

Introduction to Scratch

CS4S Introductory – Visual Programming

Introduction

This tutorial is a quick introduction to Scratch – a visual programming language that can be used to build interactive stories, games and animations.

Acknowledgements

This tutorial has been adapted using content from the *Getting Started with Scratch Guide* created by the Lifelong Kindergarten Group available here:

https://scratch.mit.edu/scratchr2/static/_1371843055_/pdfs/help/ScratchGetStarted_beta_draft_Jan_2013.pdf

Getting Started

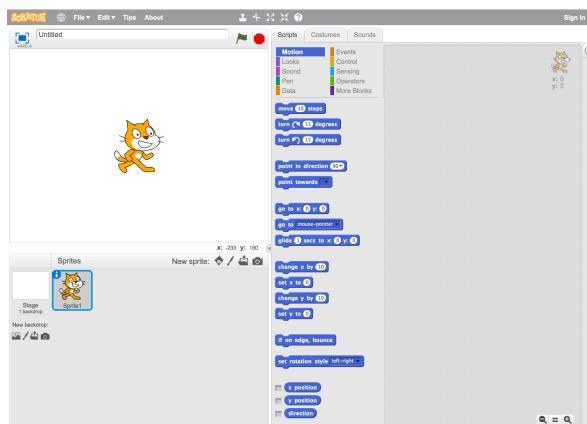
Scratch will run in most web browsers without installing additional software. This includes browsers such as Internet Explorer, Mozilla Firefox and Google Chrome. Today we'll be using Mozilla Firefox, which you can open by clicking the Start Menu, going to All Programs then selecting Mozilla Firefox.

The Scratch website is <https://scratch.mit.edu/> Start by opening that in Firefox.

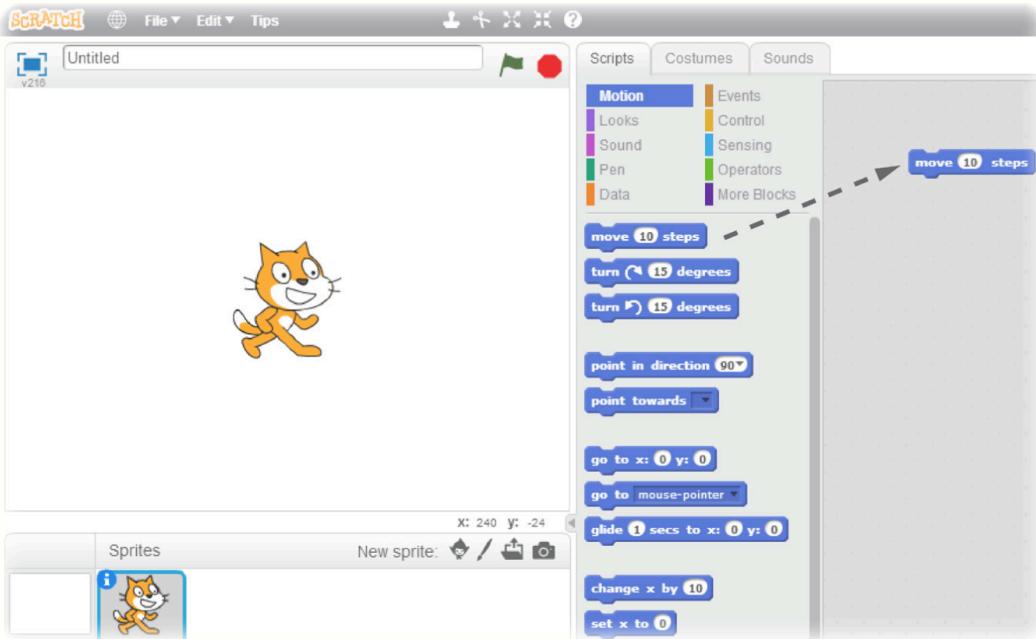
From the website you can open the Scratch Editor (by clicking *Create*), see programs that students all over the world have created (by clicking *Explore*), or view the Scratch discussion boards (by clicking *Discuss*).

You do not need to register for an account on the Scratch website to complete this tutorial. If you would like to save the project so that you can work on it from home later on or to share it with others, then you will have to register an account with Scratch. You can register a Scratch account by clicking *Join Scratch* on the homepage, or by clicking *Sign in* then *Or Join Scratch* when in the Scratch Editor.

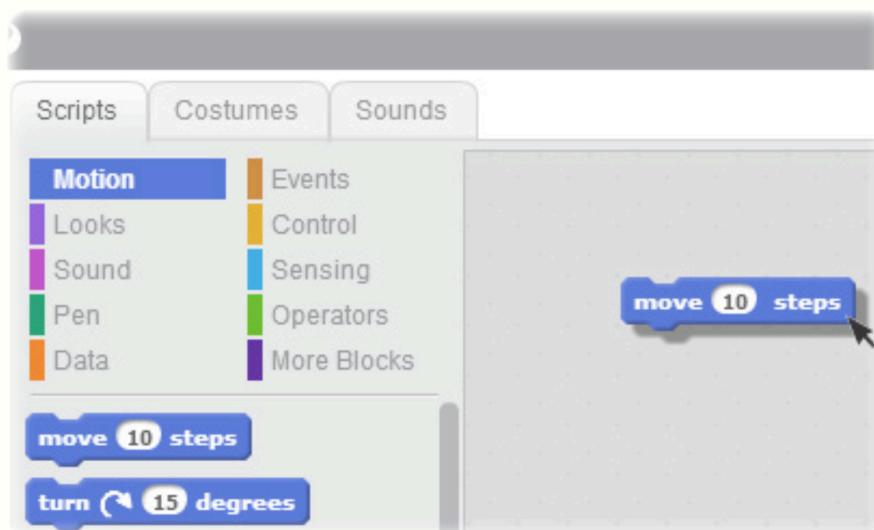
When you're ready to start making a visual program, click *Create* to open the Scratch Editor. You should see something like the image below:



1. Start Moving

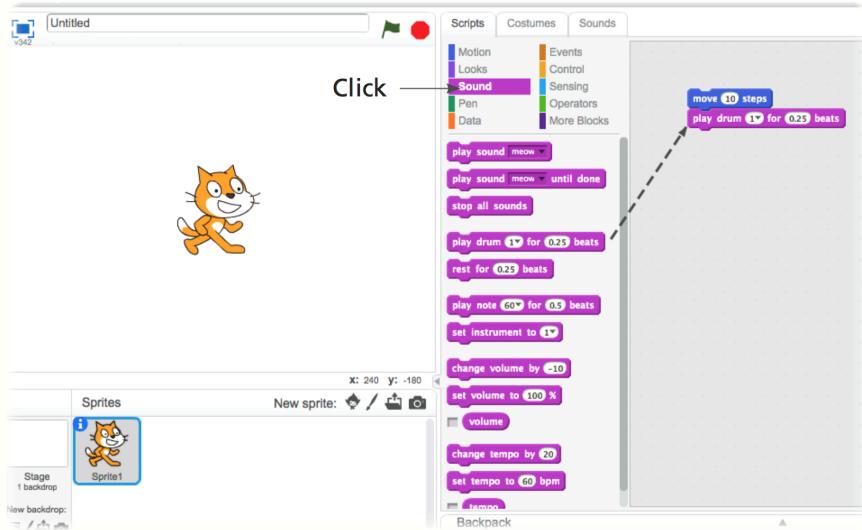


Drag a **MOVE** block into the Scripts area.



Click on the block to make the cat move.

2. Add a Sound



Drag out a **PLAY DRUM** and snap it onto the **MOVE** block.



Click and listen.

If you can't hear it, check that the sound on your computer is on.



You can choose different drums from the pull-down menu.

3. Start a Dance



Add another **MOVE** block. Click inside the block and type in a minus sign.

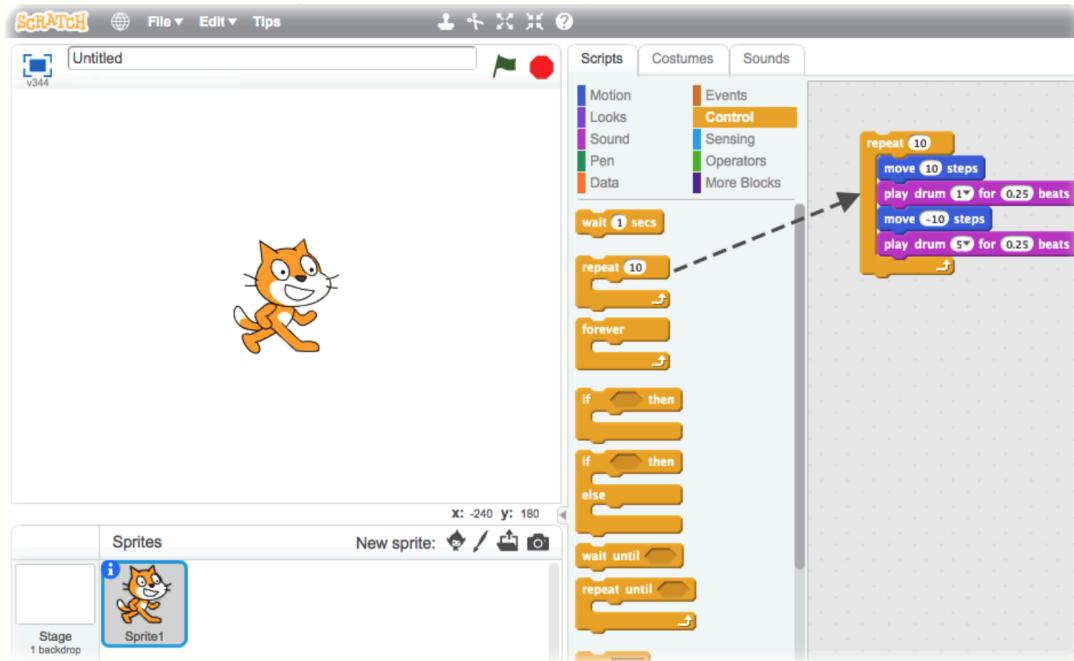


Click on any of the blocks to run the stack.



Add another **PLAY DRUM** block, then choose a drum from the menu. Click to run.

4. Again and Again



Drag out a **REPEAT** block and drop it on top of the stack.
You want the mouth of the **REPEAT** to wrap around the other blocks.

To drag a stack, pick it up from the top block.

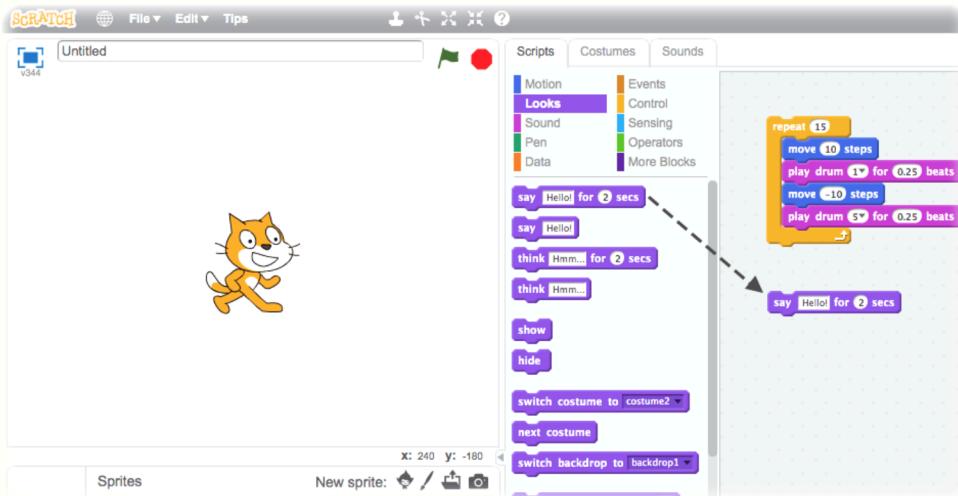


You can change how many times it repeats.

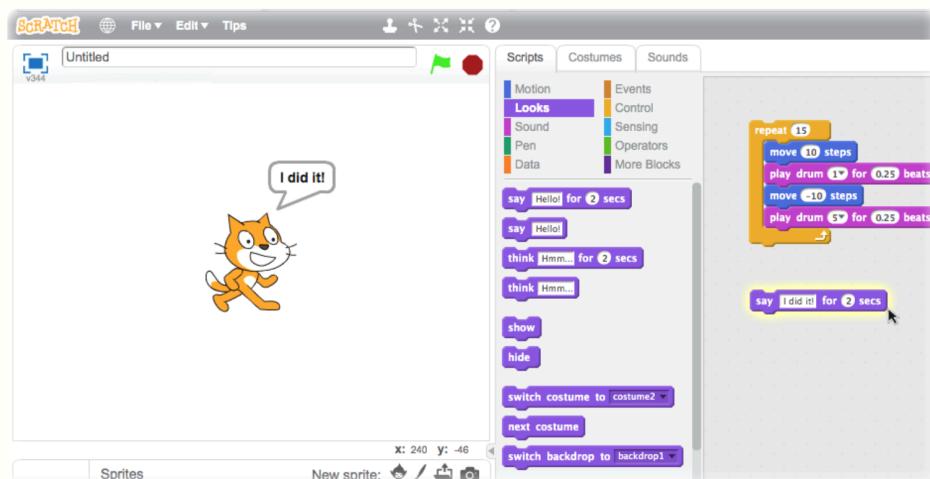
Click to run.

You can click on any block to run a stack.

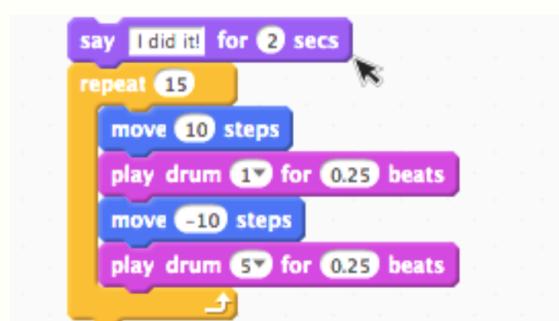
5. Say Something



Click the **LOOKS** category and drag out a **SAY** block.

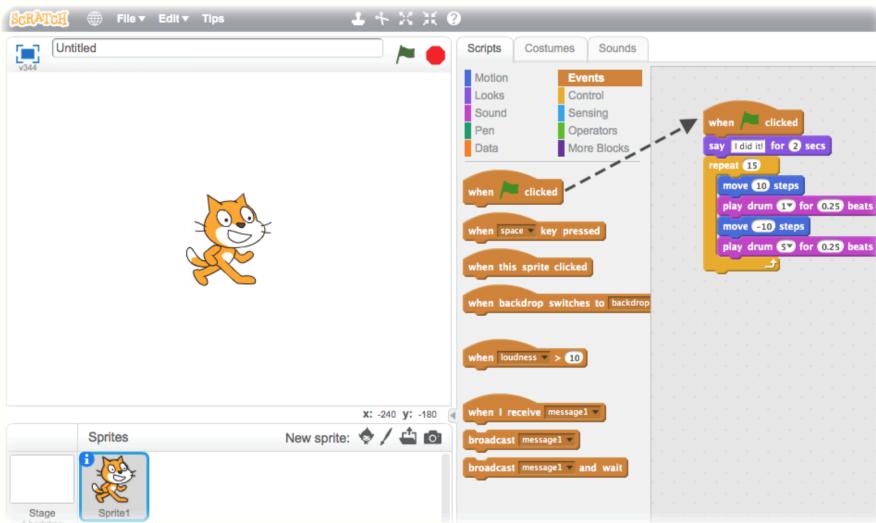


Click inside the **SAY** block and type to change the words. Click to try it.

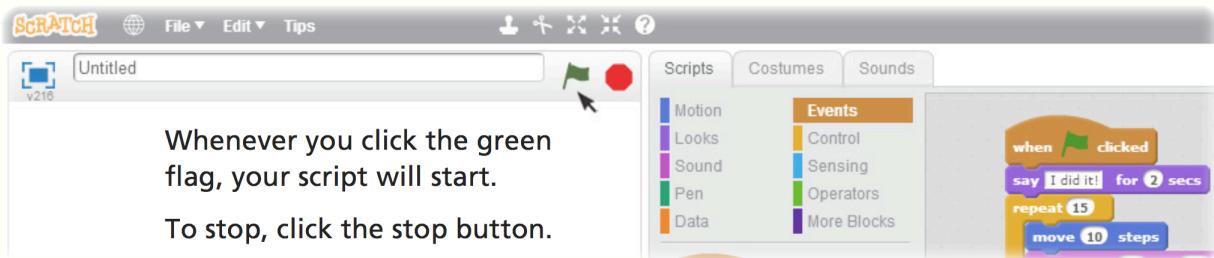


Then snap the **SAY** block on the top.

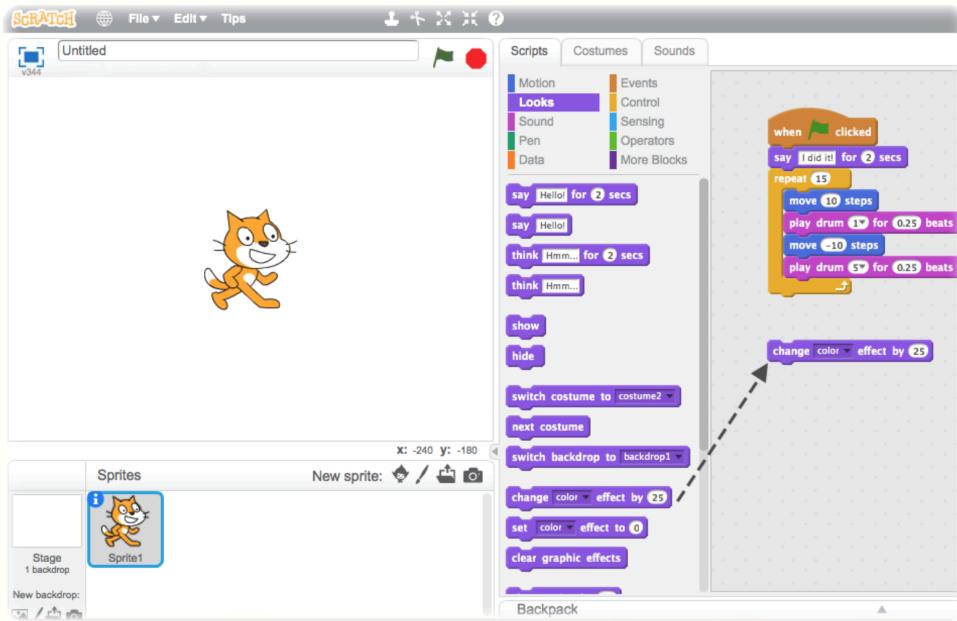
6. Green Flag



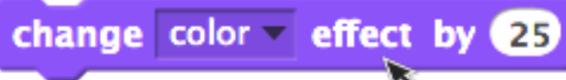
Drag out a block and snap it on top.



7. Change Colour

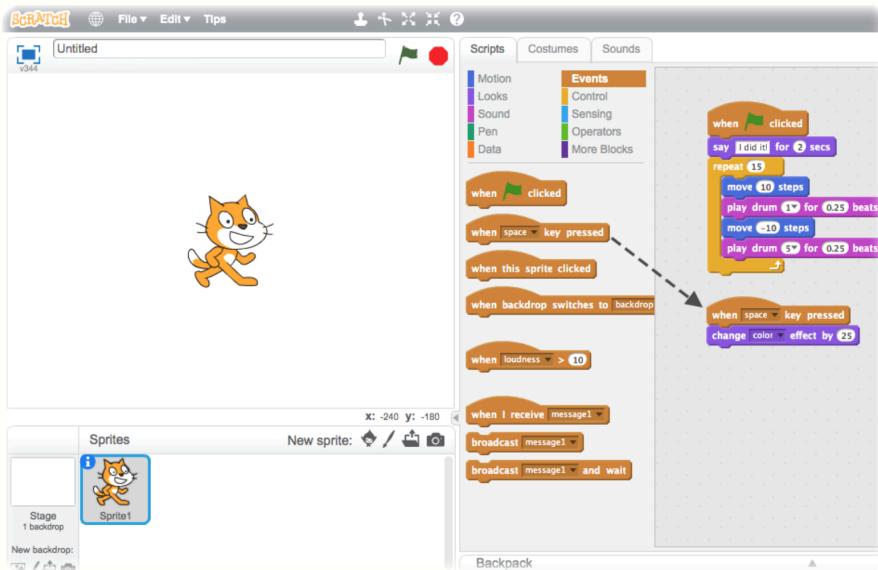


Drag out a **CHANGE EFFECT** block.



Click to see what it does.

8. Key Press



Snap on a **when space key pressed**

Now press the space bar
on your keyboard.

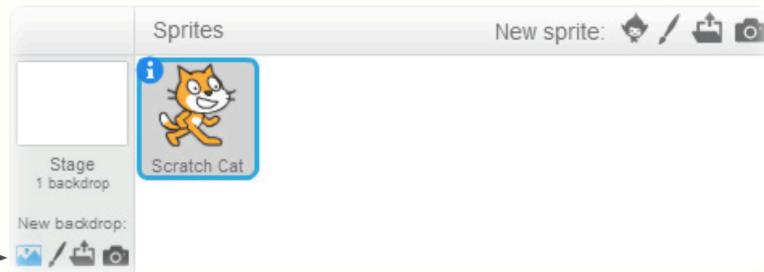


You can choose a different key
from the pull-down menu.

9. Add a Backdrop

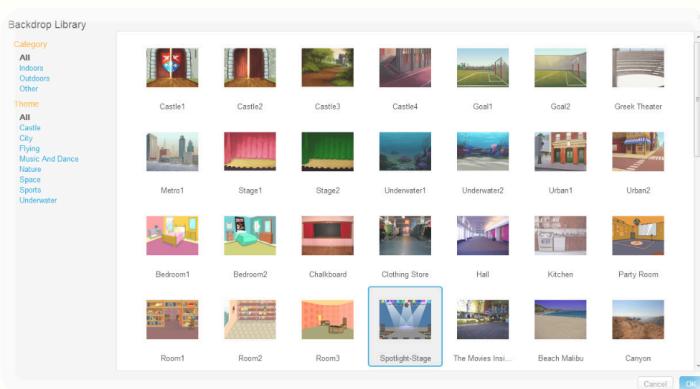
You can add a backdrop to the Stage.

Click  to choose a new backdrop. —————→

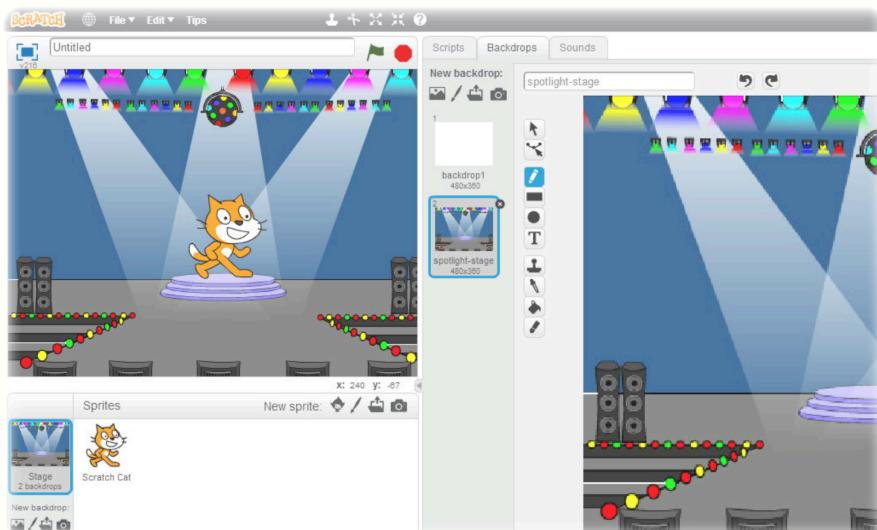


Choose a backdrop from the library (such as "Spotlight-Stage").

Click OK.



The new backdrop now appears on the Stage.



10. Add a Sprite

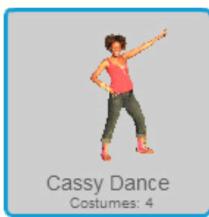
Each object in Scratch is called a sprite.



To add a new sprite, click one of these buttons.

NEW SPRITE BUTTONS:

-  Choose from the library
-  Paint your own sprite
-  Upload your own image or sprite
-  Take a picture (from a webcam)

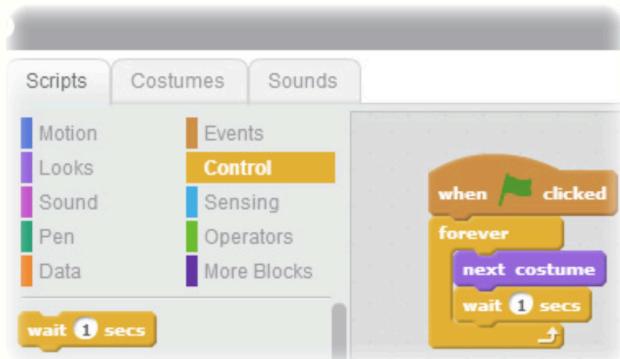


To add this sprite, click then click **People** and select "Cassy Dance."

You can drag the characters to where you want them.



11. Animating



ANIMATE

You can animate a sprite by switching between costumes.

Click the **SCRIPTS** tab.

Create a script that switches between costumes.

Good work, you have completed the Introduction to Scratch tutorial!