

# Buttons and Sound

## Introduction

Scratch is a visual programming language suitable for children and teens to create their own interactive stories, games and animations. Projects can also be uploaded and shared with the Scratch community via the Scratch website for others to enjoy.

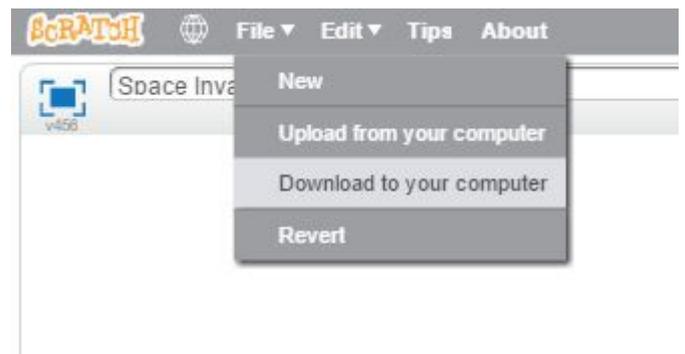
In this exercise we will learn how to make a basic sound board. A sound board is a series of buttons that when pressed play a sound clip. We also look at the different ways in which the buttons can react to being clicked on either by changing their appearance or producing popup messages.

Let's get started by first loading Scratch. You can either install Scratch on your computer or load it via your web browser by navigating to <https://scratch.mit.edu/>

## Top Tip

Don't forget to save your work regularly. It's good practice to get in the habit of saving any progress you've made. So when you're feeling great after solving a coding problem, save it, save it, save it!

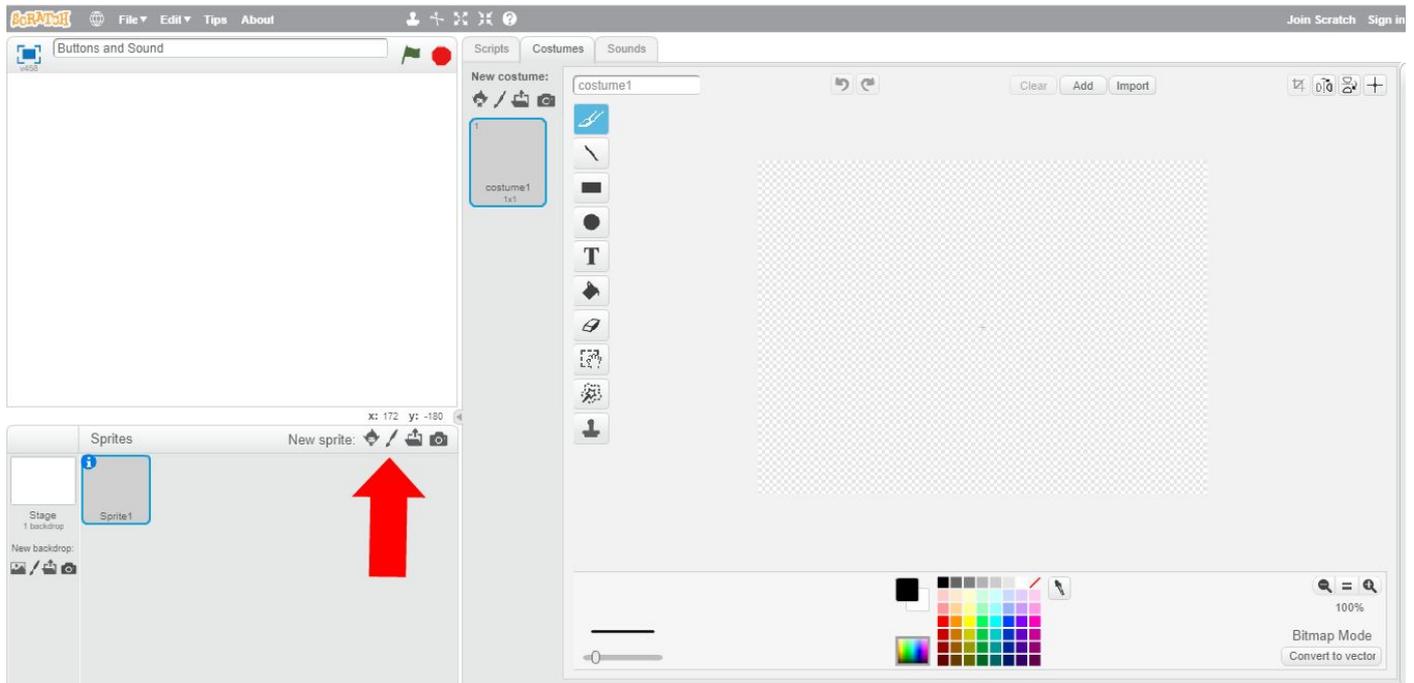
The save options may differ slightly between Scratch versions but head on up to the File option in the top left and you'll find it.



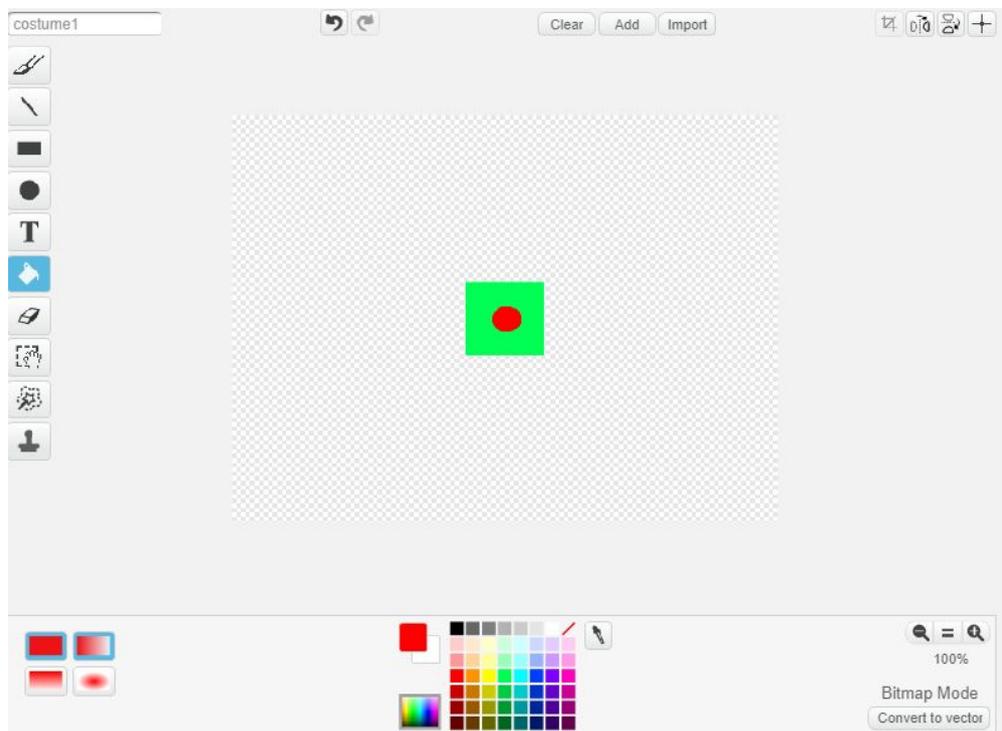
## Let's get started

## Step 1

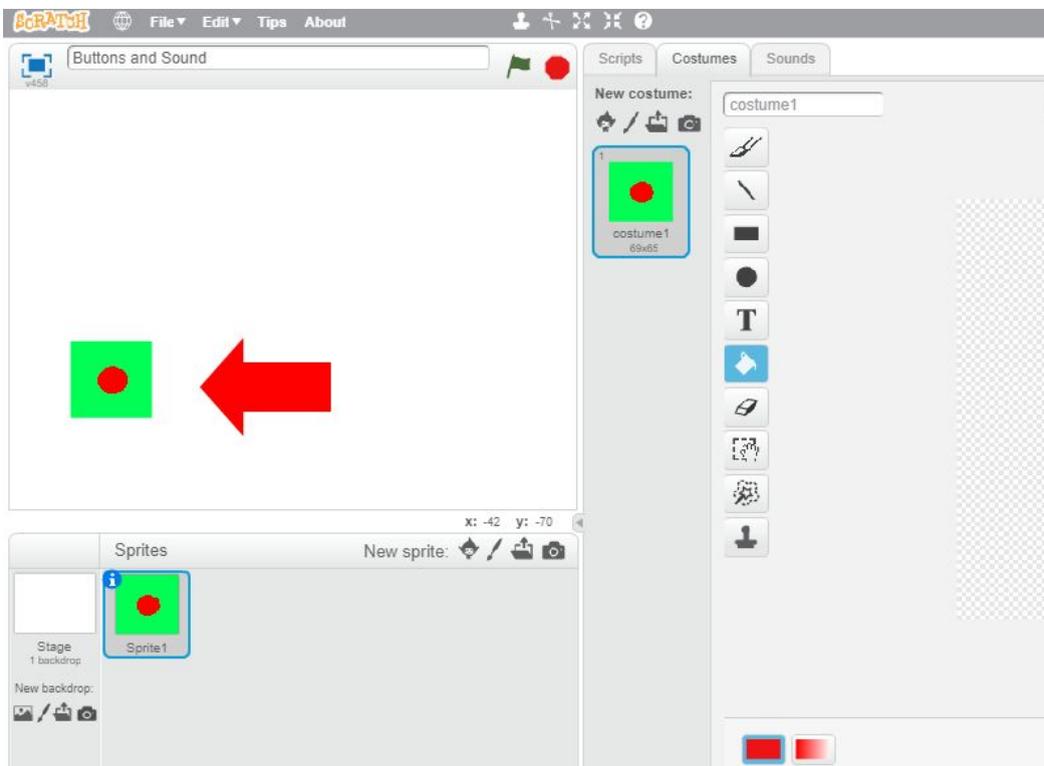
The very first thing we need to do is draw our buttons for our sound board. Our buttons will be drawn one at a time using the Paint New Sprite option shown below.



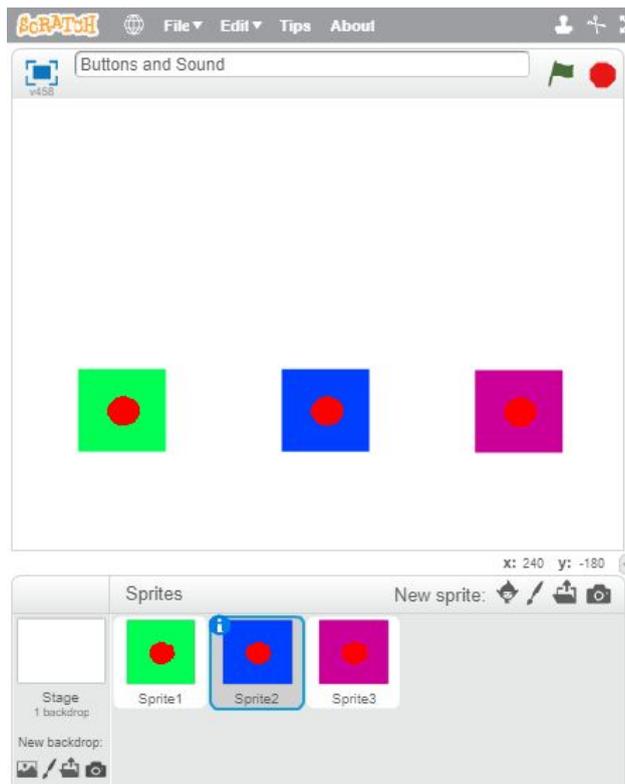
The button can be drawn in the editor on the right hand side. It can be anything you want it to be. For this exercise I'm going to keep it simple.



The sprite will automatically appear on the left hand screen, this is where all the action takes place and this is also where we can position our buttons by simply dragging them with the mouse pointer. Position the button wherever you would like.

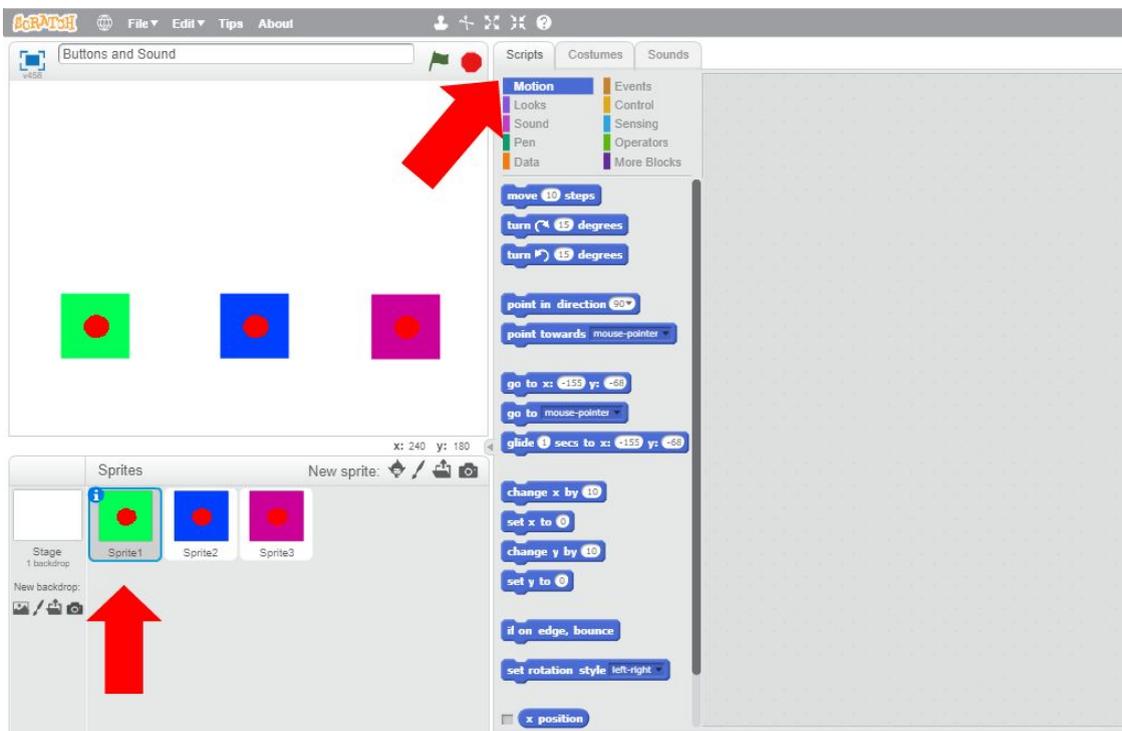


Repeat this step a couple of more times so that the end result is three separate buttons (sprites) all in a row at the bottom of the screen.



## Step 2

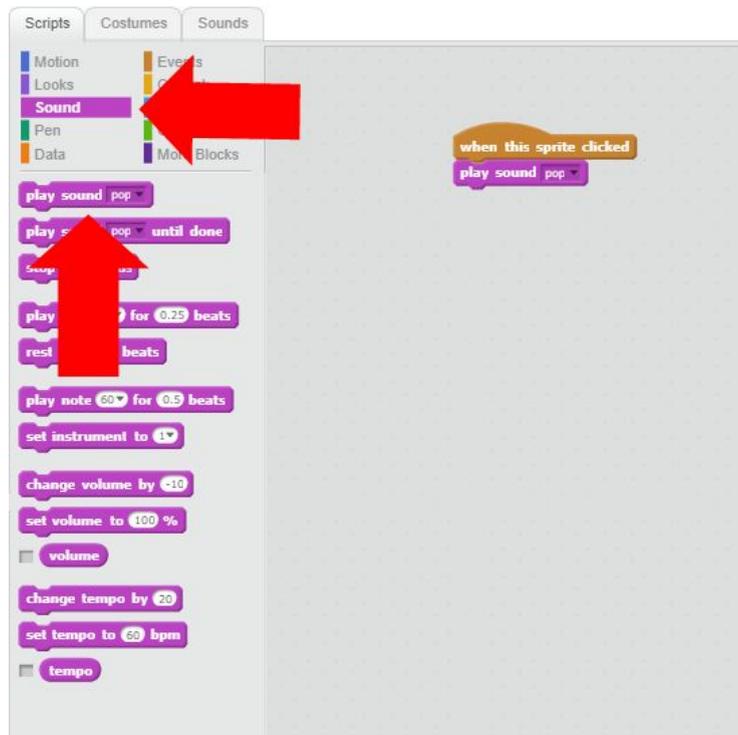
We will take a button at a time, so making sure Sprite 1 is highlighted click on the Scripts tab as shown.



Next head over to the Events section where they'll be a block titled "When the Sprite is Clicked". Drag this block over to the main working area on the right as shown.



The next stage is to allocate a sound to our button and we do this using a block found in the Sound section. Find the “Play Sound Pop” block and drag it into the main working area as shown.



We should now hear a popping noise when we click on our button which is great but what if we want to record our own sound effects? This is really simple to do and it involves using the dropdown in the Play Sound block as shown below. Instead of the Pop option, we select the Record option instead.



This takes us to the sound recording section where we can record our own sound effect but simply pressing the Record button and speaking into the microphone.



Now when we return to our blocks by clicking on the Scripts tab, we now have the option to select our explosive recording.

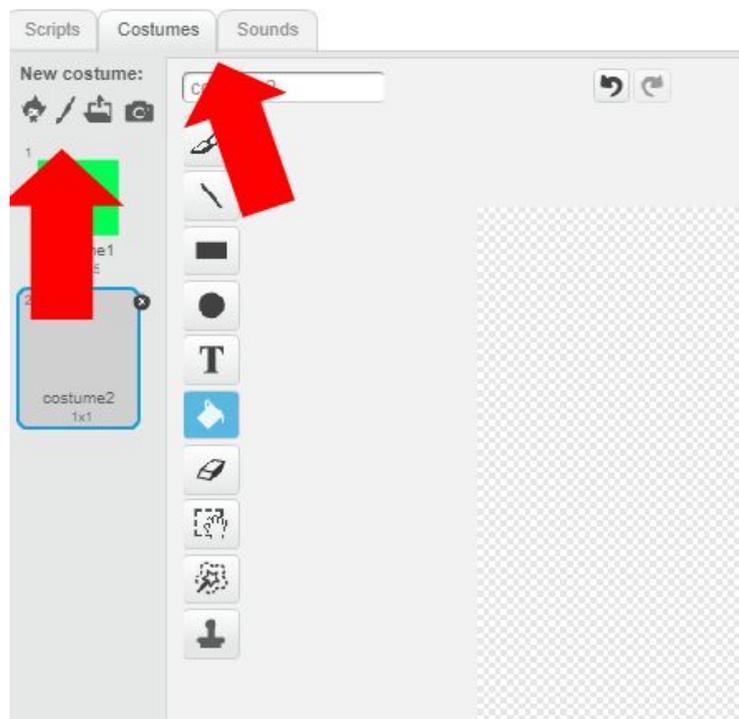


Let's give our Sprite 1 button another click to see if we can hear our sound effect.

Repeat these steps for the remaining two sprites so that all three buttons have a sound effect allocated to them.

### Step 3

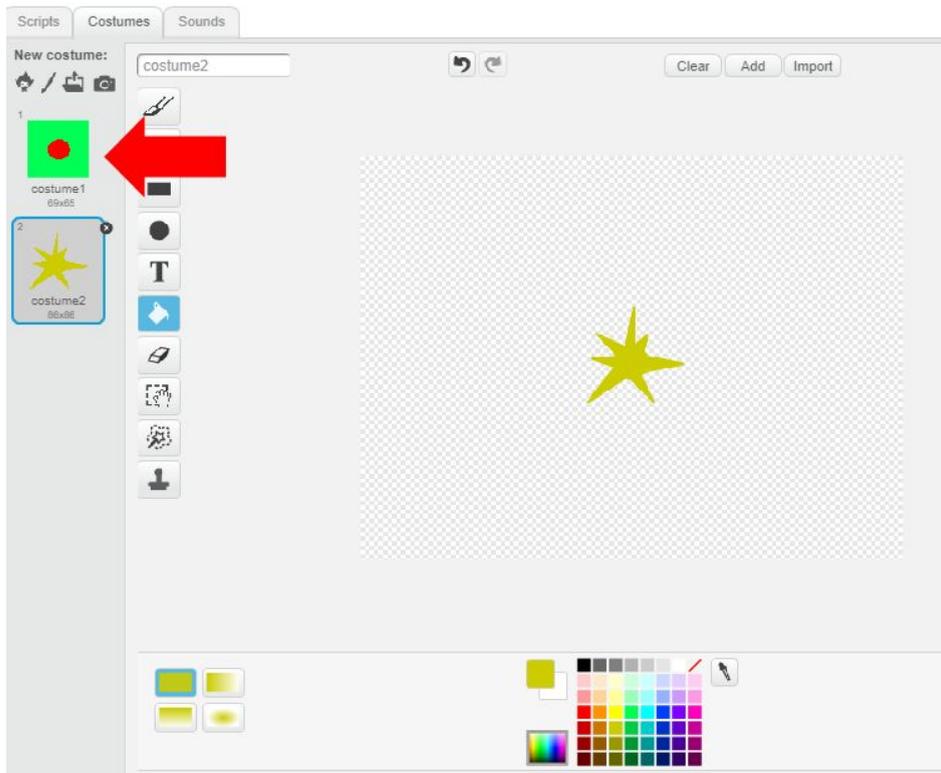
Now we are going to make our buttons more reactive but changing their appearance when they're click and we do this using what we call Costumes. Making sure Sprite 1 is highlighted, click on the Costumes table as select the option to Paint New Costume.



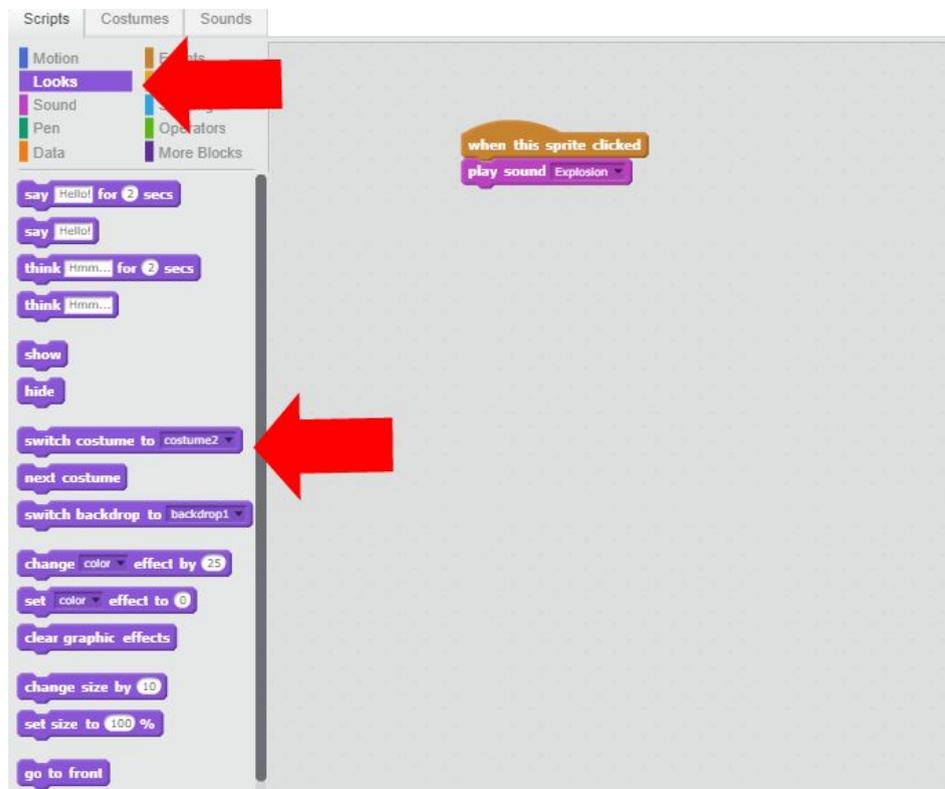
Feel free to draw whatever you would like, remembering that this is what our button is going to turn into when we click on it. For this exercise our button is going to explode.



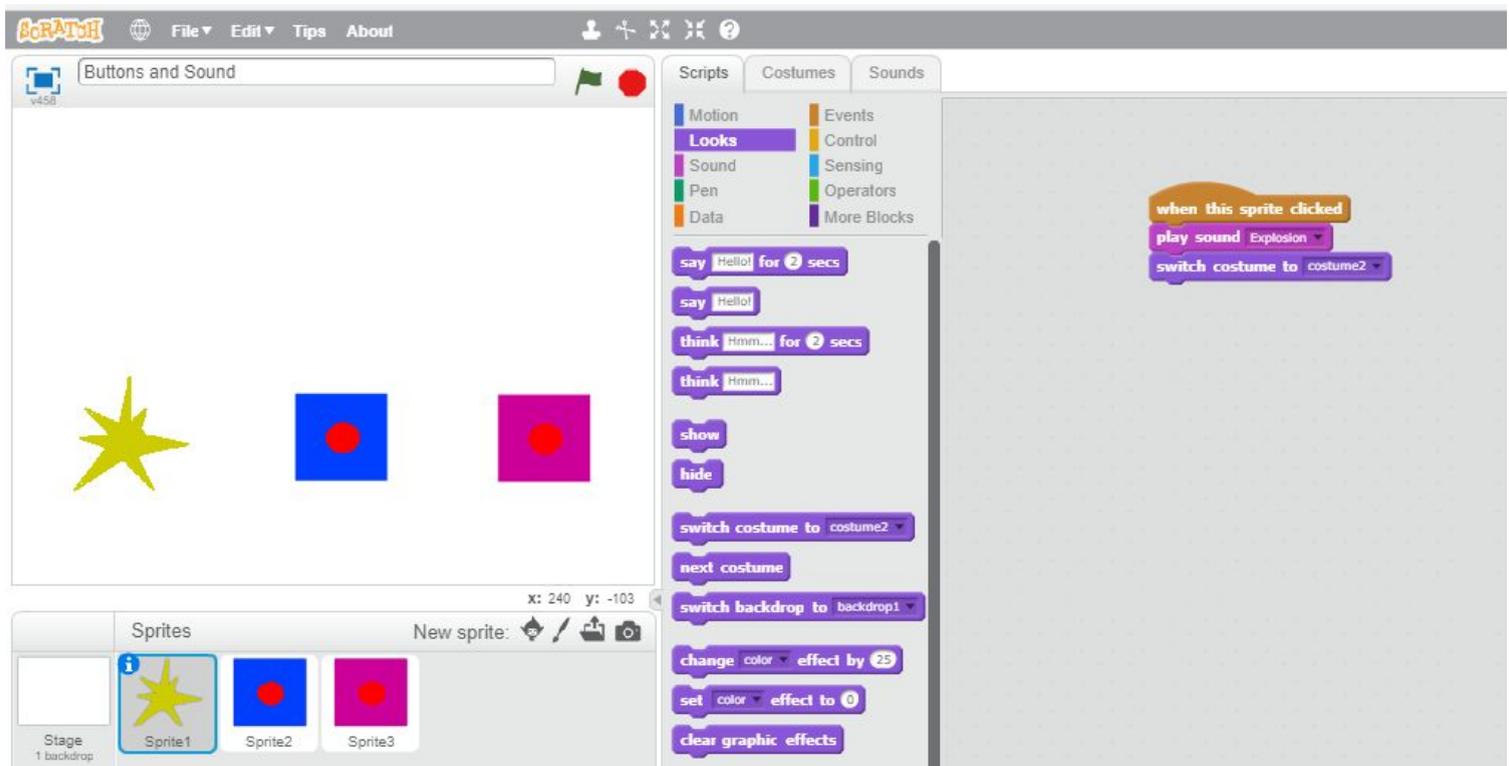
Make sure you click back onto Costume 1 before heading back to the blocks.



So now we know what we would like the button to look like when pressed, let's program it. Head over to the Looks section and find the "Switch Costume to..." block.



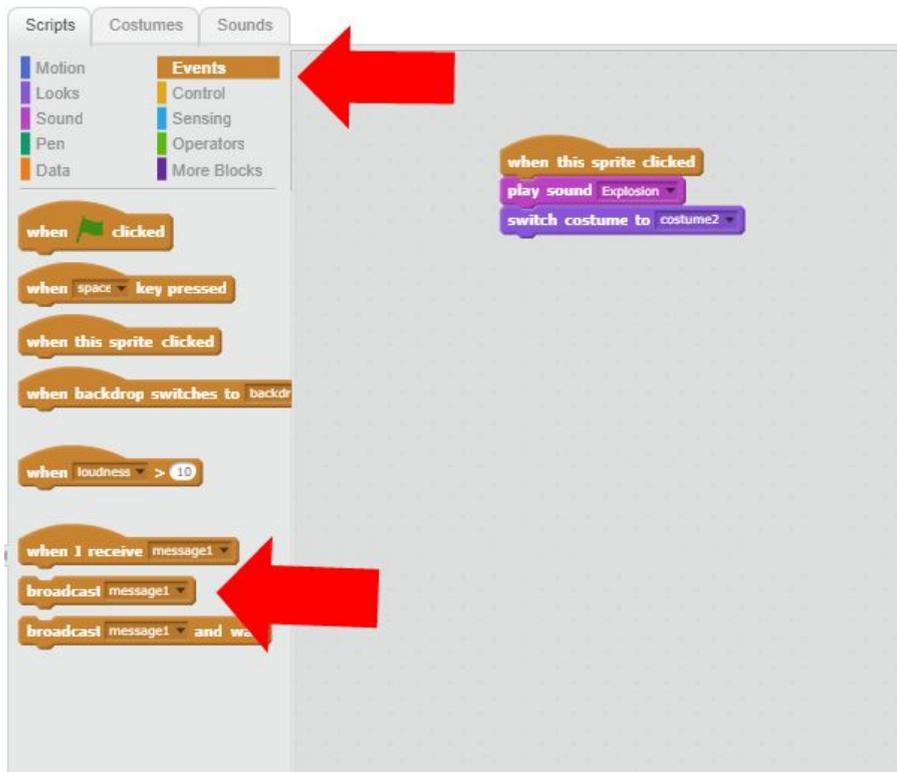
Drag into the main working area and add it to your existing blocks as shown. Now when our button is pressed it will change appearance, switching to Costume 2.



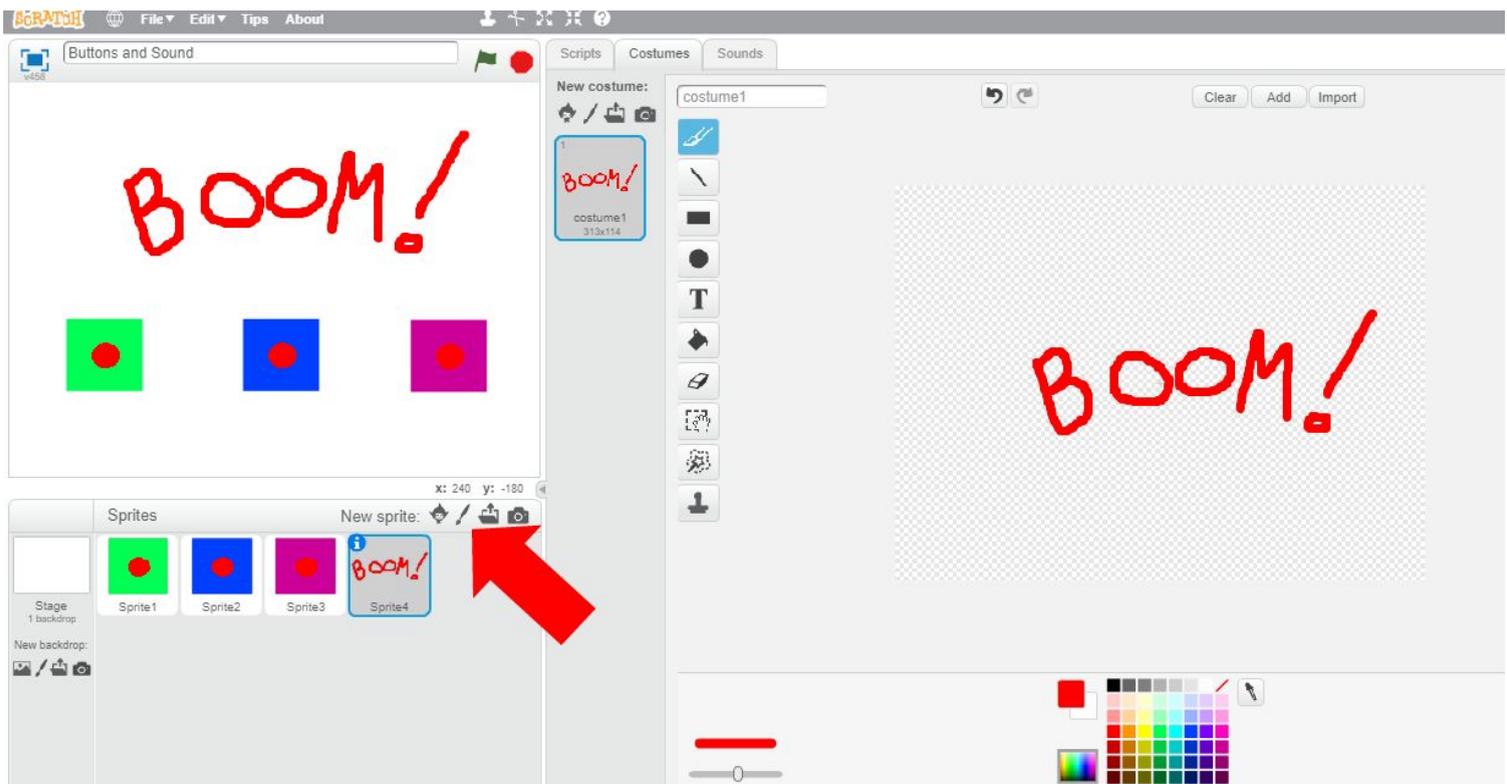
Repeat this step for the other two buttons so that they react to being clicked on too.

#### Step 4

Let's go one better and get something to pop up when our buttons are pressed. Head on over to the Events section once again and add the Broadcast block to the Sprite's logic.



Next we need to create our pop up and this is done by drawing a new sprite. For this exercise I'm going to have the words BOOM! display on screen when my first button is pressed.



Once you've drawn yours we need to build the blocks for it, instructing the BOOM! To only appear when the button is pressed. In the Events section drag the "When I Receive..." block across. This means that whatever blocks we add underneath, they will only be put into action when Message1 is broadcast when Sprite 1 is clicked.



Now head over to the Looks section and add the following blocks'



This will now show our BOOM! for a couple of seconds before disappearing.

We can repeat these steps for our remaining two sprites, giving them different costumes to display when they're clicked and program popups to appear to accompany our BOOM!

### Things to consider

How do we make the buttons change back to their original appearance after they've been clicked on and the sound clip has played? We can add a couple of blocks from the Looks section to the sprite's logic, setting the button back to Costume 1 after we've displayed our pop up as shown.

