# LightUp Workshop Part 1 – Turn on Lights

Below are the detailed instructions intended to help guide you through the LightUp Workshop. A word that will be used often is the word Sprite. This is what Scratch calls an object or an image. They can be anything such as animals, shapes, or characters, but today we will be using lightbulbs and arrows.

Guided Steps:

1. To start the LightUp workshop, you will need to have the starter file downloaded. If you need to download the files or are unsure whether you have them, please view the Download LightUp PDF under the Documents folder.
2. Before we start, make sure that your yellow lightbulb is highlighted. This is important because we want to make sure that we create the right code for the right sprite.
3. Make sure that in the upper right corner of your work area you see the image of a faded yellow lightbulb and make sure the lightbulb at the bottom is highlighted purple.
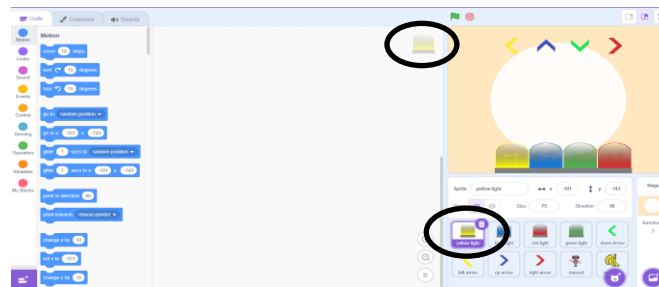

4. You will need to do this every time you want to create some code for a sprite. Now you are ready to start!
5. What we first want to do is create a flashing or blinking light for our four lightbulbs.
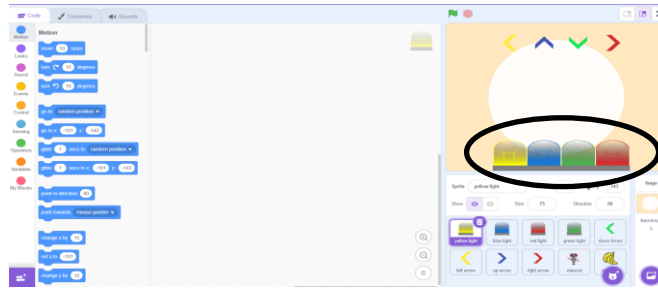
6. You will first need to grab a beginning block to let Scratch know when we want our code to run. So go to the "Events" tab on the far left and find the "When _____ key pressed" block.
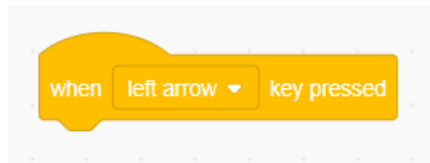

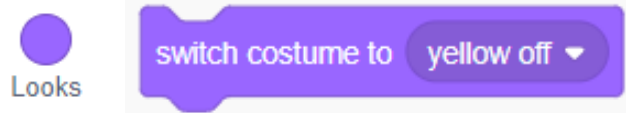7. Drag the "When _____ key pressed" block to your work area in the middle of your screen.
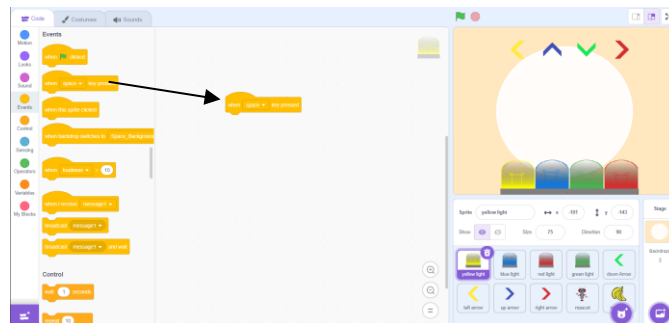
8. Next, click the dropdown menu for your block and select the "left arrow" option. This will be a trigger for your code letting Scratch know you want to run some code every time a user presses the left arrow.
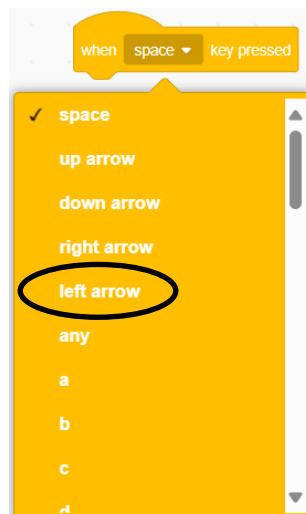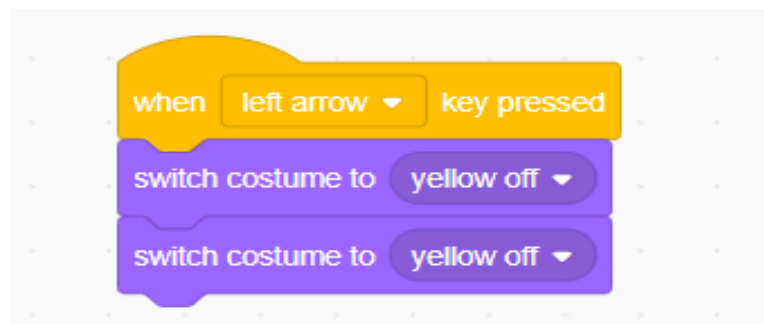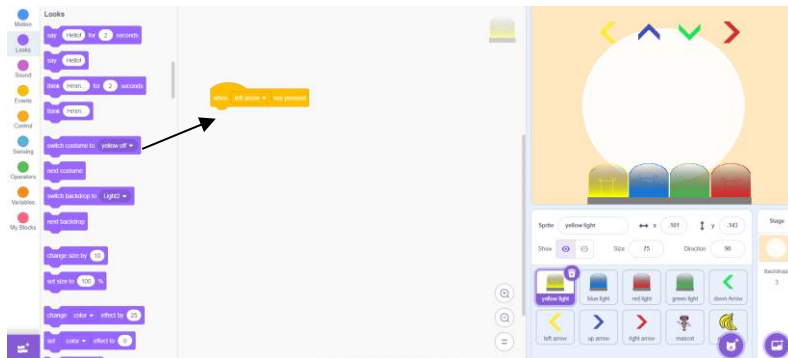
9. Next, we need to add some code under our Event block, so go to the "Looks" category and find the "Switch costume to _____" block.


10. Drag two of those blocks to your work area in the middle of your screen and place them under the "When ____ key pressed" block. You will see that all the blocks should snap together when they get close.


11. Change the first "Switch costume to _____" block to the "yellow on" option, and for the second block "yellow off" if it is not already done for you.

12. Go to the "Control" category and grab the "Wait _____ seconds" block and place it between the two "Switch costume to _____" blocks.
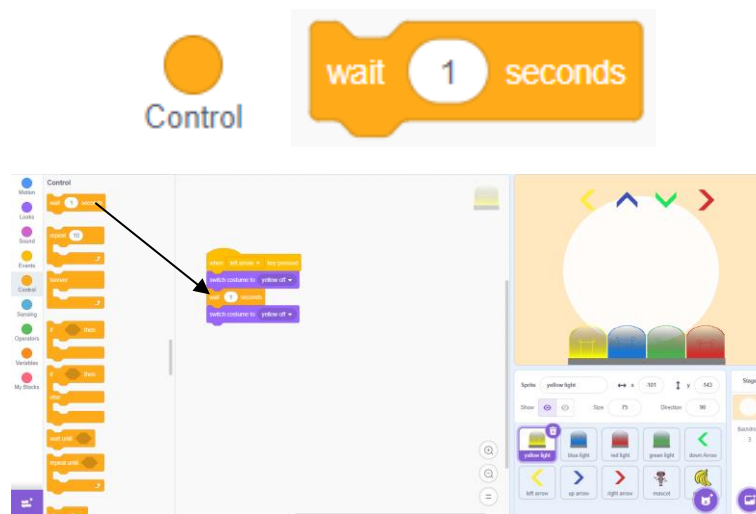

13. This block will be used to control how long we want our yellow lightbulb to stay on. For this game we will use .1 seconds, but you can adjust it to whatever time you want, but keep in mind not to go over 1 second, as we are building a game.
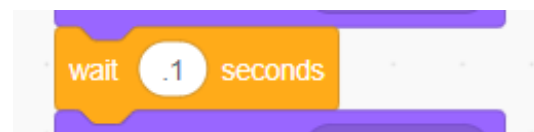

14. Now you are done with the first lightbulb! To make sure that our code works let's click the green flag at the top of our page.
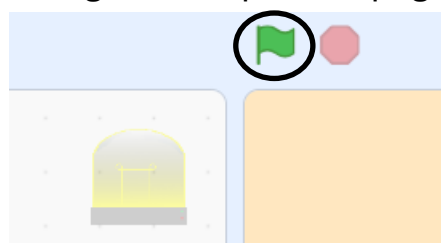
15.   If your code works, you should see your yellow lightbulb turn on and off when you click the left arrow key.

16.   Now you need to do the same thing for the rest of the lightbulbs.

17.   To switch to another lightbulb, you need to select a new one at the bottom of your screen. So, if I want to create code for the blue light I would have to click that sprite.
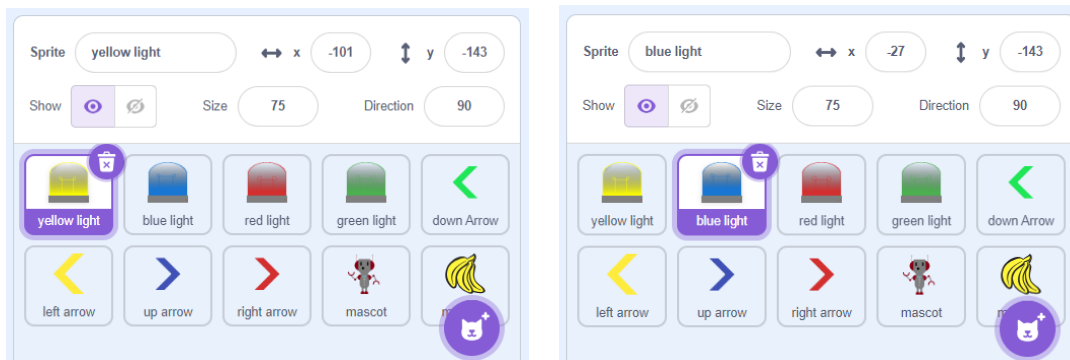
18.   Notice that once you click a new sprite you will get a blank workspace. The workspace is blank because you haven't created any code for it yet.

19.   And don't worry about saving any of your code, if you go click back to the yellow light, you will notice that all your code is still there.

20.   Remember to make sure that you are on the correct sprite by checking that the object is highlighted at the bottom of your screen and the faded image is at the top.
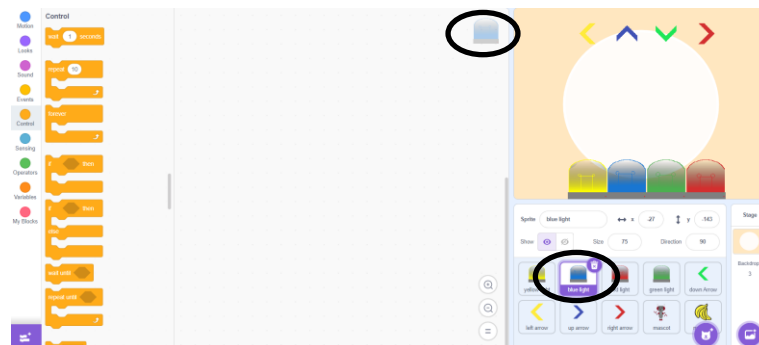
21.   Now it's your turn to try! Use steps 6-14 to turn on a lightbulb when the user clicks an arrow key.

22.   Remember that we already used the left arrow key, so do not use that one for the others. Use the up-arrow key for the blue bulb, down-arrow key for the green bulb and right-arrow key for the red bulb.

Happy Coding!