

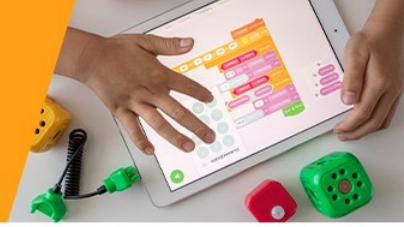
Workshop 4

Scratch

SciCon conference - new approach to the study of science subjects in schools
Multiplication event E2

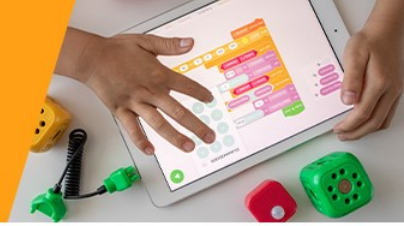


What is Scratch?



- Scratch is a free programming language developed by MIT that makes it easy to create interactive stories, animations, games, music and art and share your creations on the web. Scratch can be run from a modern web browser or downloaded as an app

What is Scratch?



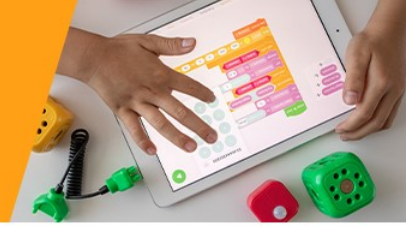
- Scratch builds on the long tradition of Logo and
- LEGO/Logo, but takes advantage of new ideas and computing capabilities to make it easier for kids to start programming (lowering the floor) and to expand the range of what kids can create and learn (raising the barrier).

Scratch online

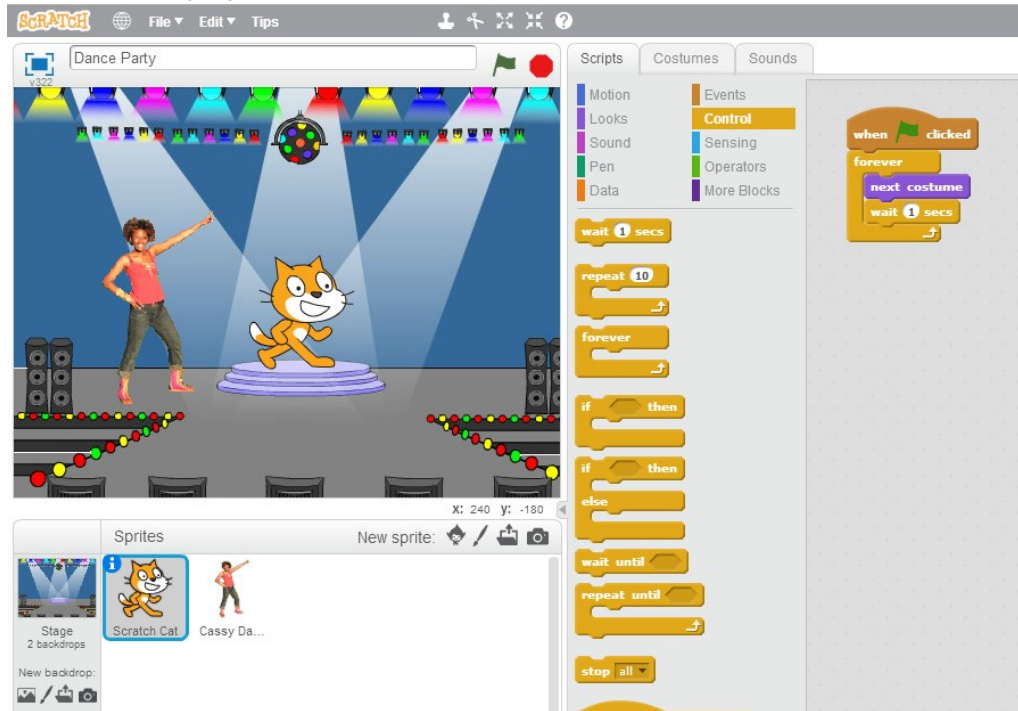
- visit <https://scratch.mit.edu/>
- Explore one or more projects using the search tool
- Create an account to start building your own stories/apps



Steps!



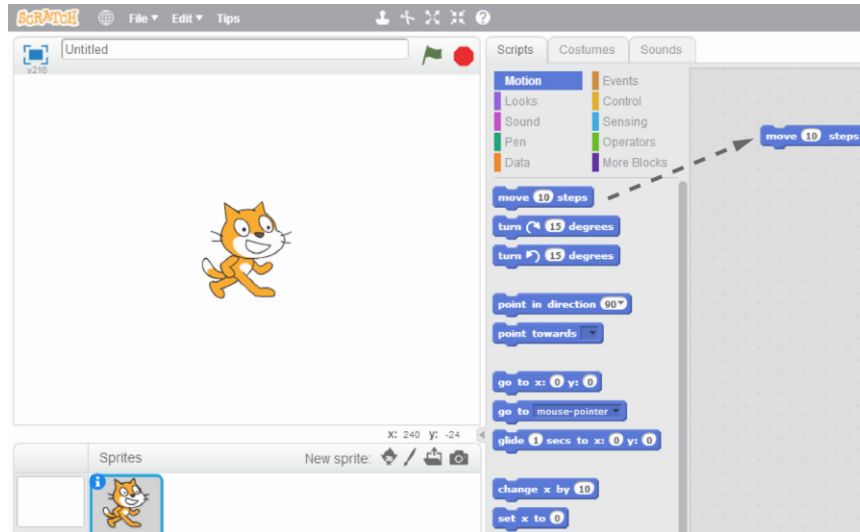
This guide shows you how to make a project **SCRATCH**.



Let's begin!

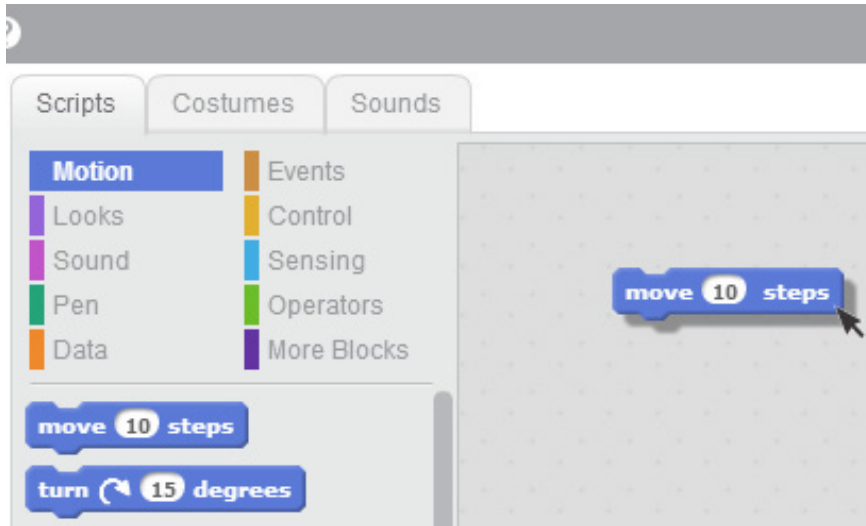


To start a new project, go to **Scratch** and click **create**.



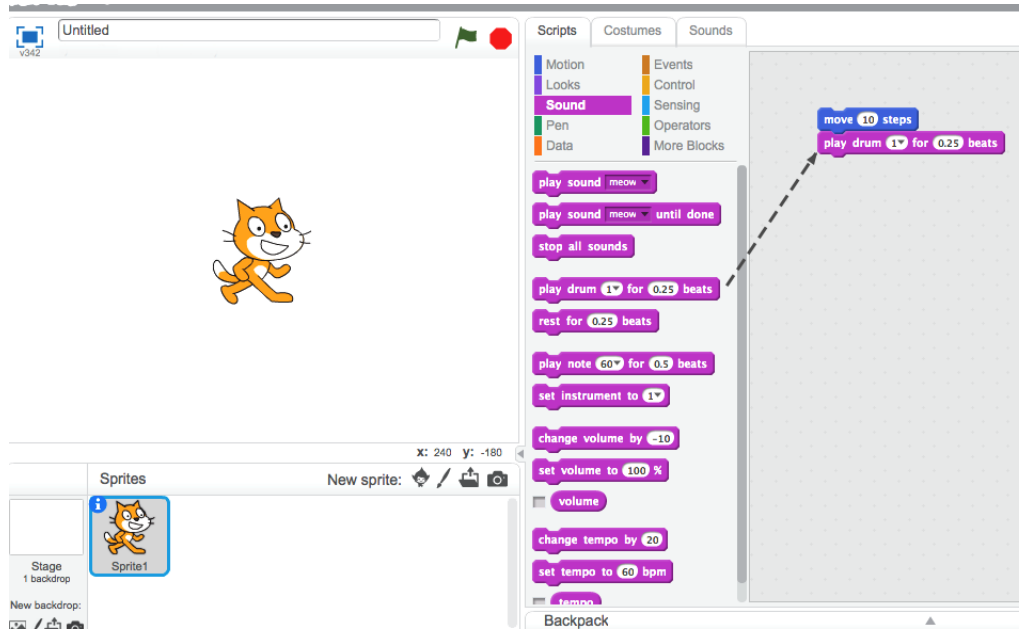
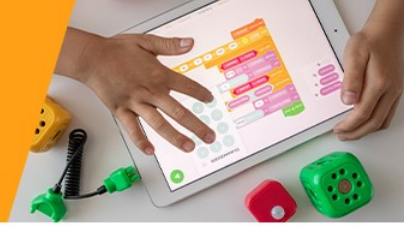
Drag blocks **MOVE** in the Scriptures area.

Steps!



Click on the block to make the cat move.

Steps!



Drag a block **PLAY ROAD** and pin it to the block **MOVE**.

Steps!



Click and listen.

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



You can choose different drums from the drop down menu.

Steps!



Add another block **MOVE**. Click inside the block and enter the minus sign.

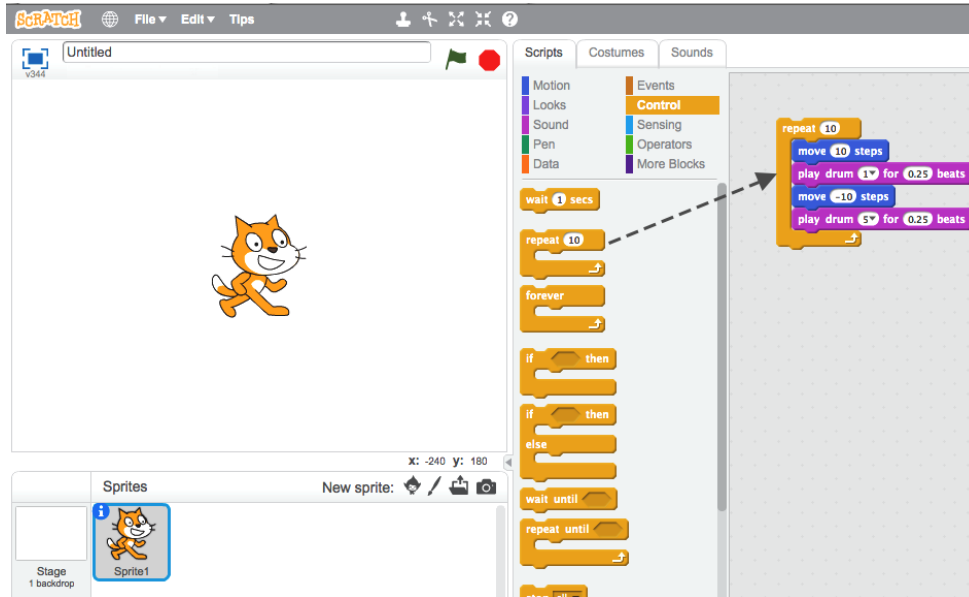
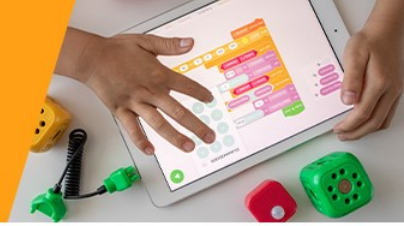


Click on any of the blocks to roll the stack.



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

Steps!



Drag a block **REPEAT** and drop it on top of the stack.
REPEAT it will wrap around the other blocks.

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

Steps!

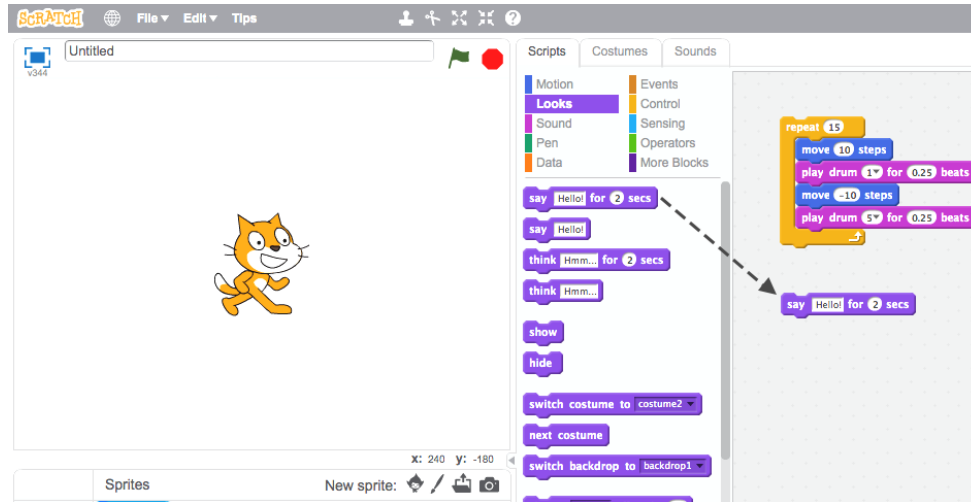
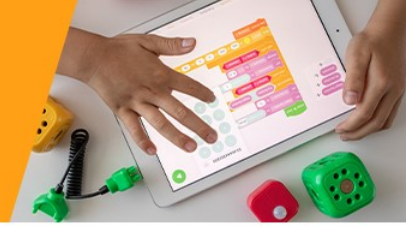


You can change how many times it repeats.

Click to run.

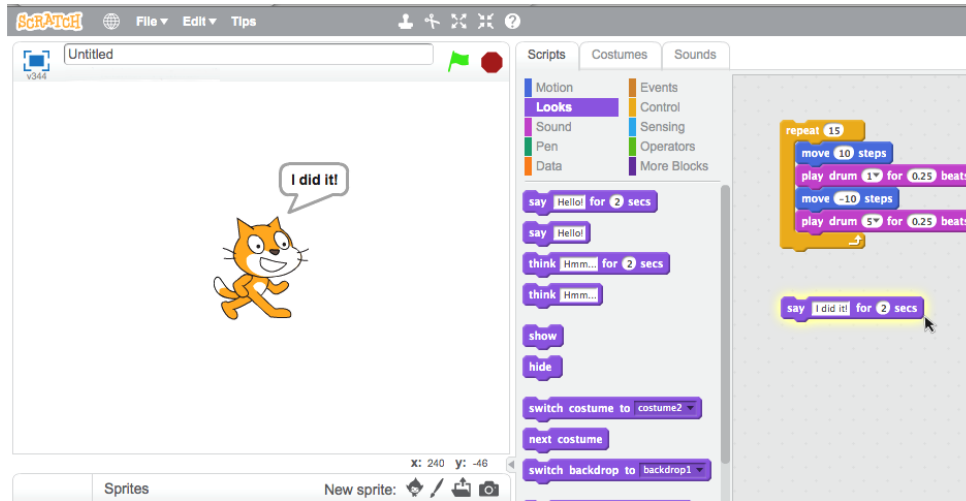
You can click on any block to run a stack.

Steps!



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

Steps!



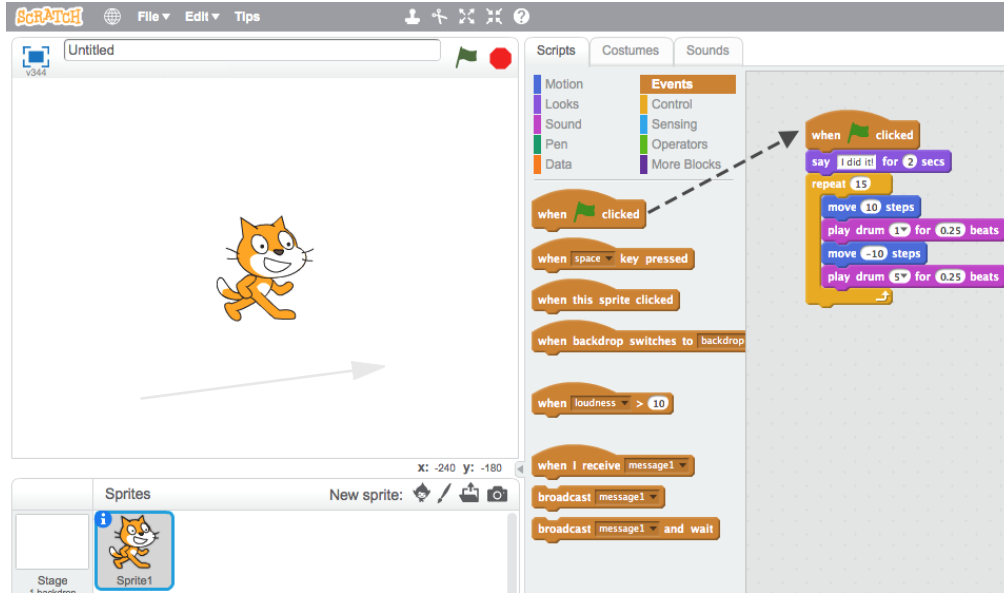
Click inside the block **SAY** and type to change the words. Click to try it.

Steps!



Then pull the block **SAY** at the top.

Steps!

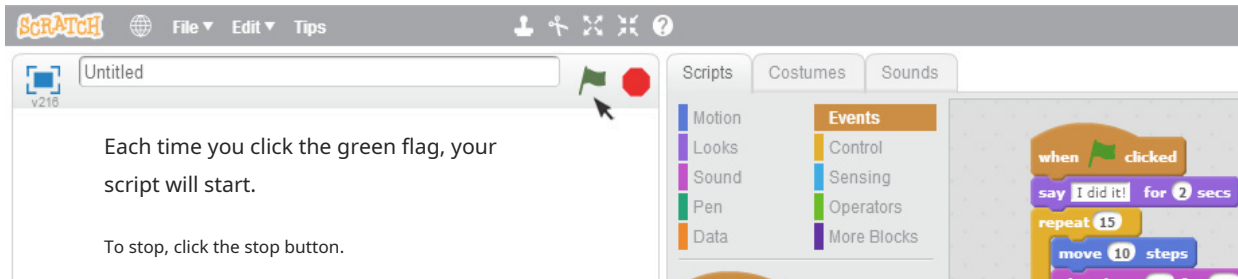
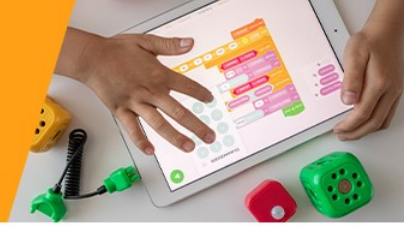


Pull out the block

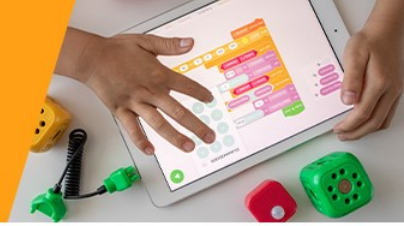


and pin it on top.

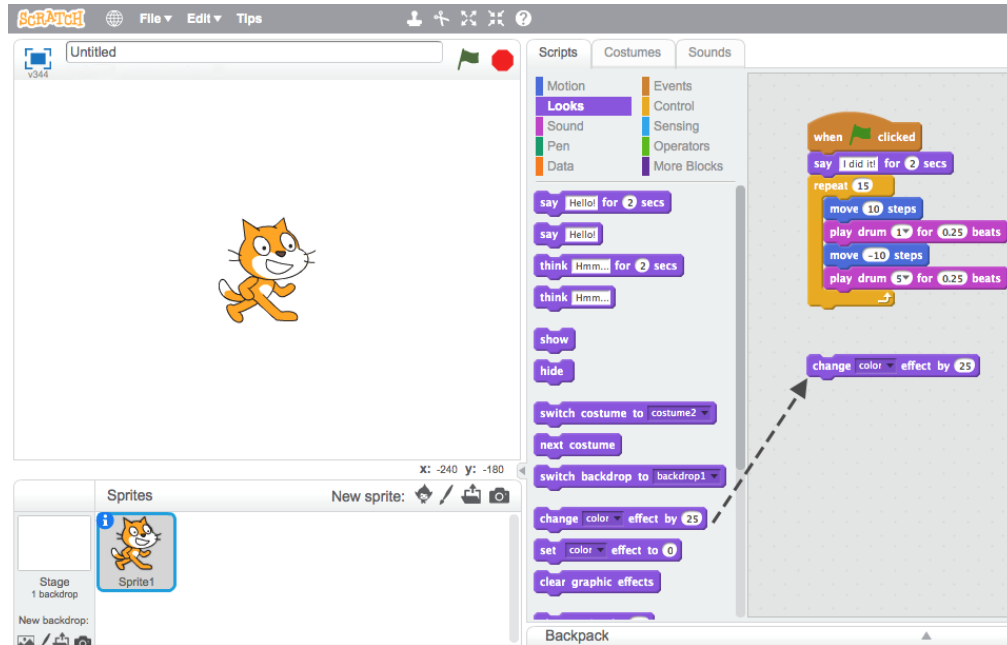
Steps!



Steps!



Now we try something different...



Steps!

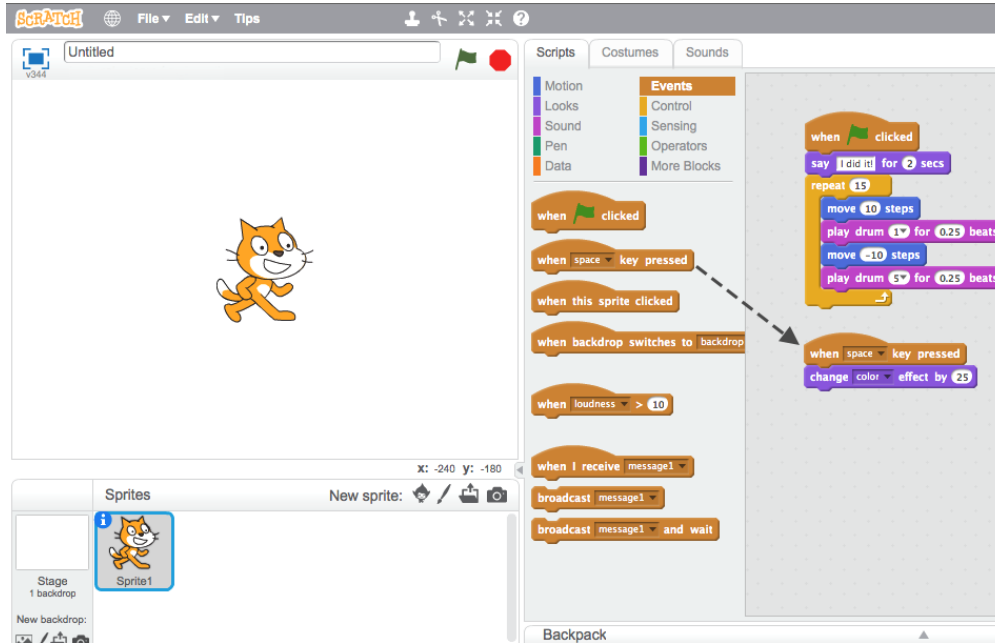
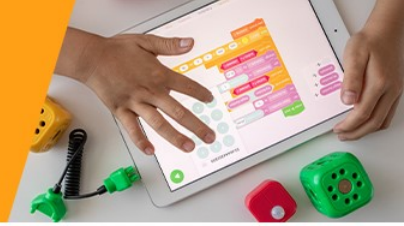


Pull out the block **CHANGE EFFECT**.



Click to see what it does.

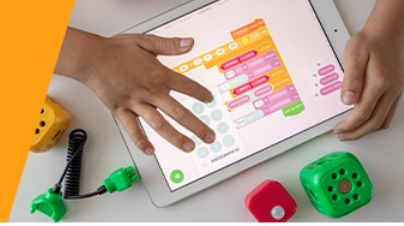
Steps!



Fix yourself on

when space key pressed

Steps!



Now press the spacebar
on your keyboard.




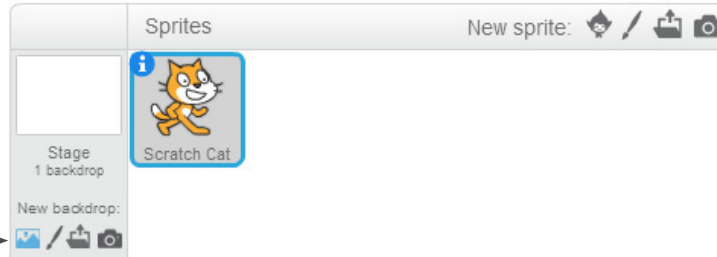
You can choose another key from
the drop-down menu.

Steps!



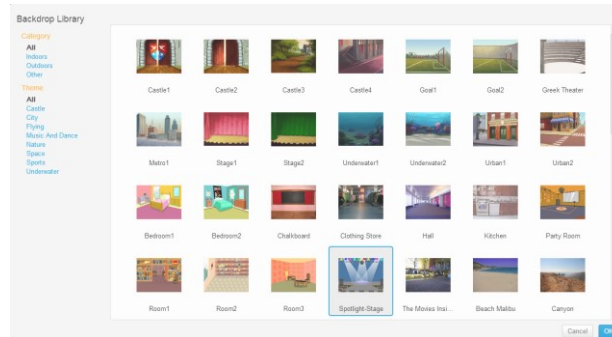
You can add a background to the scene.

Click  to
choose a new one
background. →



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

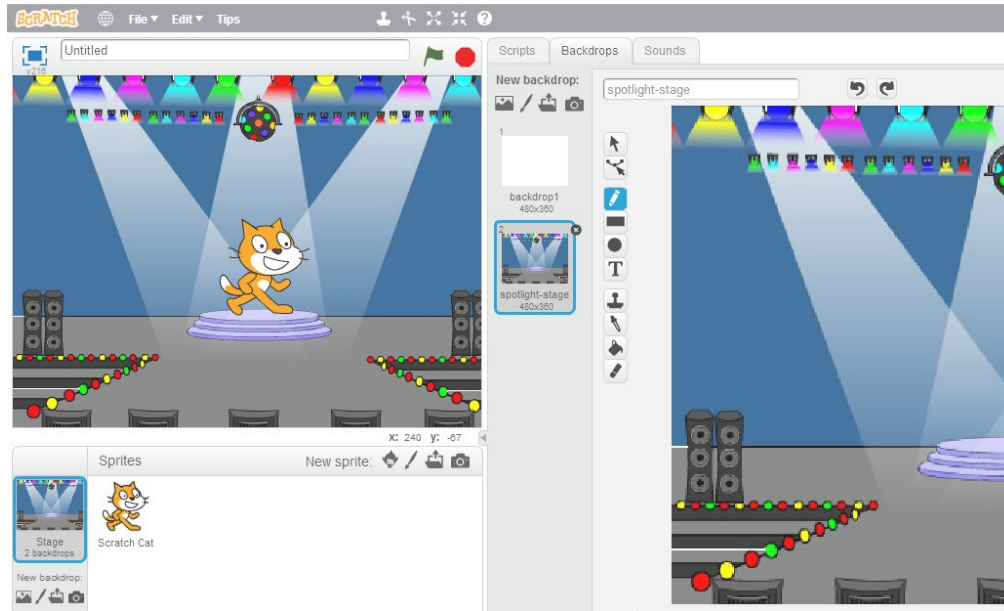
Click OK.



Steps!



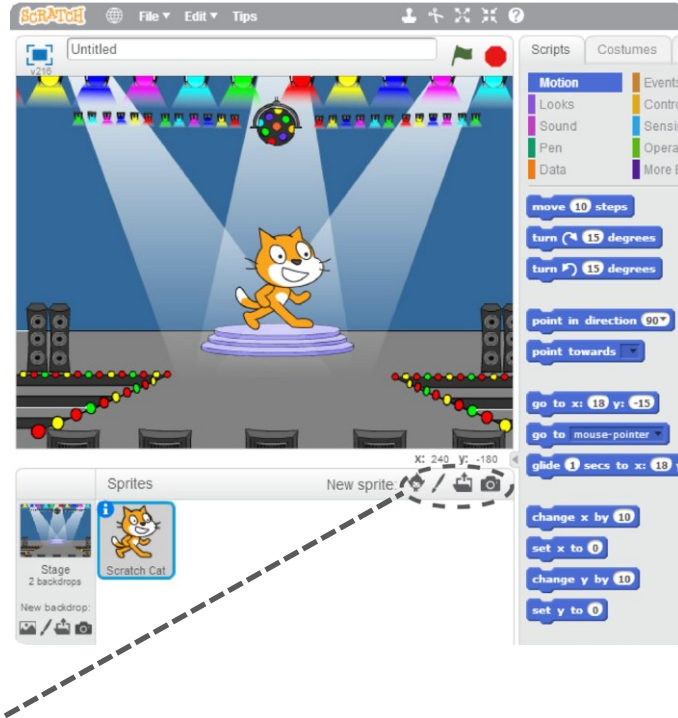
The new background now appears on the Stage.



Steps!

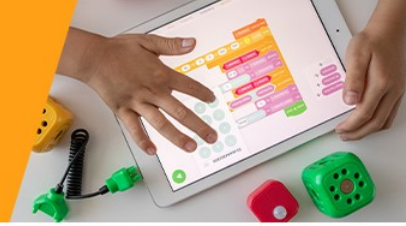


Each object in Scratch is called a sprite.



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

Steps!



NEW SPRIT BUTTONS:



Choose from the library



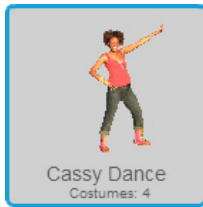
Paint your own sprite



Upload your own image or sprite



Take a picture (from a webcam)



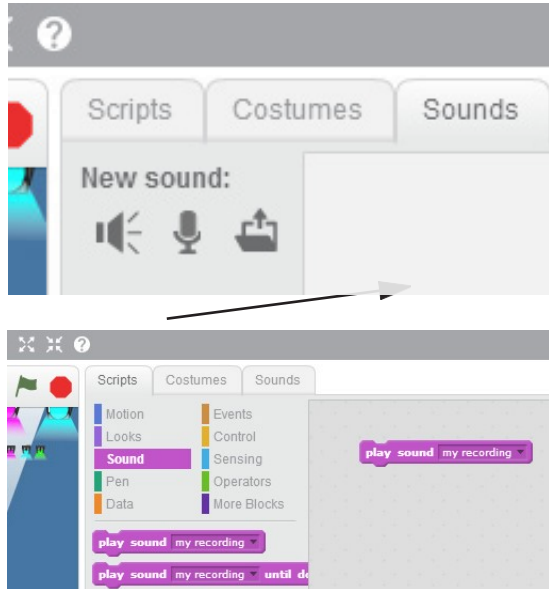
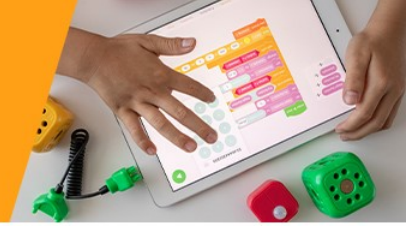
To add this sprite, click, then click **people** and select "Cassy Dance".



You can drag the characters where you want.




Steps!



ADD SOUND

Click on the tab

SOUNDS. You may **Choose**  a sound

Record  your own sound

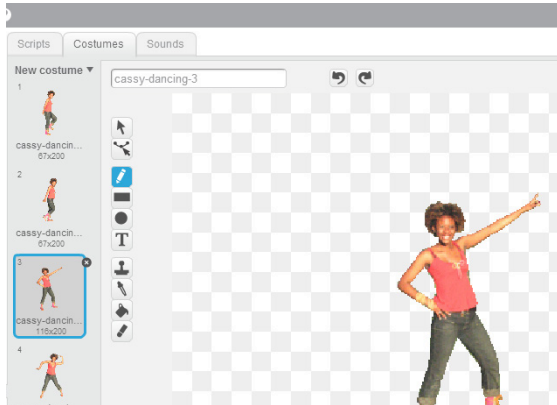
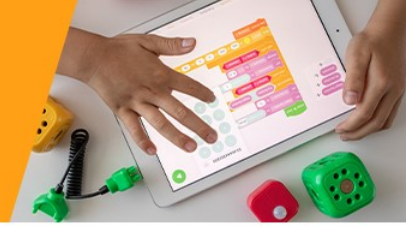
Or  a sound file.

and a list of MP3, AIF or WAV

Then click on the tab **SCRIPTS** and drag a block **PLAY SOUND**.

Choose your sound from the drop down menu.

Steps!



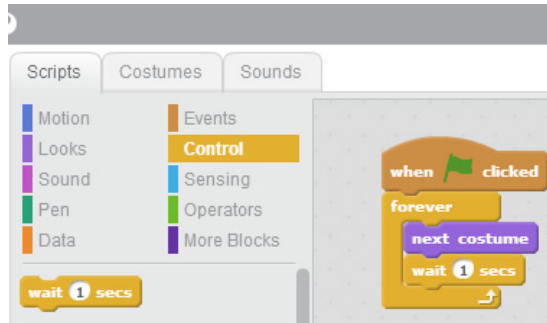
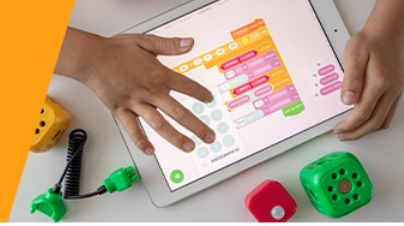
CHANGE COSTUMES

Each sprite can have more than one costume.

To change the current costume, click on the tab **costumes**.

Then click on another suit for the sprite.

Steps!



ANIMATE

You can animate a sprite by switching between costumes.

Click on the tab **SCRIPTS**.

Create a scenario that switches between costumes.

Steps!



Enter a title for your project.

Steps!

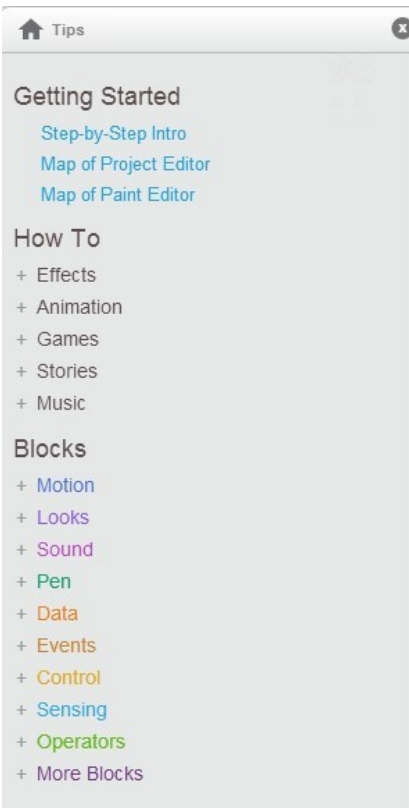


For more ideas, click the button **tips**:

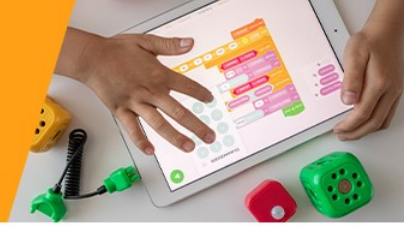


Tips window shows sample scripts that you can use in your project.

It also explains what each one does block in **SCRATCH**.



Steps!



To save your project online, make sure you log in.

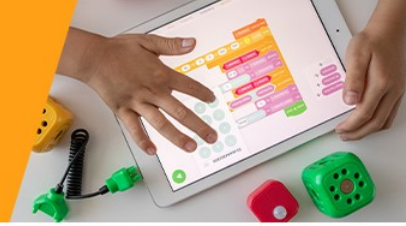
(If you want to save the file to your computer drive, click the **File** menu and choose "Download to PC.")

Sign in ▼


When you're ready, click

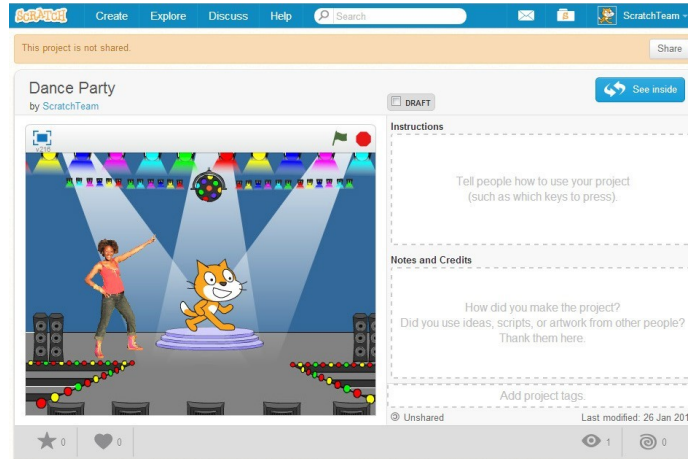
 See project page


Steps!



Project page

Click  for full screen view.



Click  for others to see and play with you project.

Enter the notes about you project.

When you share, others can visit and interact with your project.

THEME!



Create a short project in SCRATCH to say hello. The sound should be in your own recording. After the greeting, the sprite is created to perform a move of its choice, and then repeat the greeting.

Repeat the above sequence 3 times. Save the project to your account

Copy the project link and send it to scicon.romania@gmail.com

ADDITIONAL RESOURCES!



<https://e-learningise.weebly.com/scratch.html>

<https://infogim.ro/static/original/c1c1ce8c73c77557d85a9c44f81787881518124149118.pdf/scratch.pdf>

<https://family.matei-tm.eu/download/CarteScratch.pdf>

<http://profesor.md/wp-content/uploads/2019/04/Carte-Scrach.pdf>

NEXT...



Give your students the opportunity to provide you with an answer to a question using SCRATCH...

Do you think it is possible?

Check out the project library for inspiration. You are free to use and modify them as you wish.

The rest is up to you!