



Create Your Own Asset Pack

Let's explore creating a culturally or geographically-relevant asset pack in the Scratch editor that can be shared with other Scratchers around the globe!

Assets, in Scratch, can include sprites, costumes, sounds, and backdrops, as well as code snippets. **An asset pack is a collection of assets related to a specific theme, project type, cultural event, cultural symbols or customs, geographical region, or idea.**

As the use of Scratch continues to grow globally, we know users want to create projects that represent where they are from and their culture. While the default sprite, backdrop, and sound libraries are limited, users can create their own assets and share them in a project, so other users can access them and employ them in their projects.

We know that when users can connect personally to learning, they are more motivated and engaged. So, as you consider creating an asset pack:

- What would make Scratch more relevant in our culture or community?
- What are the unique characteristics that give your asset a sense of place?
- You may want to consider creating an asset pack surrounding a certain theme; for example, assets related to a local holiday, festival, or custom.
- Consider adding assets from categories like food items, cultural dress, home architecture styles, modes of transportation, native animals or plants, urban or rural landscapes, or important landmarks.

Just be sure that your asset follows the Community Guidelines and does not reveal personal information (like where you live or go to school, or a photo of your face).

In this guide, you'll find:

- Getting Started
- Creating an Original Sprite Asset
- Paint Editor Tools
- Finishing Details
- Add a Sound Asset
- Add a Backdrop Asset
- Share Your Asset Pack in the Online Community
- Export/Backpack and Use Assets
- Share and Reflect
- Special Information for Educators



Getting Started

To start your project, head to <https://scratch.mit.edu> and click “Create.” If you have a Scratch account, be sure to log in so your work is automatically saved. If you are new to Scratch and just getting started, check out our Getting Started Guide (<http://bit.ly/Scratch-Getting-Started-Guide>) for more information. You can create assets without being logged in or using the offline editor, but you’ll need to save your project to your computer in order to access or share later.

See our companion resource videos here for more:

- ▶ [Create Your Own Asset Pack, Part 1: What Is a Scratch Asset Pack & Why Should I Make One](#)
- ▶ [Create Your Own Asset Pack, Part 2: Tips and Tricks for Creating an Asset in Scratch | Tutorial](#)
- ▶ [Create Your Own Asset Pack, Part 3: Remixing and Using Assets in Scratch | Tutorial](#)

Creating an Original Sprite Asset

There are three ways you could create an asset:

1. Edit sprites already in the Scratch library to create an asset.*
2. Upload an image (JPEG, PNG, or SVG)*
3. Create an original sprite by drawing a costume.

Let’s focus here on **creating an original sprite**. Because we are creating a unique sprite, we don’t need the default cat sprite that appears with every new project. So simply click on the cat sprite in the sprite area and then click on the garbage can that appears to delete it.

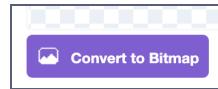
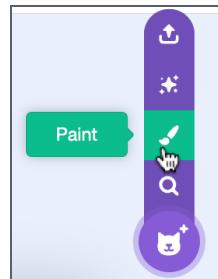
Now, hover over the sprite menu in the lower-right corner of the sprite area and choose “**Paint**,” which brings you to a blank costume window under the “Costumes” tab.

There are two modes for drawing in Scratch:

- Bitmap-mode allows you to edit photos and paint with pixels.
- Vector-mode allows you to create and edit shapes.

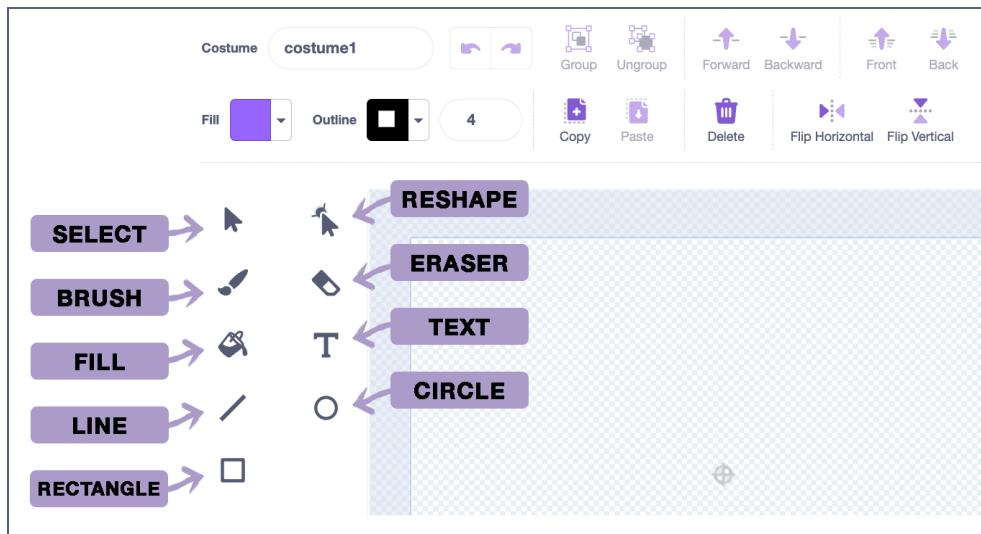
If you are creating your own sprites, it is important you stay in the default **vector-mode** to create your artwork. Vector-mode allows users to adjust colors, change the shape of an object in the costume, add and remove elements, etc. If users remix your assets, this flexibility is important. When in vector-mode, you’ll see a “Convert to Bitmap” button at the bottom of the screen.

* See our guides in the Educators section for more information. Please keep each of your asset files under 10MB and do not upload materials under copyright.



Paint Editor Tools

The following paint editor tools can be used to draw assets in vector-mode:



	<p>Click and drag with the Line, Circle, or Rectangle tools to create a shape.</p>	
	<p>Hold down the Shift key while dragging to create equal sides, or 45 and 90 degree angles with lines.</p>	
	<p>Using the Select tool, select a shape and click and drag one of the corner points to resize it.</p>	
	<p>To rotate a shape once you've made it, use the Select tool to grab the anchor under the shape and drag it. Hold down the Shift key while dragging to rotate at 45 degree angles.</p>	
	<p>Using the Reshape tool, click on one of the points of a shape and move the point around to alter the shape. Click + Shift key to select and move multiple points at once.</p>	

	Using the Reshape tool, click on a part of the shape that doesn't have a point to add a new point , or click on a point and press "Delete" to remove a point .	
	Using the Reshape tool, click on a point and choose whether it is curved or pointed .	
	Using the Reshape tool, click on a point and drag rotate the handles attached to the point to alter the shape of a curve .	
	Using the Select tool, select a shape and click the buttons on the top menu to copy and paste an exact duplicate.	
	Using the Select tool, select a shape and click the flip horizontal or flip vertical buttons on the top menu to flip a shape.	
	Using the Select tool, select a shape and click the Forward, Backward, Front, or Back buttons to change the layer order .	
 	Select the fill from the dropdown and use the fill (paint bucket) tool to adjust a shape's color. Or using the Select tool, select a shape and then use the Fill and Outline dropdowns to adjust the color, saturation, brightness, and outline . You can also choose to use a gradient . Use the eyedropper to select a color from another shape. Use the red strikethrough to fill with no color.	
	Using the select tool and holding down the "Shift" key, select multiple shapes to group them together. Grouping is helpful when you want to move several shapes together.	

	Use the brush tool for freehand line drawing . The example to the right shows hand drawn whiskers.	
	Use the eraser tool to remove parts of the drawing from <i>all</i> shapes and layers it comes into contact with when clicking and dragging to erase. You can use the reshape tool to then adjust the new points created.	
	The text tool comes with a dropdown list of font options to choose from. Use the Fill and Outline dropdowns to change the text color and outline.	

Some Asset Examples:

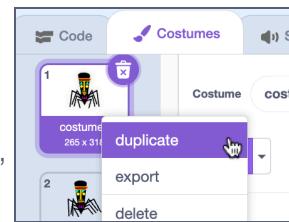


Thank you to STEAM for Vietnam (STEAM4VNOfficial), yumikorin, SaffronChai, algorithmar, SnehaLatha2020, Quirky_Witch, heeeeeeeeep, Chumie, pondermake, OIC Foundation (omolewu12), z1z123, justaspeckintheuni, watse166, xVanyx, pandatt, OMGTech, 3alacoqueQuebrar, and Karkhana Samuha (paoneshrestha01) for the example assets.

Finishing Details

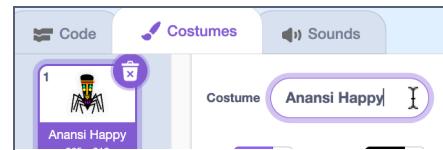
Consider creating **multiple costumes** for your sprite to show animation or variation.

You can duplicate a costume to quickly create another version by simply right-clicking on the costume you want to copy and then choose “duplicate” from the menu.

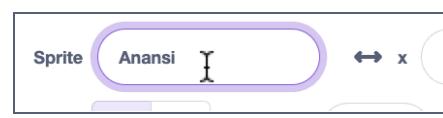


Once duplicated, you could create alternative looks by adding or removing elements, or changing the colors. Or, you can think of how your sprite might be animated, with each costume serving as a frame of the animation. Slightly adjusting the placement of arms or legs, for example, can create a sense of movement when switching between costumes.

It is also helpful to **name your costumes** with something descriptive. On the “Costumes” tab, you can change the name of the costume by changing the content of the text field next to “Costume.”



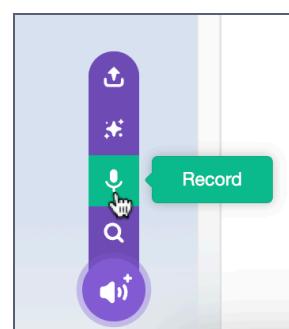
Be sure to also **name your sprite**. You can change the name in the sprite area by entering new text in the field next to “Sprite.”



Add a Sound Asset

Consider adding at least one related sound for each sprite you create. Click on the sprite and select the “Sounds” tab. Hover over the Sounds menu at the bottom of the tab, and choose to upload a sound or **create an original sound by recording yourself, or noises in your environment.**

If you are recording an original sound, you can use the “Record” option. Once your sound is recorded, you can use the sound editor to make edits, if necessary, like shortening the length or adjusting the volume.



Be sure to **give your sounds descriptive labels** by changing the content in the text field next to “Sound” on the Sounds tab.

If you want to upload a sound file that you have collected or created, make sure it is in WAV or MP3 format. Please keep each of your asset files under 10MB and do not upload materials under copyright. Once uploaded, those sounds can also be edited with the sound editor tools and renamed.



Add a Backdrop Asset

Backdrops, in Scratch, are often decorative scenes that fill the entire stage and are automatically placed behind all sprites. If you want to create a backdrop asset, typically you would add one using the “Backdrops” menu under the Stage area. However, **when creating an asset pack to share, we recommend creating your backdrop as a sprite instead.** Backdrops created as sprites can be more easily exported, especially when they contain sounds or multiple versions.

You can use the same methods and tools to create the backdrop that you used to create a character sprite costume:

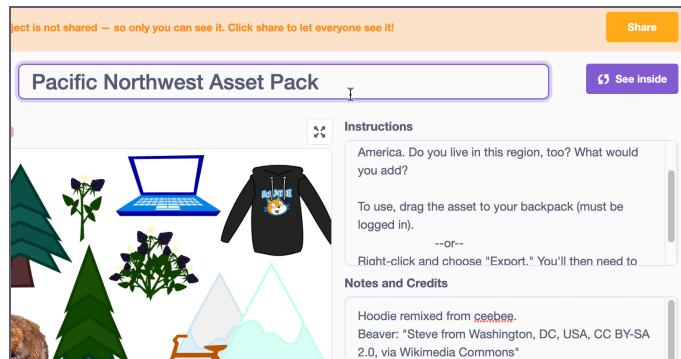
- Create the backdrop asset by editing vector backdrops already in the Scratch library, uploading an image, or creating an original backdrop by drawing one.
- Be sure you are in vector-mode to draw your backdrop to allow for easy editing later.
- Consider creating multiple versions of your backdrop to show animation or variation.
- Consider adding a relevant sound.
- Name your backdrop costumes and sprite.

When planning your backdrop, we suggest making sure they are not too busy and have plenty of empty foreground space, so sprites are visible when in front of them.

Share Your Asset Pack in the Online Community

When your asset pack project is ready, **name your project, and share it** to the online community by clicking the “Share” button. Now, your asset can be remixed and used by others!

If you did not make a sound or an image yourself or you remixed someone else’s creation, it is important to **provide credit** in the Notes and Credits section.



Creative materials, like sounds or images, that are not protected by exclusive intellectual property rights, are public domain, or are licensed under Creative Commons are best to use when using others’ assets as part of your pack. Just make sure to add credit, if necessary, to attribute the source of your asset. Creative Commons licenses give everyone from individual creators to large institutions a standardized way to grant the public permission to use their creative work under copyright law. Read more about it at <https://creativecommons.org/about/cclicenses>.

To help others find your asset pack, **look for studios that match the theme of your asset pack, or for studios that are specifically collecting asset packs.**

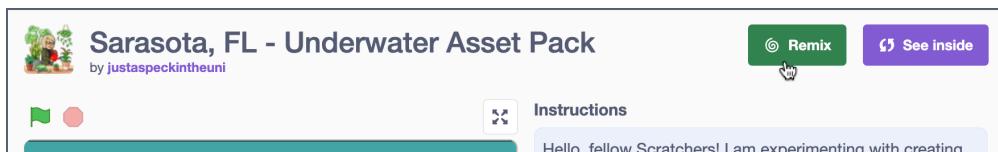
Export/Backpack and Use Assets

If you find an asset from another user's asset pack that you would like to use in your own project, there are a few ways to add it to your project.

1. If logged in, **remix the asset pack project** to access all the assets.
2. If you only want to use specific objects from the asset pack, rather than remixing the whole project, you can **use the backpack feature** to collect individual sprites, costumes, or sounds. However, you need to be logged in to access the backpack feature.
3. Whether logged in or not, or using the online or offline editor, you can **export** individual sprites, costumes, or sounds to your computer desktop, **and upload** them into your project in the online or offline editor.

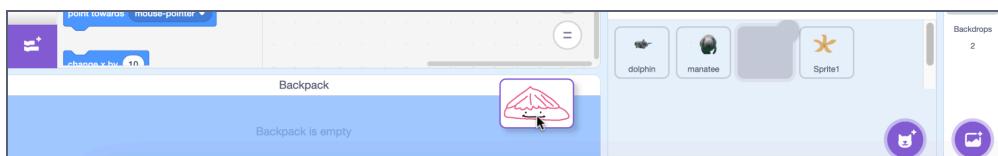
To Remix

When logged in, click on the remix button on any shared project to get a copy of the complete project on your account. Make sure you make a meaningful change before sharing your remix and give credit to the original creator.

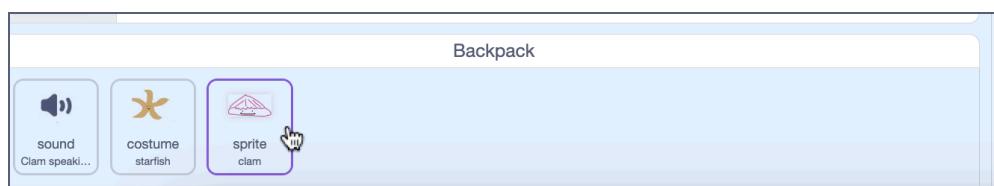


To Save Assets in Your Backpack

You must be logged in to access the backpack feature in the Scratch online editor. Click the "See Inside" button on any shared project. At the bottom of the screen, click to expand the backpack, then drag-and-drop the desired assets to the backpack area to save them.



When you have a project open to add the asset to, drag it from the backpack to the appropriate place, such as the sprite area or costume tab or sound tab, to add it.

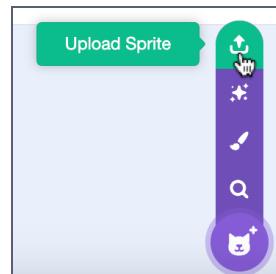
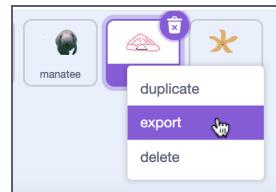


To Export and Upload Assets

If you are using the offline editor and have no way of publicly sharing your project, you can export assets you've created to share them with friends and fellow learners. You can also use the export feature to collect assets if you are accessing the online editor while not logged in, or if you'd prefer the export method over the backpack

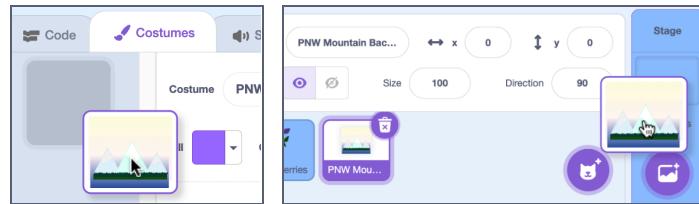
Click the “See Inside” button on the project. Then, right-click on the asset and choose “export” from the menu.

To use the asset, open a project in the online or offline editor and use the upload options in the sprite, costume, and sound menus to upload the asset into the project from your files.



Backpacking or exporting an entire sprite will create one file containing all the sprite's costumes, sounds, and code. That is why creating backdrop assets as sprites (instead of backdrops) makes them easier to reuse and remix.

TIP: If the backdrop was created as a sprite, you'll need to first drag it from the backpack into the sprite area or upload it as a sprite. Then, you may choose to drag the backdrop sprite costume to the backdrop area, as well as any sounds. Once it is set as a backdrop, you can delete it as a sprite. Now, you can use the backdrop code blocks like “switch backdrop” to code it as usual.



You can also drag-and-drop into the backpack or export individual costumes or sounds from those tabs, if desired.

Remix Culture and Credit

Scratch embraces remix culture. Remixing is when you build upon someone else's projects, code, ideas, images, or anything else they share on Scratch to make your own unique creation.

When you've added an asset from another Scratcher into your project, consider what you might add to it to make it your own. Perhaps you:

- add code to animate the asset
- place it in a new scene with other assets or add related sounds
- use the tools in the paint or sound editor to make adjustments to it
- add additional assets to the pack that you felt were missing

Just make sure that before you share, you've given credit to whomever created the asset in the Notes and Credits section of your project page. We are excited to see what you'll create!

Share and Reflect

- If you are creating as a group, consider setting up a viewing gallery! Have each participant's project open on their computer or other device. Participants can walk around a room, or take turns sharing their screen in a virtual space, to experience each other's creations. Another option is to display one project at a time on a large screen.
- Take time to reflect. Ask participants to share their reflections aloud as they share their creations with others, or have completed sheets near their computers during a gallery walk for others to read. See our [Asset Pack Creation – Reflection Sheet](#) on the following pages.
- If you remixed/used another Scratcher's asset in one of your projects, use our [Asset Remix – Turn-and-Talk Prompts](#) on the following pages to reflect on why you chose that asset to remix and how the process went.

Additional Educator Resources

- See our [Bring Yourself Into Scratch Lesson Plan](#) to explore multiple pathways for students to share their identity, voice, and creativity through development of a unique asset (a “sprite” in Scratch) that is meaningful to them.
- Check out our Teacher Account Guide (<http://bit.ly/Your-Teacher-Account>) for more information on setting up teacher accounts and student accounts, managing classes, and class studios.
- If you want to set up a studio for your learners to share their asset pack projects, see our Teacher Account Guide and our Scratch Studios Guide for more information (<https://resources.scratch.mit.edu/www/guides/en/scratch-studios-guide.pdf>). It may be helpful to include some example projects in your studio to show what you are looking for, or create your own asset pack as an example and the first project in the studio.
- If a learner prefers to hand-draw their sprite design or computers are limited, our resource Bring Your Drawings into Scratch (https://resources.scratch.mit.edu/www/guides/en/ScratchLearningResource_BringYourDrawingsIntoScratch.pdf) contains information on how to upload those drawings to the platform.
- Our Remix and Re-imagine Scratch Sprites resource (https://resources.scratch.mit.edu/www/guides/en/ScratchLearningResource_RemixRe-imagineSprites.pdf) contains information about identifying sprites to easily edit and tool tips.
- The US-based Kapor Center explores the intersection of racial justice and technology and has created a [Culturally Responsive-Sustaining CS Education Framework](#) that aims to create inclusive opportunities for all to engage with technology via six core components.
- The UK-based Raspberry Pi Foundation has created [guidelines for culturally relevant and responsive teaching](#) focused on curriculum, teaching approaches, and learning materials.



Asset Pack Creation – Reflection Sheet



Your name: _____

What inspired you to create the assets in your asset pack?	
What makes these assets unique to your community, culture, language, or region/geographic location?	
What did you like about creating these assets?	
What challenges came up for you while creating these assets? How did you get unstuck, or how did you solve the problem?	
If I had two more days, I would add...	
How do you imagine someone might use these assets in their own project?	



Asset Remix – Turn-and-Talk Prompts



Why did you think this asset would be a good fit for your project?



**Do you feel a personal connection to this asset and what it represents?
What is the connection?**



How did you remix this asset to personalize it or use it?



Were there any challenges using this asset in your project? If so, how did you solve the problem?

Tip: If you'd like to translate this guide, [click here to make a copy](#) of this Google doc.



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