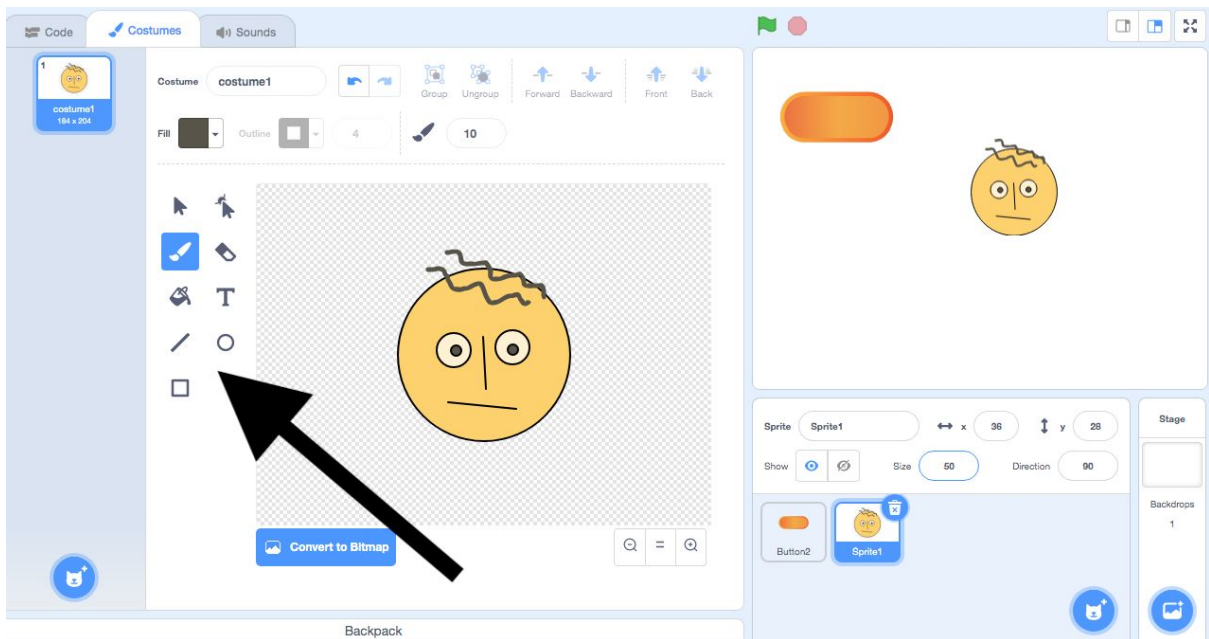
Step 5

Great. Now we can start designing our monster parts! For now, let's start with the head. Hover over 'Choose a sprite' and then click 'paint'.
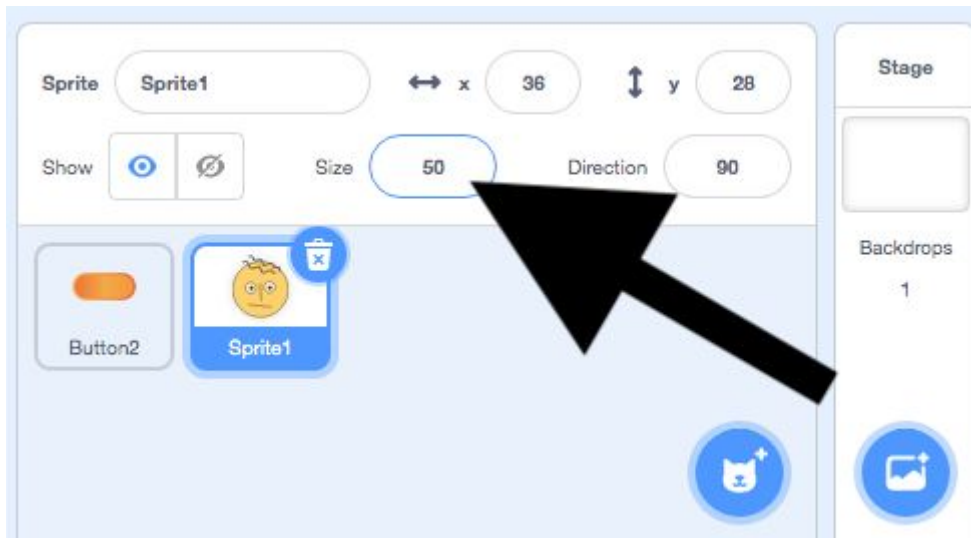

We are now in the new Sprite's costume page. Let's rename our Sprite, 'Head' to keep track of things.
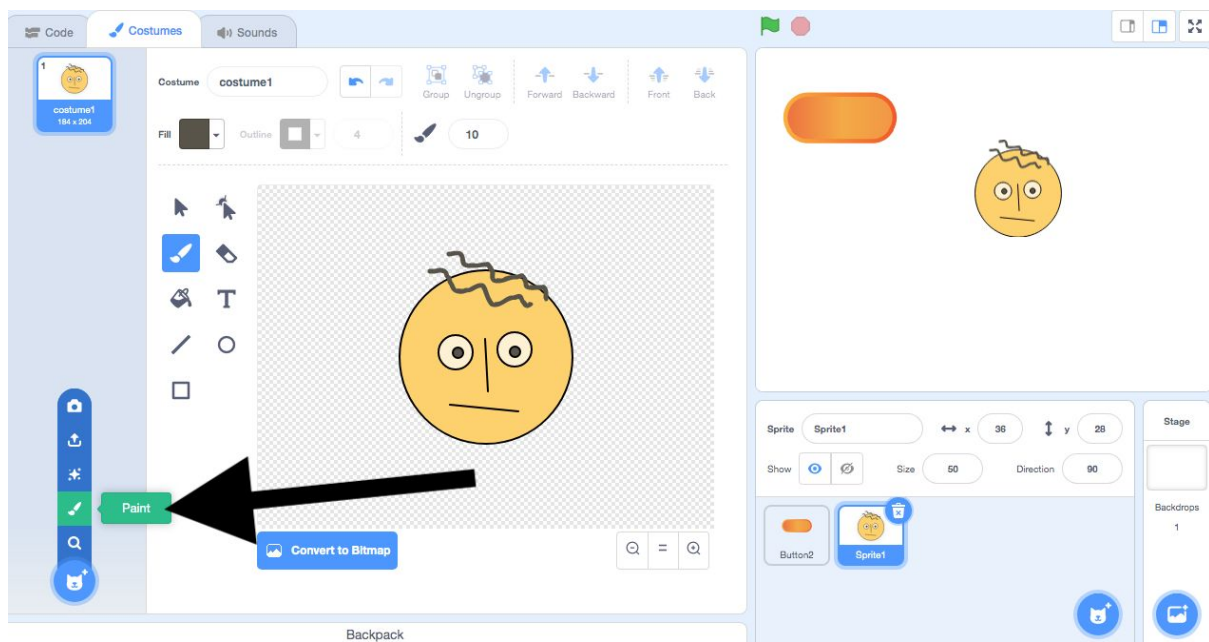
Experiment with the drawing tools, and design a head.

As you draw, you can see the head on the main stage as well. It will be best if we make it about the same size as the button. To do this, go to 'size' and change to something like 50.

When you have a drawing that you are happy with go to 'Choose a costume' and 'paint'.
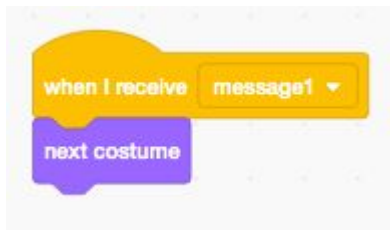Now design a second head.

Step 6

Ok, the next thing to do is to add code to this sprite. Choose code from the tabs at the top.

So, earlier we sent a message from our button. We now need to make this sprite receive it.

Find the block, when I receive message1 and let's connect it to the next costume

You can click the green flag and test it out now.

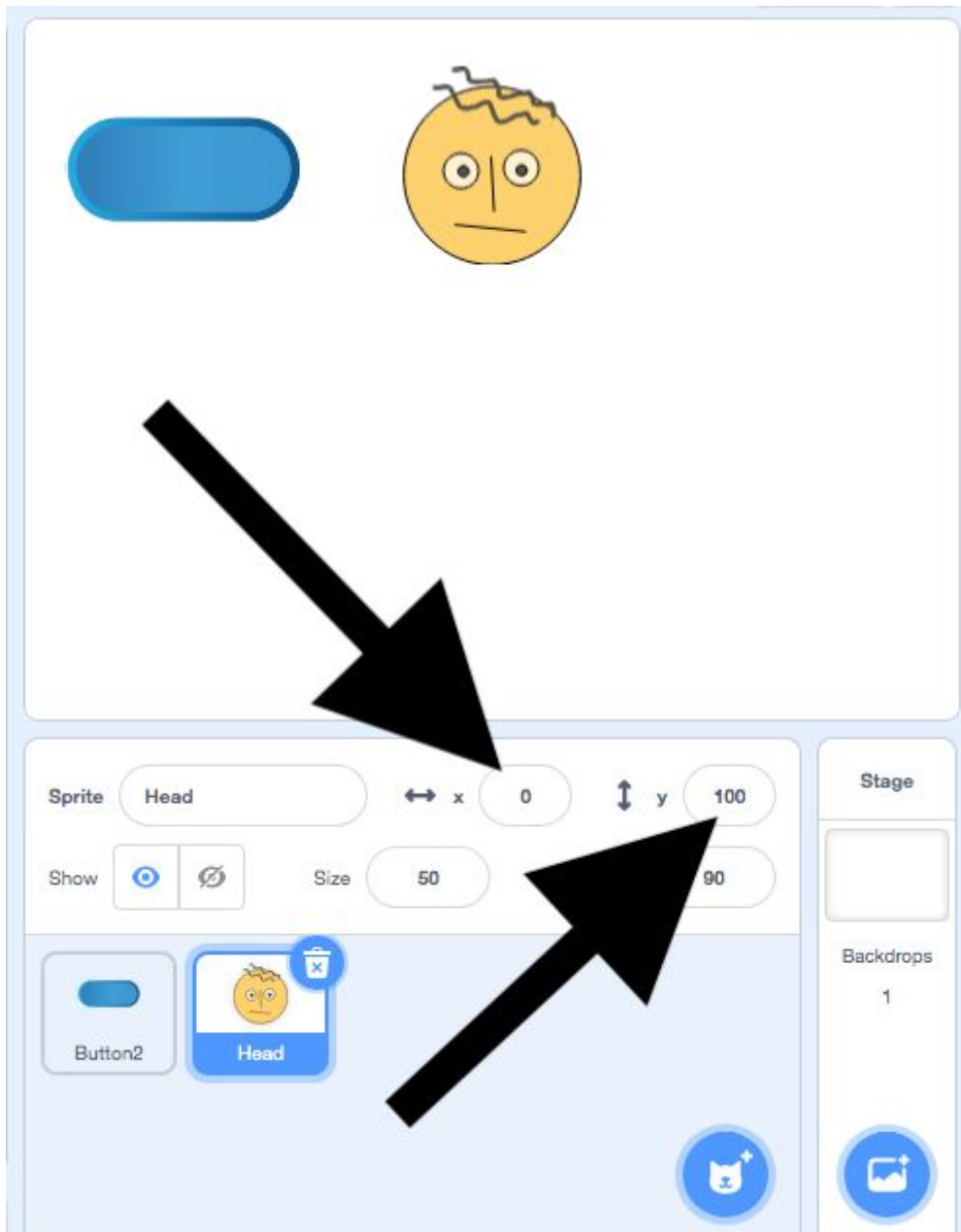Well done, we now have the basics of our monster maker machine.

It isn't very exciting yet though, and it's missing a few parts…

Step 7

Let's tidy up the stage by moving our button and head sprites into a better place.
With the button sprite selected, change it's coordinates to 'x -160, y 100'.
With the head sprite selected, change it's coordinates to 'x 0, y 100'.

Now that we have these in place, let's add some movement to the scene, as if the parts are being taken in and out by a machine.
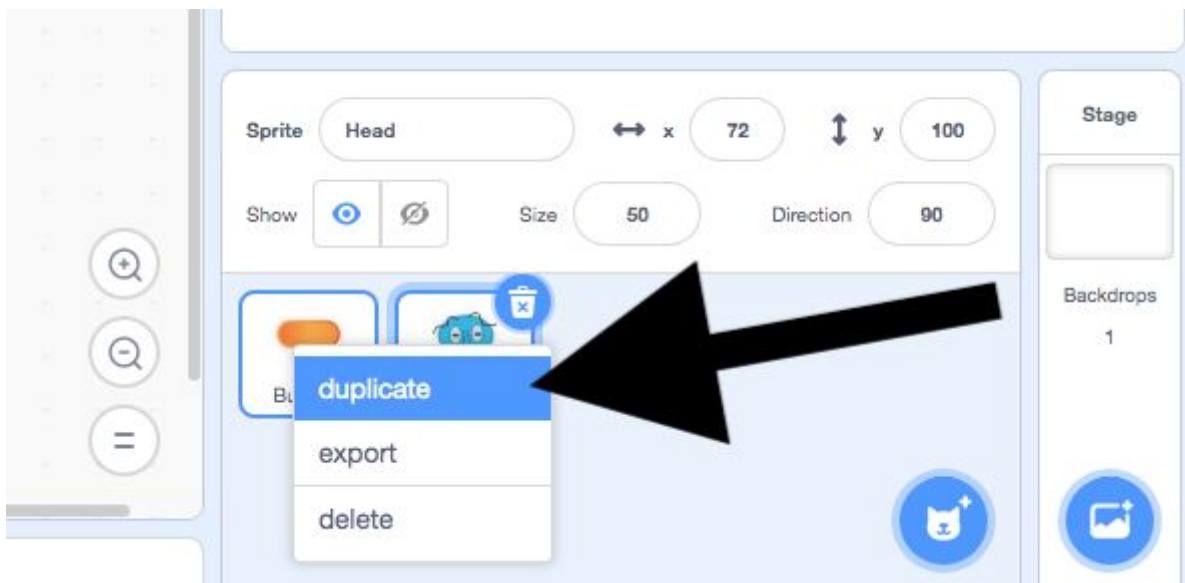
We'll use the glide 1 secs to x y block to do this.

Step 8

So now we have a basically functioning, Monster Maker. But it only switches heads.

It's really easy to duplicate Sprites. We'll do this because it also copies the code attached to each sprite. So first, let's make two more buttons. Right click on the first one and click duplicate. Do this again, so that you have three buttons.
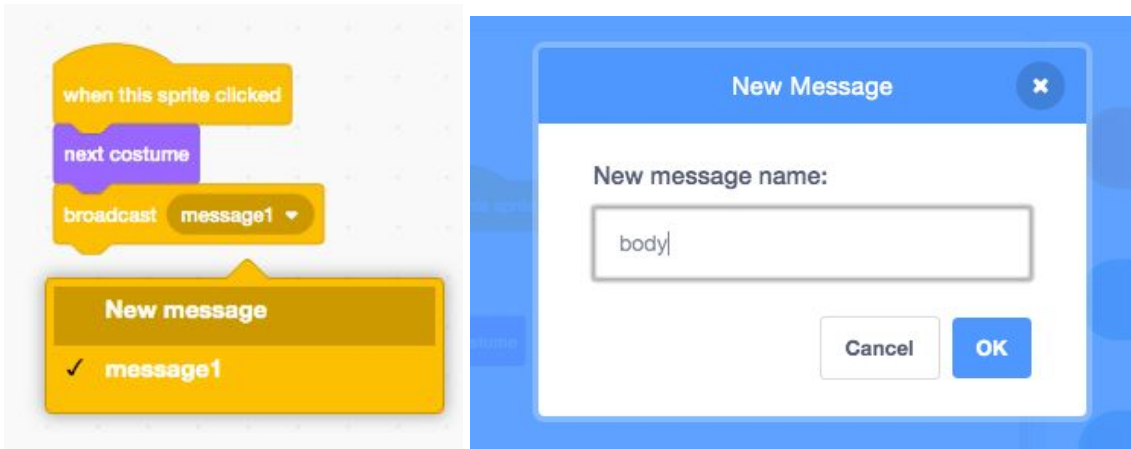

If you click the green flag now and try pressing the buttons, do you notice a problem?
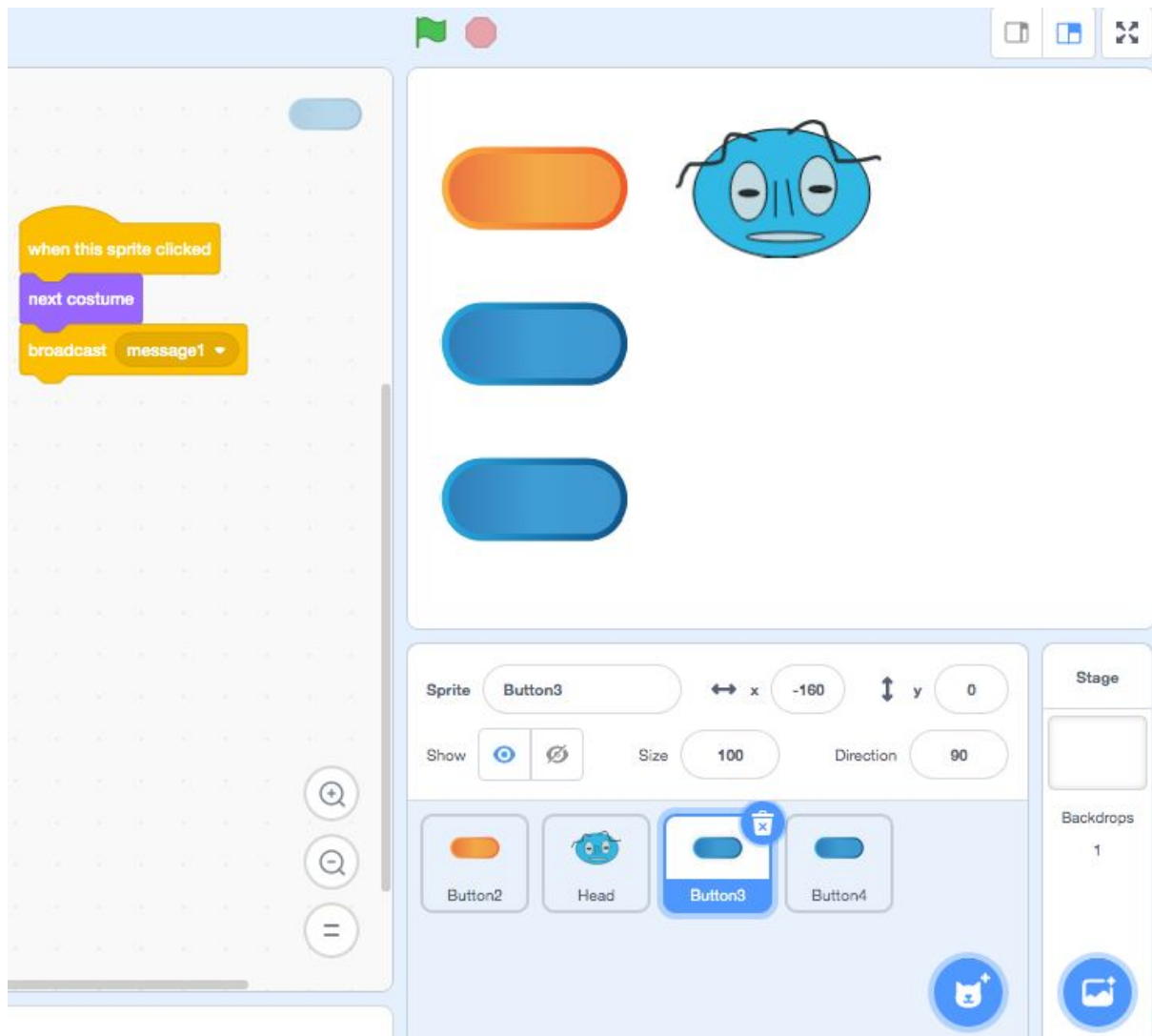
That's right… the buttons are all controlling the head part of the machine.
So open up the code for the second button.

In the broadcast message1 block click the arrow and select 'new message'. Now make a message called 'body'.

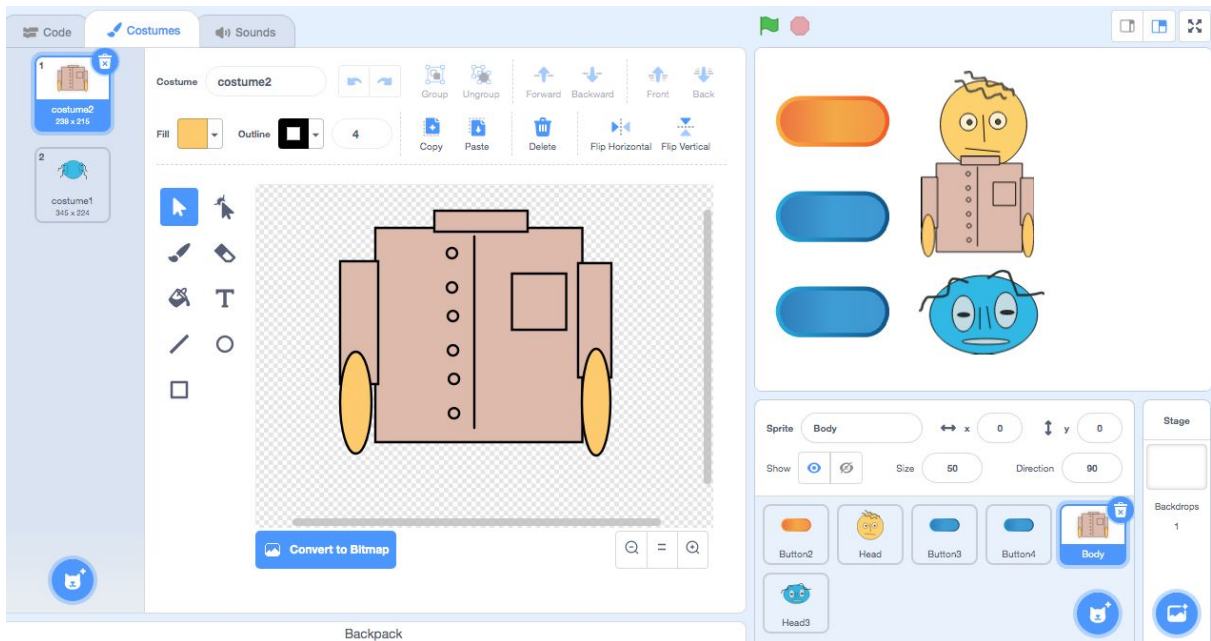Do the same for the third button, but name the message 'legs'.

Step 9

And now we need to design our missing monster parts. Duplicate the head sprite, like you did with the buttons. Rename it 'body' and open up the costumes tab.

Create some new body costumes and delete the head costumes using the bin icon.
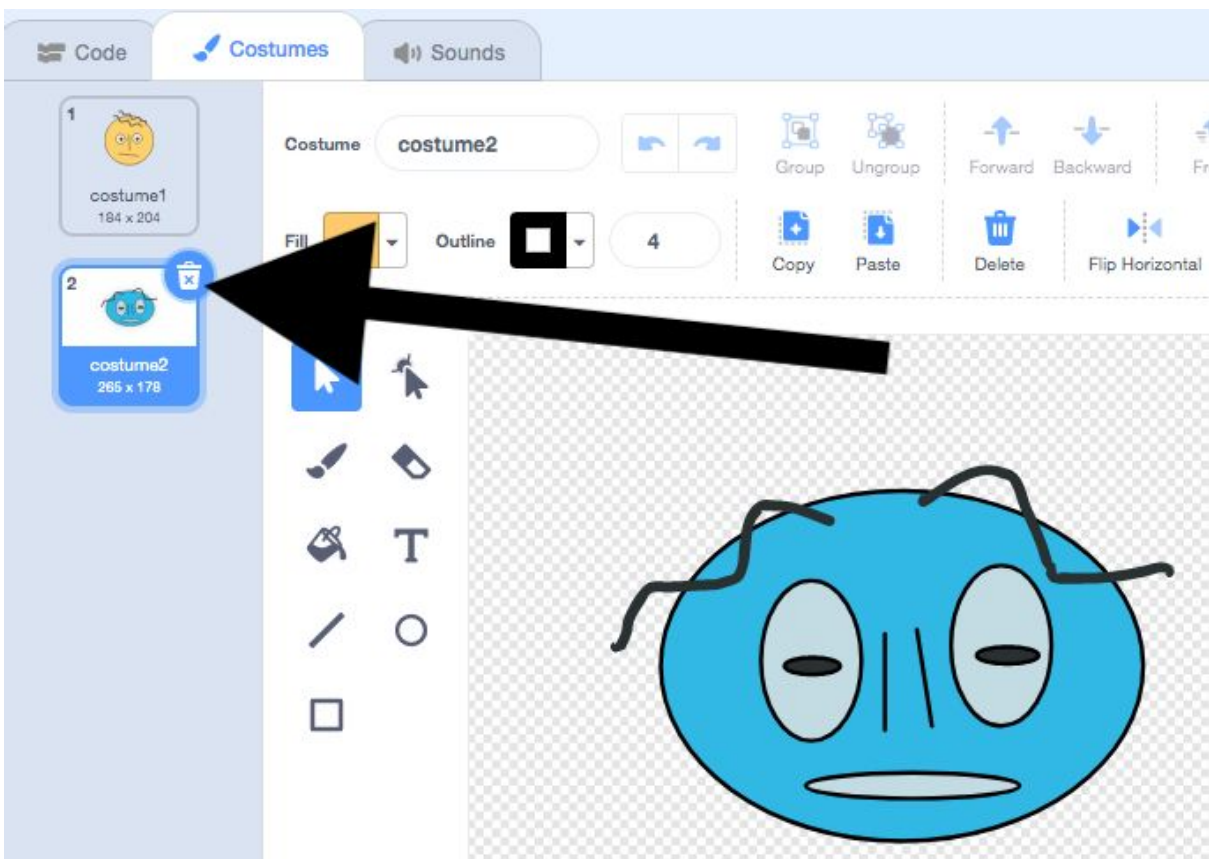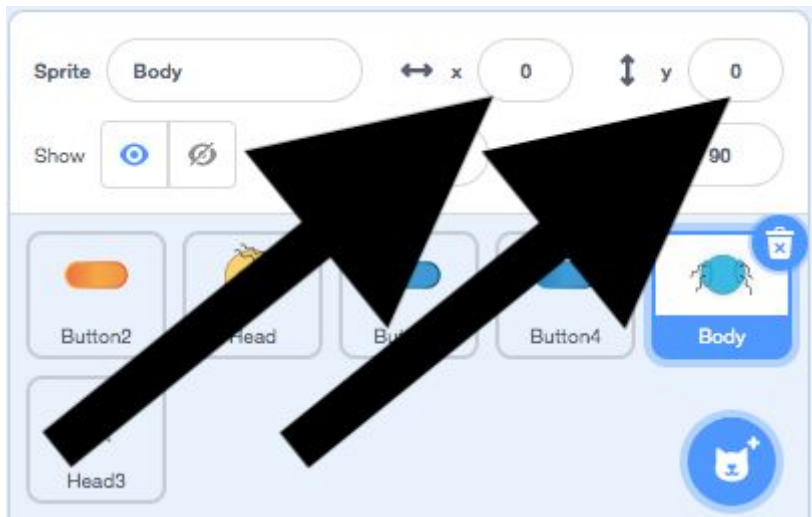
Repeat this process to design some legs too.

You can set the position of these sprites to make it easier to design them.

Set the Body as x 0, y 0.
Set the Legs as x 0, y -100.

Step 10

To get our machine working we now need to connect up those messages. Go to the code section on the body and legs, and select the right message for them to receive.

You'll also need to adjust the coordinates in the glide 1 secs to x y block.

Extra steps

So you now have a basic machine working. But it is probably a bit basic. Here are some things you can try to do now:

- Customise the buttons. If you go to the costume tab you could design your own. You could move them to different places, or you could make new ones!
- Can you add some sound effects to the machine? Explore the 'sound' tab and the sound blocks.
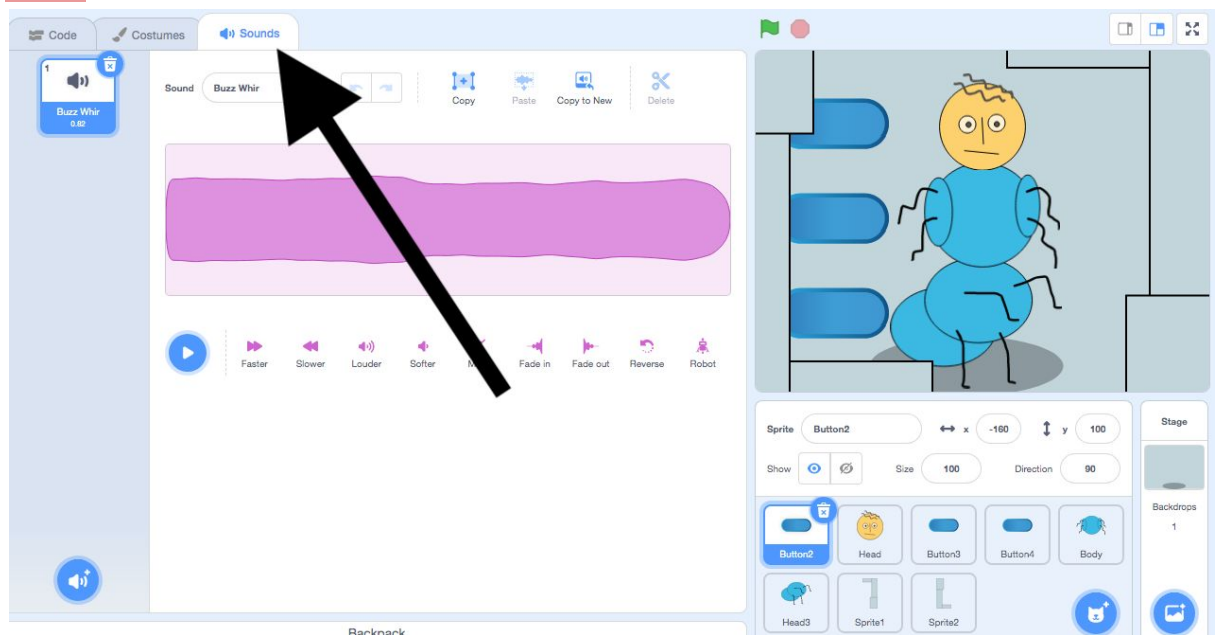
- Add in some scenery to the machine. Try drawing on the stage costume, or making extra sprites.

Further reading

You might have played games like this using paper and drawing. It is sometimes called Exquisite Corpse. This was made famous by a group of artists called Surrealists.

Phoenix.org.uk
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