

Using the Scratch coding platform for Maker projects

Code your own creative animation or story with Scratch!

This tutorial was created by the K-12 Maker team at the MIT Edgerton Center

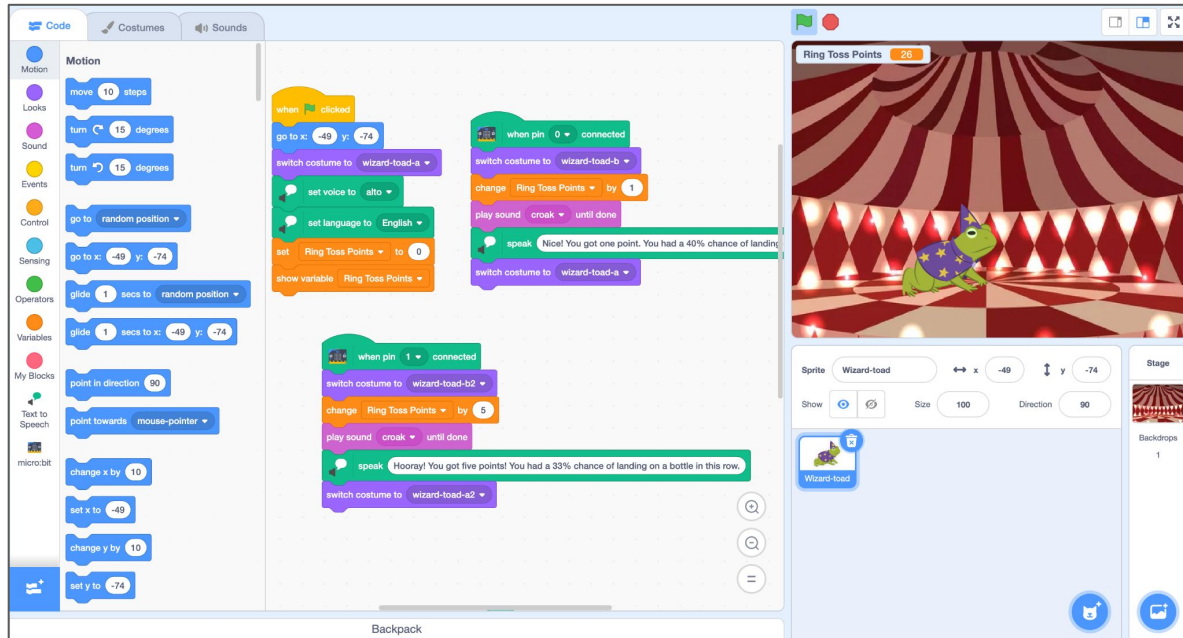
Visit our website <http://k12maker@mit.edu> for plenty of resources for Maker educators.

Contact us at k12maker@mit.edu



What is Scratch?

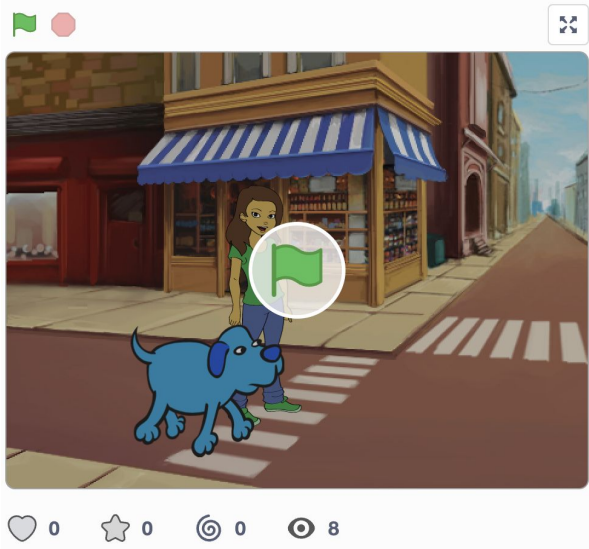
scratch.mit.edu



Free web-based
block-based
coding platform

What can you make on Scratch?

Riddles



Stories



... and much more!

Why use Scratch for Maker Projects?

Maker qualities of Scratch projects:

- Involves sound and motion and the creation of a “thing”
- Requires problem solving skills
- Promotes self-expression and creativity
- Promotes equity in computing
- Is engaging and fun



Scratch basics

Building blocks of Scratch Programs

- Sprites/characters - like   
- Costumes - different positions or views of a sprite   
- Backgrounds   
- Code blocks- the commands and logic that you put together to make things happen 

Getting started

Let's Dive In!

Create an account at scratch.mit.edu.

It can be a Personal or a Teacher account.

In a Teacher account, you can set up an account for each of your students, and organize their work into project folders, making it easier for you to navigate and review student work.

Teacher account guide:

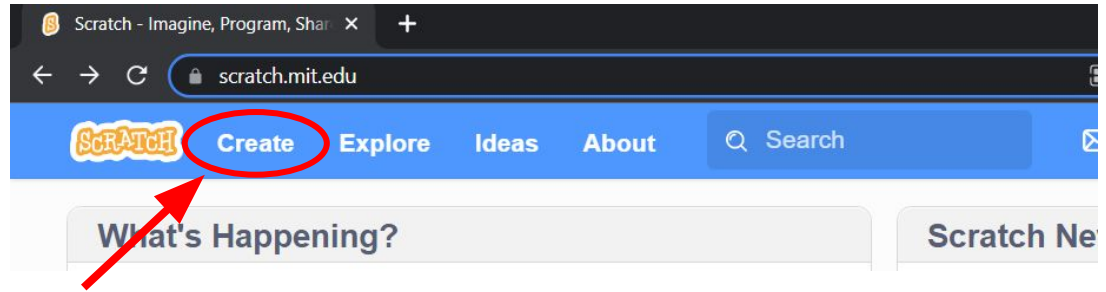
resources.scratch.mit.edu/www/guides/en/scratch-teacher-accounts-guide.pdf

Educator account FAQ scratch.mit.edu/educators/faq

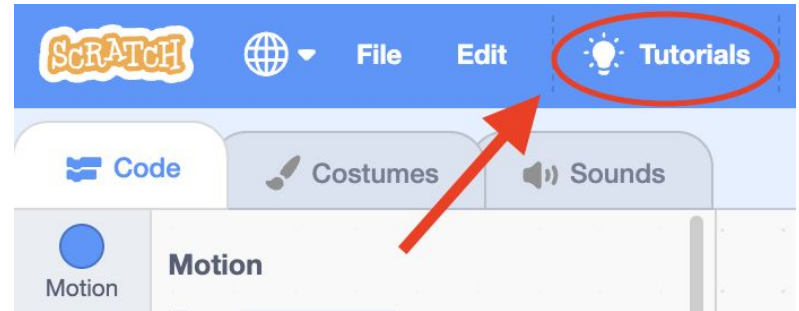
Learn with Scratch Tutorials

Open the Tutorials gallery on Scratch

- Click on Create

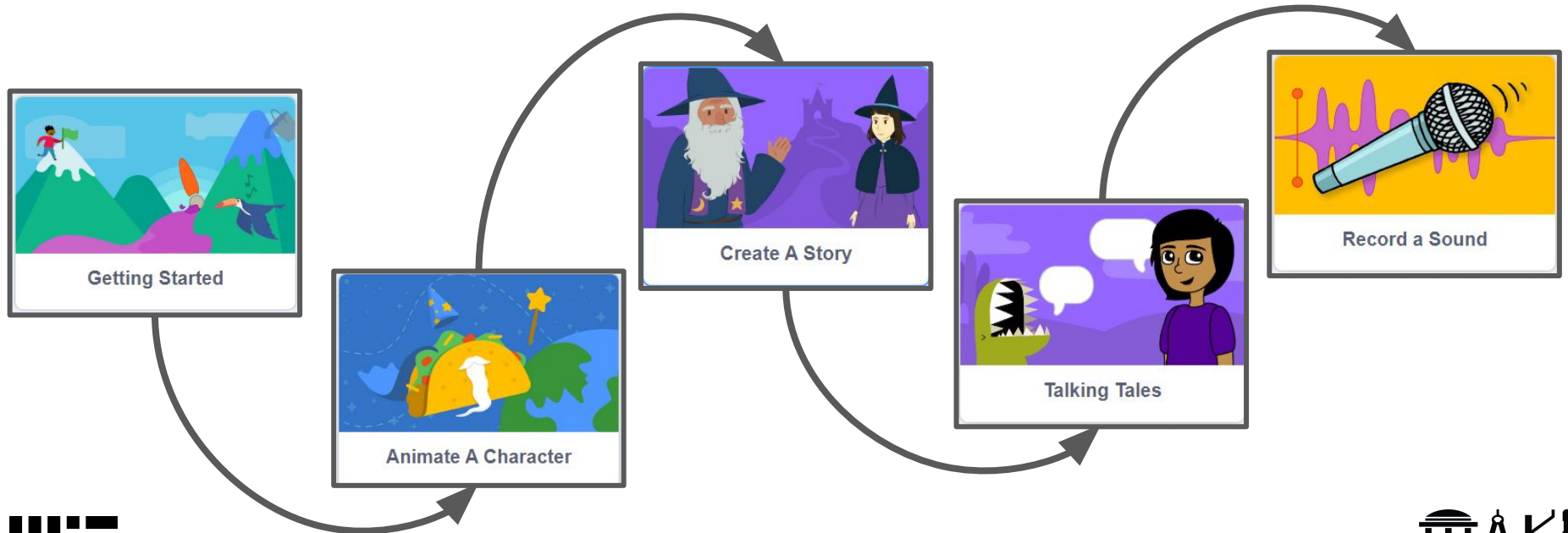


- Navigate to “💡 Tutorials”
in the top bar



Scratch for Makers

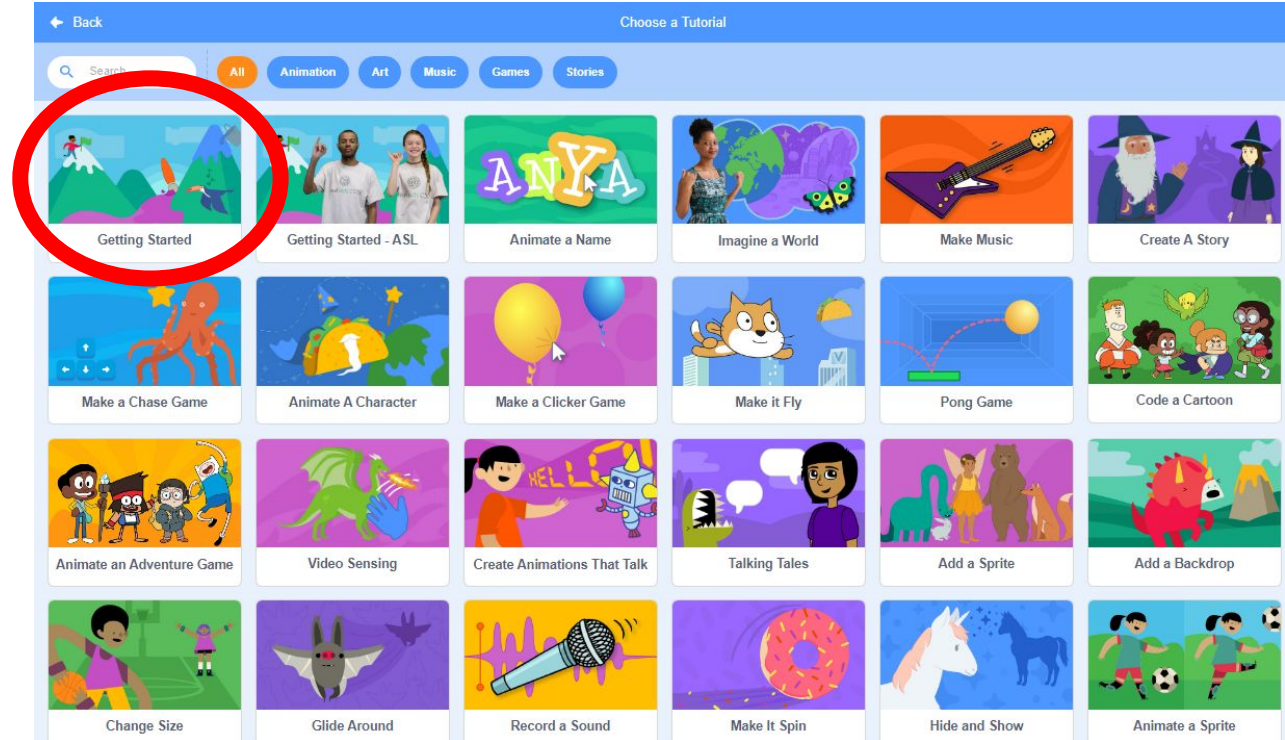
Work through our curated Tutorial Videos and learn tools that are great for Maker projects



Scratch Tutorials - “Getting Started”

Try it out and learn about:

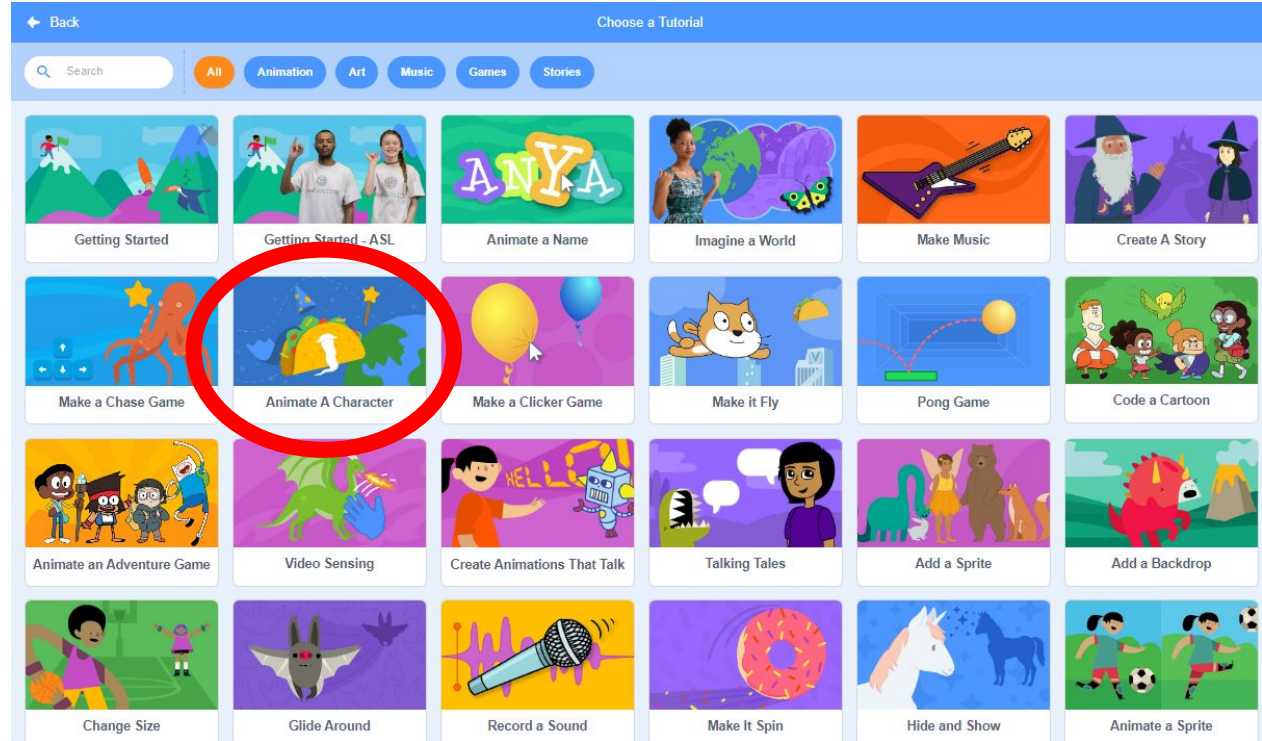
- **Blocks** - how the code is created
- **Sprites** - the characters
- **Events** - how to start and stop sections of code



Scratch Tutorials - “Animate a Character”

Try it out and learn how to:

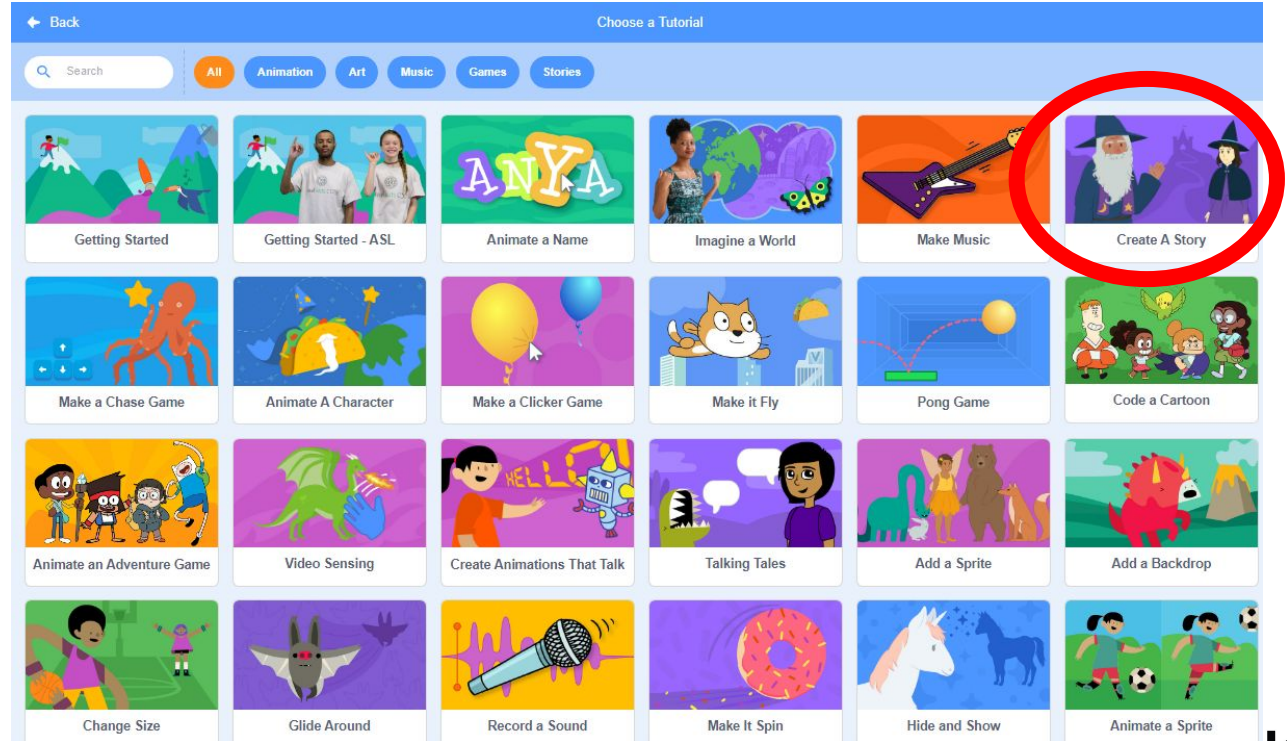
- Pick a background
- Select a sprite
- Change the “Costume” - the appearance of the sprite
- Add an Event



Scratch Tutorials - “Create a Story”

Try it out and learn how to:

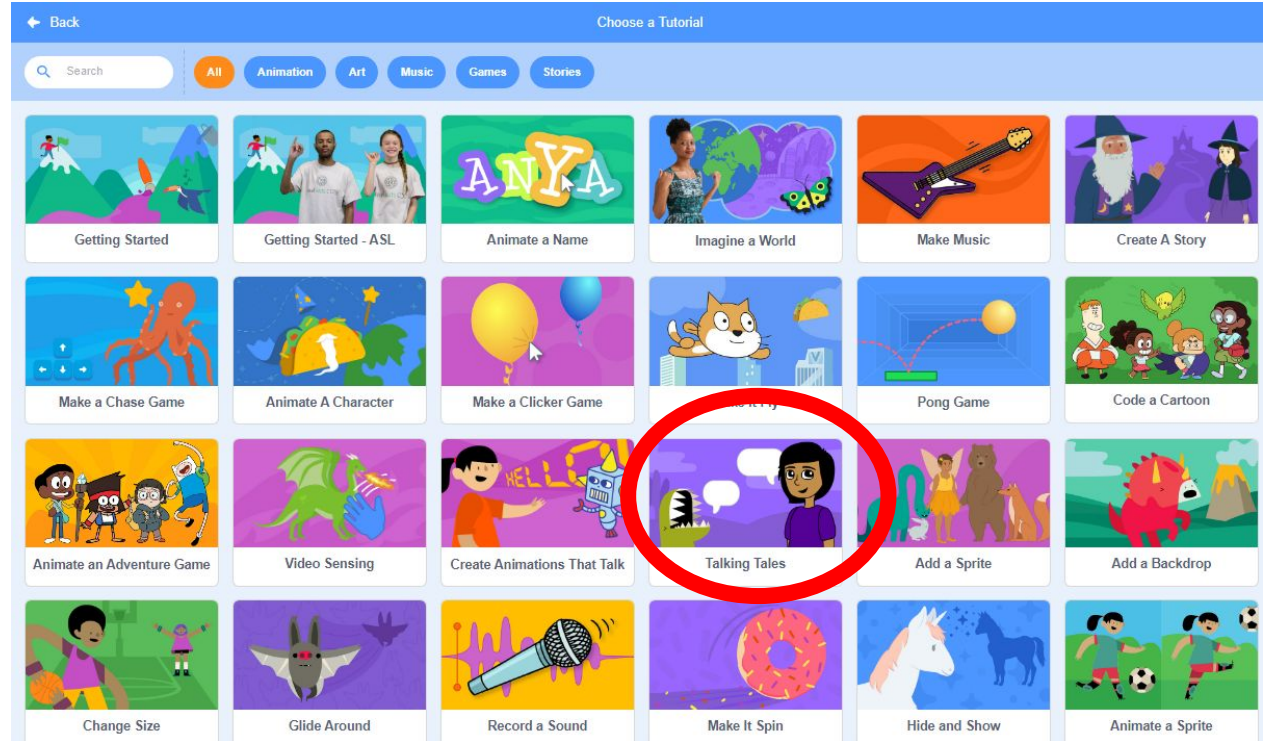
- Add another sprite
- Make them say something
- Edit a costume
- Switch backgrounds
- Hide + show a sprite



Scratch Tutorials - “Talking Tales”

Try it out and learn how to:

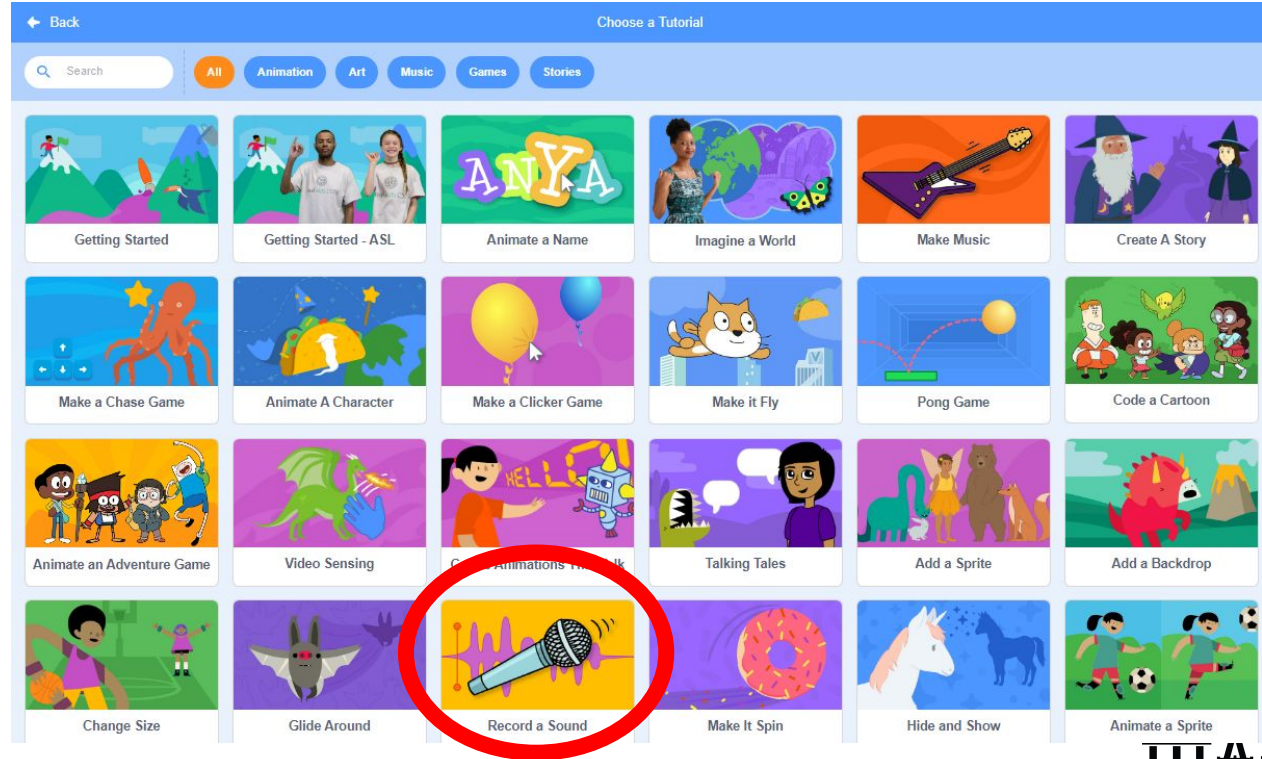
- Add the Text-to-Speech extension
- Make a Sprite speak
- Use a Motion block



Scratch Tutorials - “Record a Sound”

Try it out and learn how to:

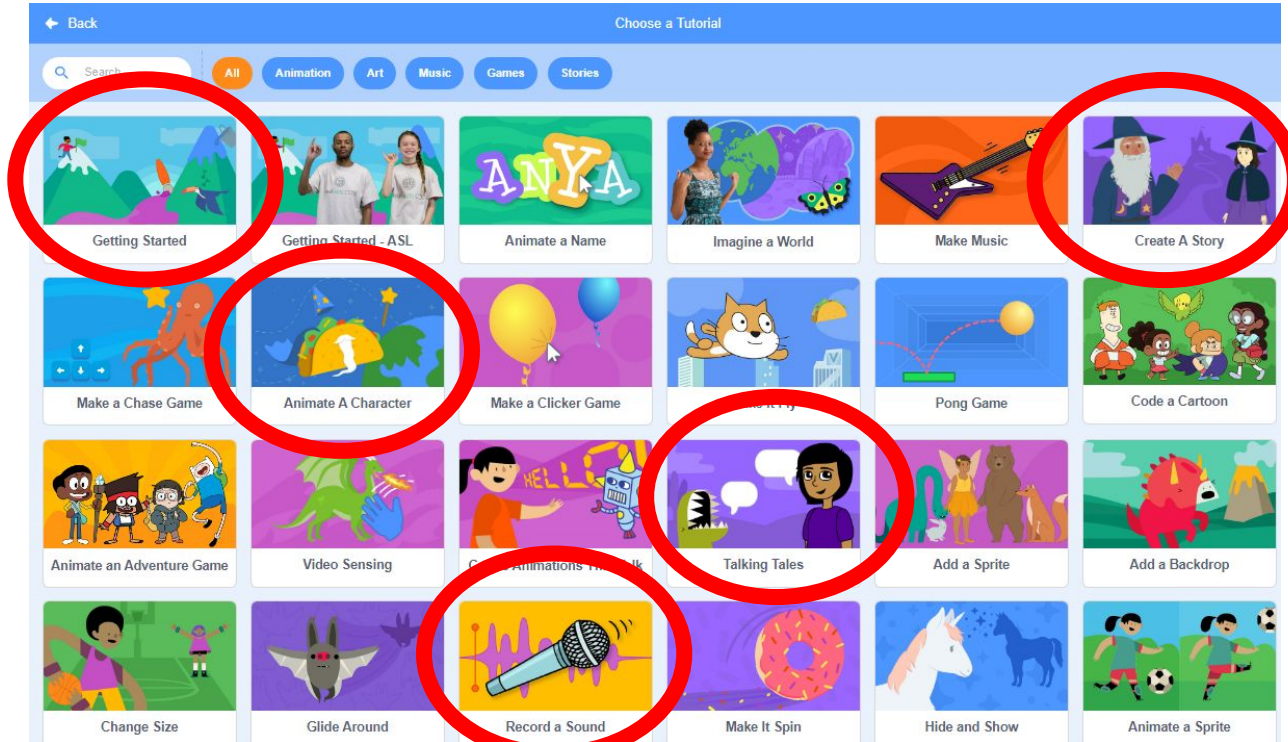
- Record a sound on your computer and play it back in the code



Scratch Tutorials

Try these out!

1. Getting Started
2. Animate a Character
3. Create a Story
4. Talking Tales
5. Record a Sound

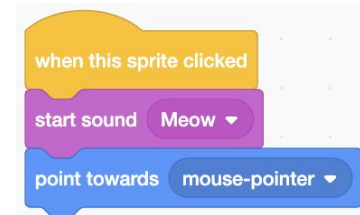
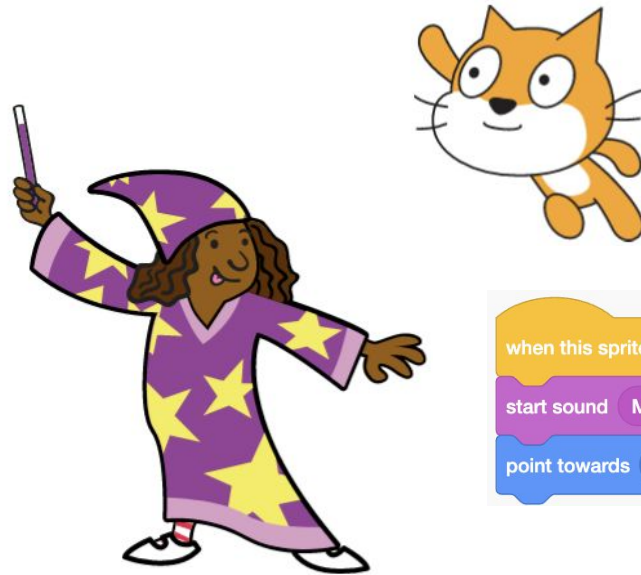


Scratch Challenge

Now it's your turn:

Create a story or animation that uses 2 or more of these elements:

- 2+ Sprites
- 2+ Backgrounds
- A costume change
- Text to Speech
- Recorded Sounds
- Sprite Motion



Getting your students started with Scratch

Share a Starter project

Sometimes a good way to get students started is by giving them an opportunity to modify existing code.

To keep them from getting lost in the huge Scratch gallery of projects, you can create a sample project that demonstrates the concepts you want them to learn.

Here's [How to share a Scratch file](#)

What we love about Scratch

- Free and browser-based, Scratch promotes equity in computing
- The provided Sprite and Backgrounds are fun and engaging, AND you can make your own. There's lots of room for self-expression and creativity
- Coding projects require iteration and problem-solving
- Sharing and remixing are a part of the Scratch ethos
- Scratch is a good stepping stone for physical computing, where real objects are moving around

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We hope you enjoyed learning these Scratch tools and creating your own animation or story!

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