Rock Band

Introduction

Learn how to code your own musical instruments!

What you will make

You will make a game where you can click on the singer or the drum to hear singing or drum sounds.

code club



What you will learn:

- How to add sprites and backgrounds to a Scratch project
- How to change a sprite's costume
- How to make sprites react when they are clicked
- How to play sounds in Scratch

What you will need:

Hardware

• A computer capable of running Scratch 3

Software

• Scratch 3 (either <u>online</u> or <u>offline</u>)

Step 1: Sprites

Before you can start coding, you'll need to add in a 'thing' to code. In Scratch, these 'things' are called **sprites**.

Activity Checklist

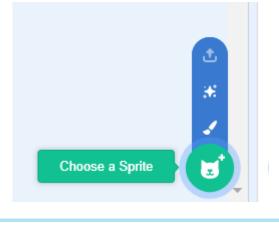
Open a new Scratch project. **Online:** open a new online Scratch project at <u>rpf.io/scratchon</u>. **Offline:** open a new project in the offline editor. If you need to download and install the Scratch offline editor, you can find it at <u>rpf.io/scratchoff</u>. It looks like this:

8000	🇊 🌐 🕈 File Edit 🔅 Tutorials		
2 Co	de 🥒 Costumes 🌒 Sounds	P 🔴 🛛 🖬	• ×
Motion	Motion		
Looks	move 10 steps		
Sound	tum (* 15 degrees		
Events	tum 🗂 15 degrees		
Control	go to random position +		
Sensing	go to x: 0 y: 0		
Operators	glide 1 secs to random position -		
Variables	glide 1 secs to x: 0 y: 0		
My Blocks		Sprite Sprite 1 ++ x 0 1 y 0	Stage
	point in direction 90	sprine sp	
	point towards mouse-pointer -		Backdrops
	change x by 10		1
	sel x to 0		
×.	change y by 10		
	Bac	Jack	

The cat sprite that you can see is the Scratch mascot. You don't need it for this game, so get rid of it by right-clicking it and then clicking on **delete**.



Next, click on **Choose sprite from library** to open up a list of all the Scratch sprites.



Scroll down until you see a drum sprite. Click on a drum to add it to your project.

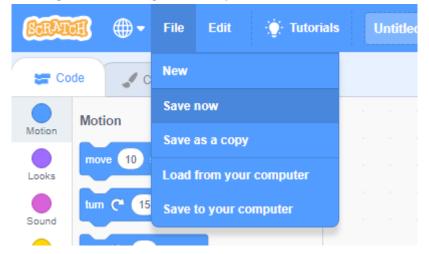


Click and drag the drum to the bottom of the Stage.

Give your program a name by typing into the text box at the top.



Then click on **File**, and then on **Save now** to save your project. If you are not online or don't have a Scratch account, you can save a copy of your project by clicking on **Save to your computer** instead.

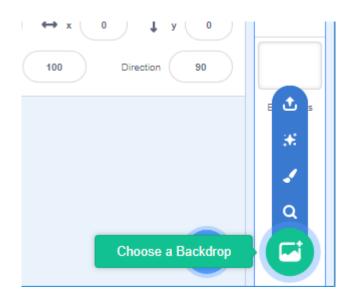


Step 2: The Stage

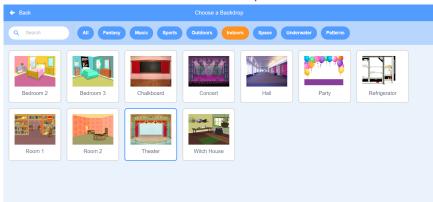
The **Stage** is the area on the right, and is where your project comes to life. Think of it as a performance area, just like a real stage!

Activity Checklist

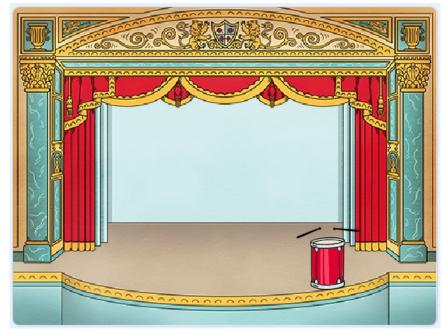
At the moment, the stage is white and looks pretty boring! Add a backdrop to it by clicking on **Choose a backdrop**.



Click on **Indoors** in the list at the top. Then click on a theatre backdrop.



Your stage should now look similar to this:



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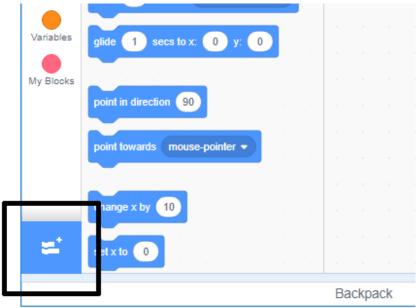
Step 3: Making a drum

Now you will add code to your drum so that the drum makes a sound when it's coded!

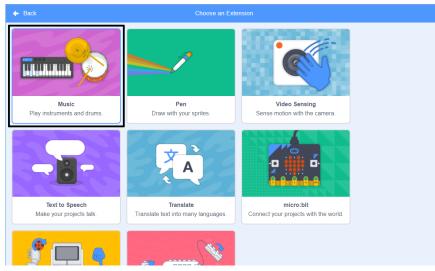
Activity Checklist



First add the **Music** extension so you can play instruments. Click on the **Add extension** button in the bottom left-hand corner.



Click on the Music extension to add it.



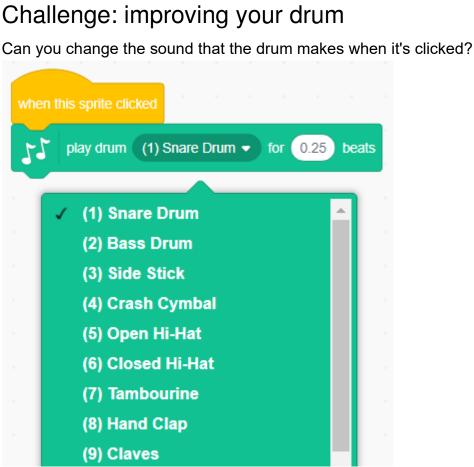
Click on the drum sprite, and then drag these two blocks into the code area on the right:



Make sure that the blocks are connected together (like LEGO bricks).

Click on the drum to try out your new instrument!





Can you also get the drum to make a sound when the space bar is Pressed? You'll need to use this event block:



If you want to copy your existing code, right-click on it and then click on **duplicate**.

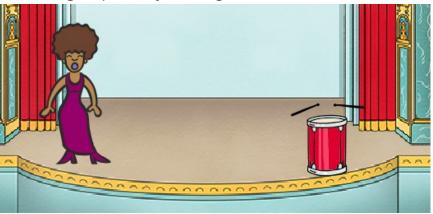
77	play d	rum ((1)	Snare Drum	• for	0.25	beat
		Dup	olicate			
		Add	l Comment			
		Del	ete Block			

Step 4: Making a singer

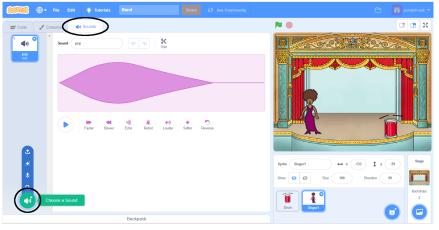
Now you will add a singer to your band!

Activity Checklist

Add a singer sprite to your Stage.



Before you can make your singer sing, you need to add a sound to your singer sprite. Make sure that you have selected your singer sprite, then click on the Sounds tab, and click on **Choose a sound**:



Click on **Voice** in the list at the top, and then choose a sound to add to your sprite.

Search	All Animals	Effects Loops	Notes Percus	sion Space Spo	vrts Voice Wac	ky (
Beat Box1	Beat Box2	Cheer	Crazy Laugh	Crowd Gasp	Crowd Laugh	Goal Cheer
(1)	(د)	((()	()	((()
Hey	Laugh1	Laugh2	Laugh3	Party Noise	Scream1	Scream2
Singer1	Singer2	Sneeze1	Sneeze2	Snoring	4)) Ya	

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To use the sound, add the following code blocks to your singer sprite:

when this sprite clicked play sound Singer1 - until done

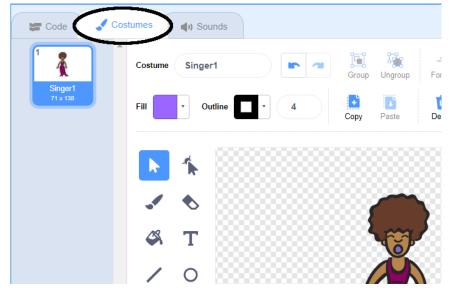
Click on your singer on the stage and see what happens. Does she sing?

Step 5: Costumes

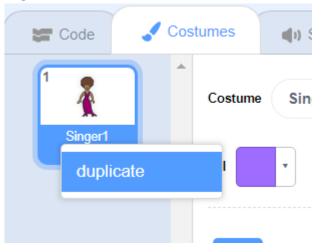
Now you will make your singer look like she's singing!

Activity Checklist

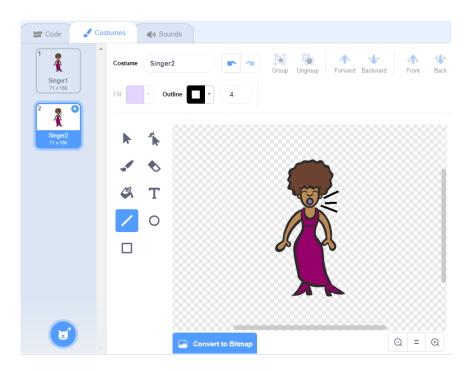
You can change how your singer sprite looks when it's clicked by creating a new costume. Click on the Costumes tab, and you'll see the singer costume.



Right-click on the costume and then click on **duplicate** to create a copy of it.



Click on the new costume (called 'Singer2'), and then select the line tool and draw lines so it looks like your singer is making a sound.



The names of the costumes aren't very helpful at the moment. Type into the text boxes of the costumes to change their names to 'not singing' and 'singing'.

📰 Code 🛛 🏑 Cos	stumes	↓ Sounds
	Costune	not singing
not singing 71 x 138	Fill	• Outline • 4
singing 71 × 138	k	★
		•
	٨	Т

Now that you have two different costumes for your singer, you can choose which costume is displayed! Add these two code blocks to your singer sprite:

when this sp	rite clicked		
switch costu	me to singi	ng 👻	•
play sound	Singer1 -	until d	one
switch costu	me to not s	inging ·	5

The code block for changing the costume is in the **Looks** section.

Click on your singer on the stage. Does she look like she is singing?

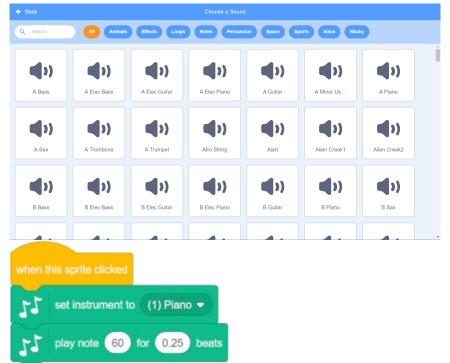
Now make your drum look like it's being hit!



Use the instructions for changing your singer sprite's costume to help you. Remember to test that your new code works!

Challenge: improve your band

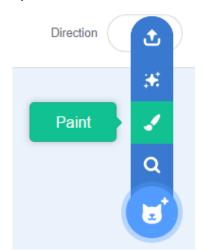
Use what you've learnt in this project to make your own band! You can create any instruments you like — look at the available instrument sprites and sounds to get some ideas.



Your instruments don't have to be realistic though. For example, you could make a piano made out of muffins!



You can use more sprites from the library, and you can also paint your own sprites!



If you have a microphone, you can record your own sounds, and you can even use a webcam to hit your instruments!

when video motion > 10
play sound crash cymbal - until done
✓ crash cymbal
splash cymbal
bell cymbal roll cymbal
record

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