

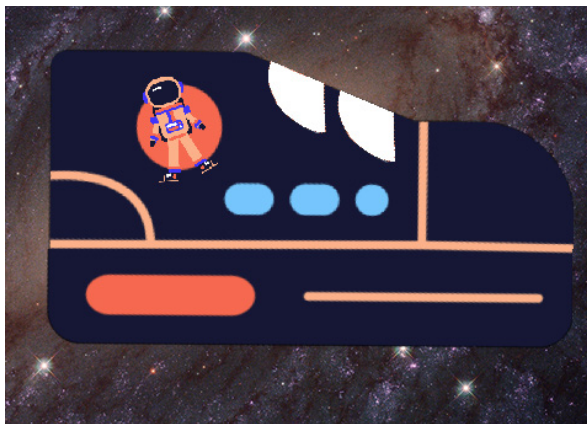
SPACE SHOE

Become a designer and create a program where anyone can custom create their own version of a space shoe.



INTRODUCTION

Make a game where the user can design their own particular style of space shoe.



What you will need

HARDWARE

A computer capable of running Scratch 3

SOFTWARE

Scratch 3:
either online
[rpf.io/scratchon](https://scratch.mit.edu)
or offline
[rpf.io/scratchoff](https://scratch.mit.edu)

What you will learn

- How to use **costumes**
- How to use the **broadcast** function
- Creating user input

Additional notes for educators

[Check out our blog post for this project with tips, curriculum, and supporting material at medium.com/@codeclubau](#)

DOWNLOADS

Project Links

Starter project

<https://scratch.mit.edu/projects/872291509/>

Completed project

<https://scratch.mit.edu/projects/872291379/>

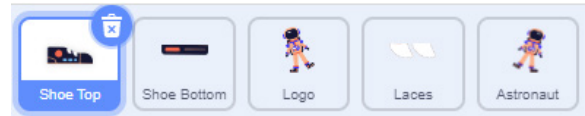
To watch our code along video go to our [YouTube](#) channel.

STEP 1 - CHANGING THE COSTUMES

Open the starter project - <https://scratch.mit.edu/projects/872291509/>



Click on the Shoe Top sprite.



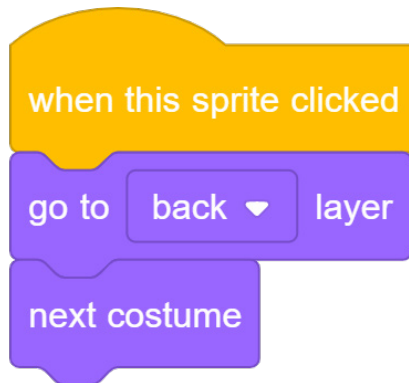
Start your first algorithm with the event, **when green flag is clicked**.



Add a block to **switch costume to Shoe Top**. This means the shoe will always start with this costume.



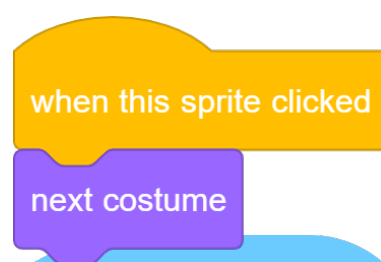
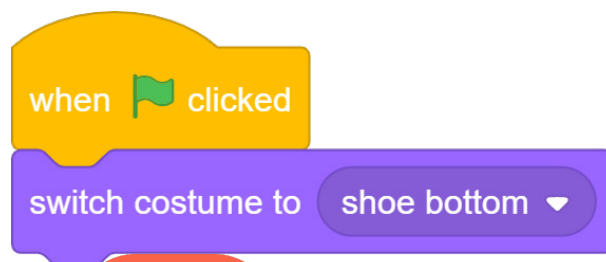
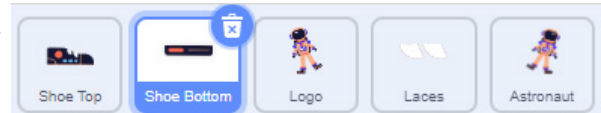
Start a new algorithm with the event, **when this sprite clicked**. Add a block to **go to the back layer** (the logo and laces sprite are on top of this sprite) and a block for **next costume**.



Test your code in game mode (Click on the Full Screen Control button. This will prevent the sprites from moving on screen if you accidentally hold your mouse down). Each time you click on the top of the shoe you should see it change costume. When you click the green flag, it should return to the original costume.

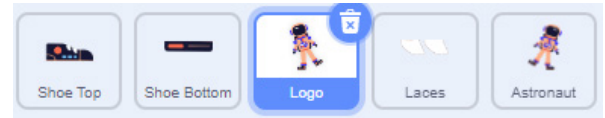


Select the Shoe Bottom sprite. Add two algorithms. **When the flag is clicked switch costume to shoe bottom**. **When this sprite is clicked, next costume**.

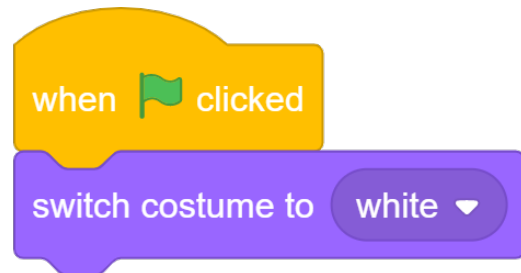




Select the logo sprite. Add two algorithms. When the flag is clicked switch costume to astronaut. When this sprite is clicked, next costume.



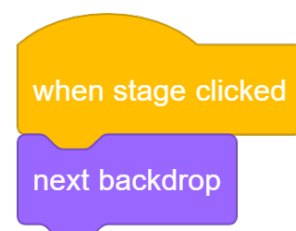
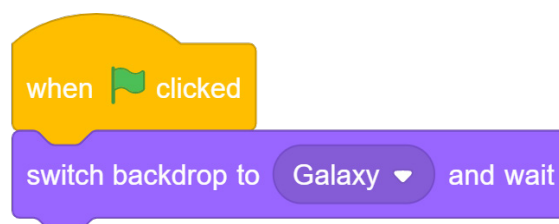
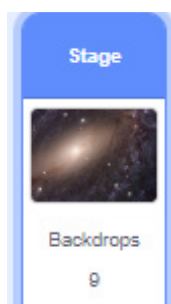
Select the laces sprite. Add two algorithms. When the flag is clicked switch costume to white. When this sprite is clicked, next costume.



Test your code. Try clicking all parts of the shoe to test that each section changes costumes. You may notice that sometimes the shoe blends in with the background. Let's make it change too!



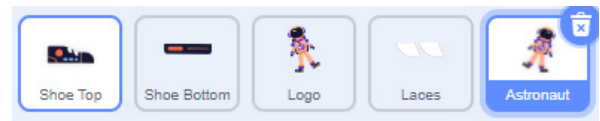
On the stage select the backdrop. Add two algorithms. When green flag clicked switch backdrop to Galaxy. When stage clicked, next backdrop.



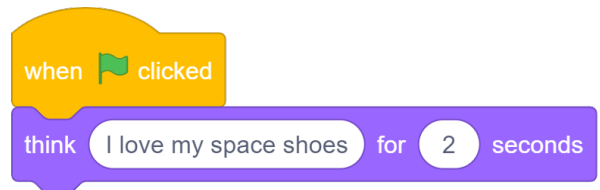
STEP 2 - INTRODUCING THE GAME (EXTENSION)



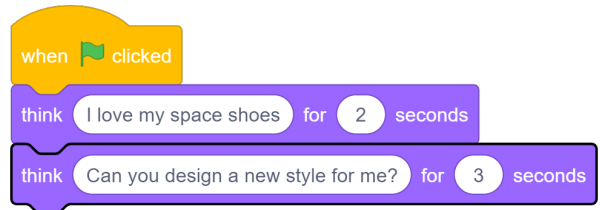
Select the astronaut sprite.



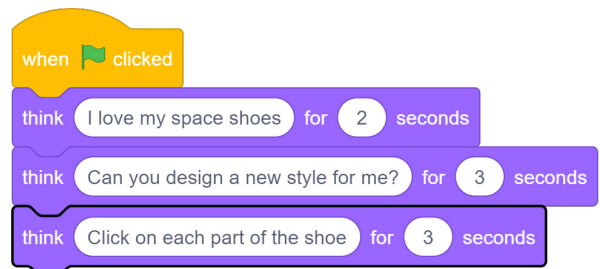
Start the algorithm with the **green flag** event. Add a **think** block that says I love my space shoes.



Add a second **think** block that sets the scene for the player.



Add a third **think** block that tells the player how to use the game.



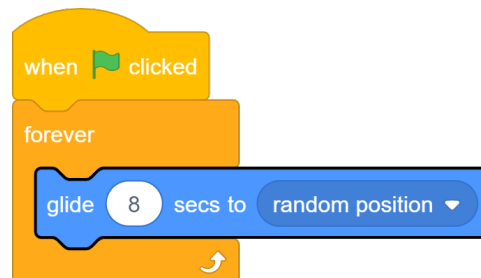
Let's make the astronaut look like they are floating in space. Start a new algorithm with the event of **clicking the green flag** and a **forever** block.



****We want the astronaut to move and think at the same time, so we need two algorithms to make this happen.**

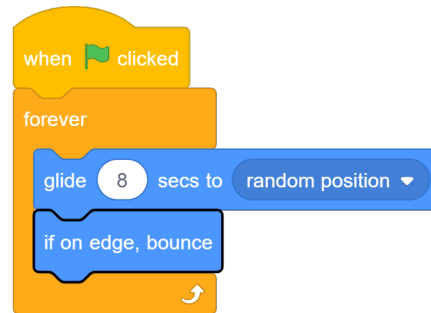


Inside the forever block add a motion block to **glide for 8 seconds to a random position.**

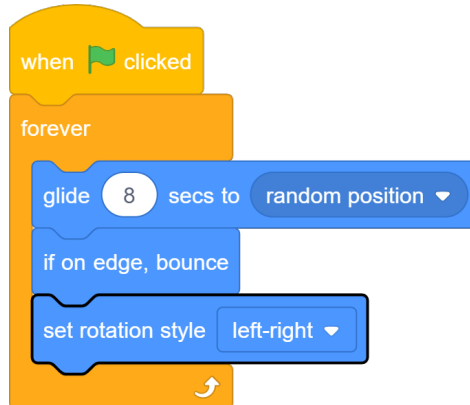




Add a motion block, **if on edge, bounce**. This means our astronaut will not disappear off the screen.



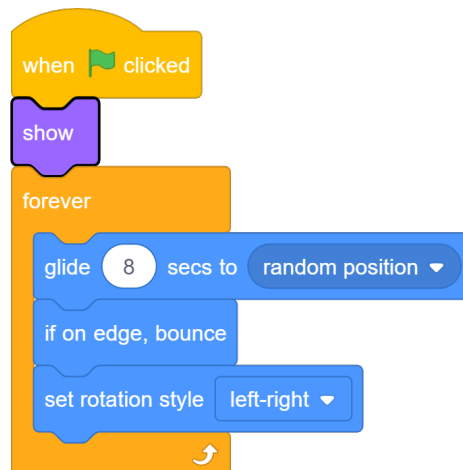
Add a block that will keep the astronaut up the right way by using a **set rotation block**.



Test your code. Where is our astronaut? It is currently hidden. Let's add some code to tell each sprite when to be on screen and when to hide.



Add a **show** block above the forever block.





When the astronaut has finished thinking it is going to send a broadcast to all sprites to tell them to show. Create a new **broadcast** and call it shoe.



```
when green flag clicked
  think I love my space shoes for 2 seconds
  think Can you design a new style for me? for 3 seconds
  think Click on each part of the shoe for 3 seconds
  broadcast shoe
```



Start a new algorithm that **when I receive shoe**, **hide**.



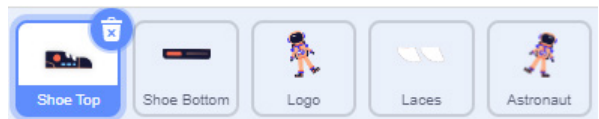
```
when I receive shoe
  hide
```



Test your code. Our astronaut should now be visible. The last coding is to hide all of the other sprites while the astronaut introduces the game.



Click on the shoe top sprite.



Add a **hide** block under the algorithm that starts when the green flag is clicked.



```
when green flag clicked
  switch costume to Shoe Top
  hide
```



Start a new algorithm with the event, **when I receive shoe**. Add a **show** block.

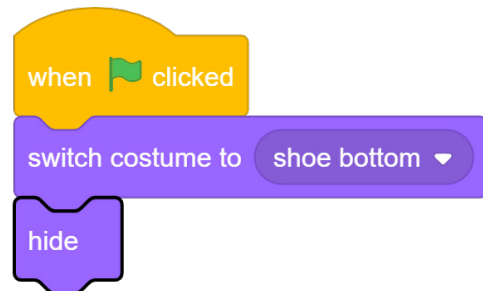
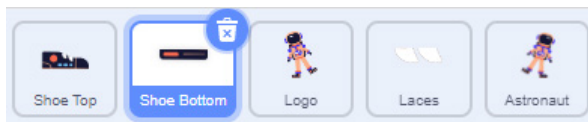


```
when I receive shoe
  show
```

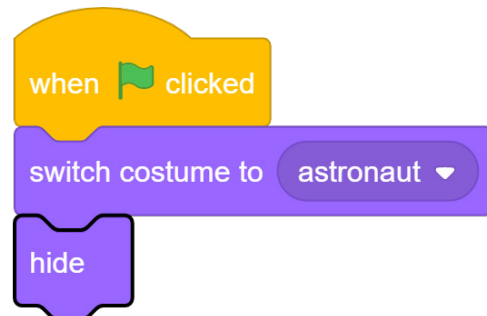
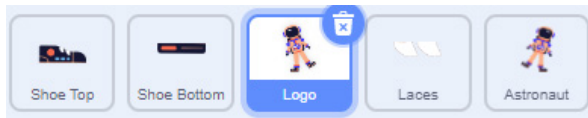


Let's do the same for the other sprites - shoe bottom, logo, and laces.

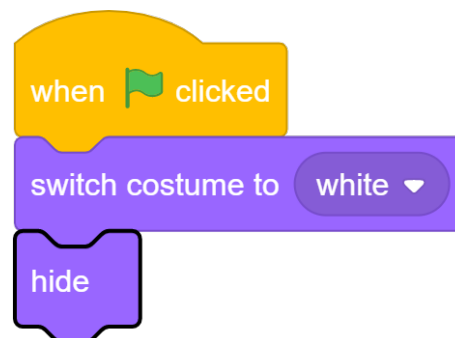
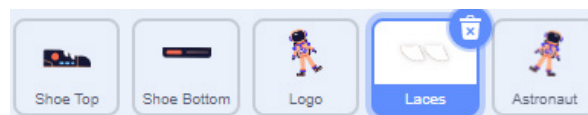
Select the shoe bottom sprite. Start a new algorithm with the event **when I receive shoe** and add a **show** block. On the green flag algorithm add a **hide** block.



Select the logo sprite. Start a new algorithm with the event **when I receive shoe** and add a **show** block. On the green flag algorithm add a **hide** block.



Select the laces sprite. Start a new algorithm with the event **when I receive shoe** and add a **show** block. On the green flag algorithm add a **hide** block.



Test your code. Your game is complete! You should have your astronaut on screen to share how to play the game, and then the shoe appear, ready for the player to design their own shoe.

Challenges:

Costumes

There are a number of costumes and backdrops already selected. Can you add more to these to create a whole new range of shoe options?

After the game

Once the players have finished their pair of shoes what comes next? Create a second level of the game, a way for players to use their designs somewhere else, or have the astronaut come back and tell them how well they did with their design.

Providing information

This task was created so that people could learn that the materials we use in our sneakers were actually invented for space. How could you add this information to the project so that players will learn some information as well as play the game?

Congratulations you're a Moonhack changemaker! You can try one of our other projects or try one of the challenges.

Don't forget to talk to an adult about registering your participation and downloading your certificate at moonhack.com

