

girls who
code

Girls Who Code At Home

Digital Storyteller
Animations With Scratch

Activity Overview

Storytelling allows individuals to share their experiences, thoughts, and feelings. Storytelling can be a powerful way to lift others up during a challenging time! In this activity you will learn how to plan and program a digital story with Scratch that shares an uplifting tale, a funny story, or important information to help people. The type of story you want to tell is up to you! Before you draft your story and start writing code we recommend checking out the featured Woman in Tech Spotlight, Nonny de la Peña. Nonny, also known as the “Godmother of Virtual Reality,” pioneered the use of Virtual Reality (VR), graphics, and audio to tell compelling stories in a genre called immersive journalism. She founded Emblematic in 2006 to bring more immersive stories to life.

Materials

- [Online Scratch](#) or [Offline Scratch](#)
- [Example Digital Story Project](#) (With Extensions)
- Planning and Storyboarding Worksheet
- Pen, Pencil, or Markers

Women in Tech Spotlight: Nonny de la Peña



Instead of simply reading a news article, imagine being transported to the scene of the journalist. What would it be like to see what they see and hear what they hear?

Nonny de la Peña, also known as the “Godmother of Virtual Reality,” pioneered the use of Virtual Reality (VR), graphics, and audio to tell compelling stories in a genre called immersive journalism. She founded Emblematic in 2006 to bring more immersive stories to life.

She has reported on stories ranging from solitary confinement in U.S. prisons, to melting ice caps in the polar regions, to the Syrian War.

Watch [this video](#) where Nonny discusses why she believes VR is important in telling stories. She also speaks about the risks she took as an early adopter of the technology to help her idea become a reality!

Reflect

Being a computer scientist is more than just being great at coding. Take some time to reflect on how Nonny and her work relates to the strengths that great computer scientists focus on building - bravery, resilience, creativity, and purpose.



CREATIVITY

Nonny created a new field for reporting called **immersive journalism**. She prefers telling stories through VR since “it can make people feel in a way that nothing, no other platform I’ve ever worked in, can successfully do in this way.”

In your opinion what is the most effective way to tell stories? What are the benefits of immersive journalism?

Share your responses with a family member or friend. Encourage others to read more about Nonny to join in the discussion!

Step 1: Draft Your Story by Creating a Storyboard (15 min)

Before you start writing any code, it's a good idea to take some time to plan out what you want to create. A storyboard is a graphic organizer that is used to plan out a narrative or story. Most movies and digital animations start out first as a paper storyboard. For this activity we recommend you take a few minutes to sketch or write out the major scenes or parts of your story using a storyboard. As you plan your digital story you can use our [storyboard and planning template](#) and think about the questions below.

- Who are the characters in your story?
- What scenery or backdrop(s) will you want for your story? Where does it take place?
- How will your story start?
- How will the story end?
- What do you want the viewer to take away from your story? What message are you hoping to send?
- What are 1-3 major events that happen during the story?

If you are having trouble coming up with ideas, try exploring projects that exist on Scratch or consider turning one of your favorite stories into a digital animation. Below you can find a few example Scratch animations we recommend checking out!

- [Bullying Animation](#)
- [Digital Storyteller Example](#)

Step 2: Create a New Scratch Project and Navigate the Interface (10 min)

Scratch is a free programming platform and block-based programming language developed by MIT that allows you to program interactive stories, games, animations.

1. Sign up or login into [Scratch](#).

In order to save your work on Scratch's online platform you'll need to create an account if you don't already have one. Follow the instructions on the sign up form to create an account.

NOTE: If you are under 13 you'll need your parent's email address to sign up. If you don't want to create an account you can also download and use the [offline version of Scratch 3.0](#).

Step 2: Continued

2. Create a New Project.

From the home page click **Create** to create a new project!

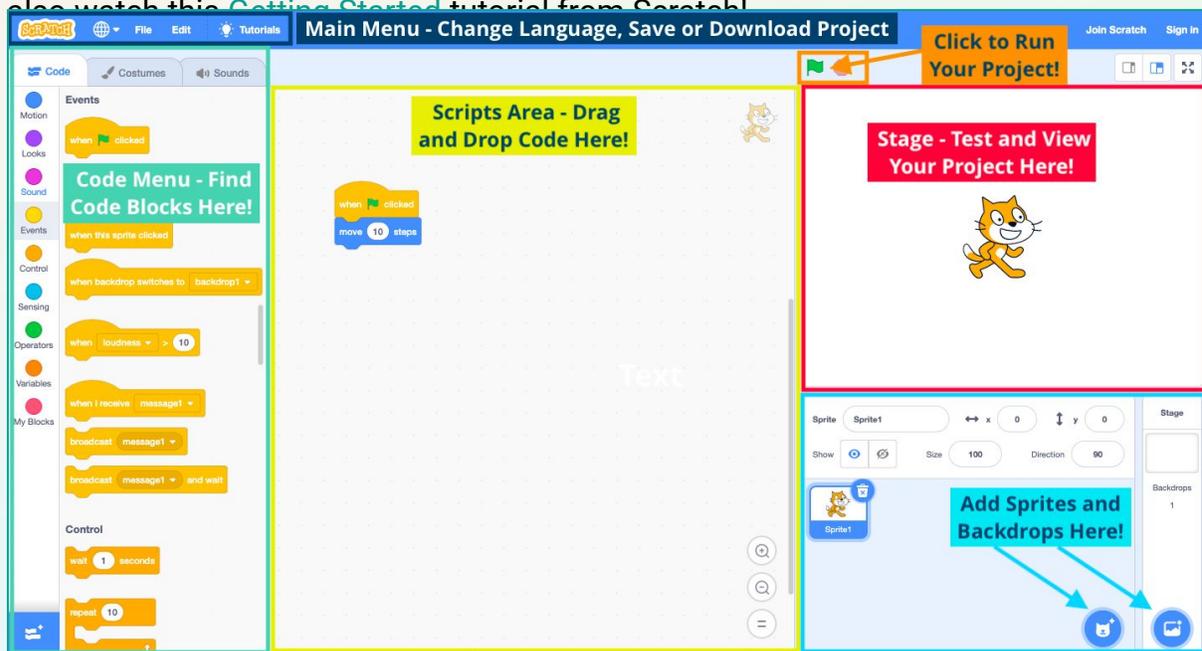


Next, title your digital story with a specific name like "Nonny's Environmental Adventu..."



3. Explore the Scratch interface.

If you are new to Scratch take a few minutes to explore the Scratch interface. You can also watch this [Getting Started](#) tutorial from Scratch!



Step 3: Program Your Story (15-60 mins)

1. Add sprites and backdrops.

A **sprite** in Scratch is an object that can perform actions in your program. Every project in Scratch starts out with the Scratch cat. Add any sprites or backdrops you may want from the library by clicking on the sprite or backdrop icons in the bottom right hand corner of the editor. If you found images online that you want to use in your project, you can hover over the sprite or backdrop icons and select **Upload Sprite** or **Upload Backdrop**.

2. Create the first scene.

Scratch is an **event-based programming language**, which means that the code is run or triggered by different events. For example the **When _ key is pressed** or **When mouse moved** blocks can trigger scripts to run whenever that event takes place. In Scratch, event blocks are found in the **Events** menu. In many projects the event, **When Green Flag Clicked** is used to start most programs.



Let's try this in your project!

- Select your main sprite and add the starting event to your scripts area.
- Using your storyboard to guide you, write the code for the first part of your animation. You might use a combination of blocks from the **Looks** and or **Motion** menu including the **Say _ for 2 secs** block to have your sprite share part of the story.



3. Test your project.

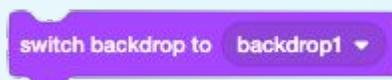
Now that you have the first part of your digital story built, test it out by clicking the green flag or setting off whatever event you used to start your project. While you test your project ask yourself these questions:

- Does it work as you expected?
- Do all the actions happen in the right order?

If not, make adjustments and debug your code before moving on.

4. Add additional scenes.

Once you have the first part of your digital story working, continue to use your storyboard to build out your program and tell the rest of your story. Think about using new backdrops or adding additional sprites to enhance your story. You can use the **Switch backdrop to _** block from the **Looks** menu to change the backdrop that is displayed or move onto the next scene. Be sure to test your project as you add new scenes!



5. End the story.

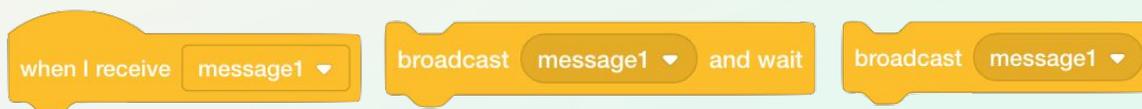
All stories must come to an end, so don't forget to add an ending for yours! You may want to include credits, sources of inspiration, or ask your users to take action at the end.

Step 4: Take it Further (5-30 mins)

There are so many ways you can take your digital story to the next level! We recommend you explore the resources under the [Ideas tab](#) on Scratch.

- **Use broadcast to communicate between sprites or backdrops.**

A broadcast is a message that is sent through the Scratch program, activating receiving scripts, or blocks of code. These blocks are useful because they trigger specific scripts. They are similar to events, but allow sprites to interact with each other without any outside input. You can read more about broadcast on the [Scratch Wiki](#) and explore this [example project](#).



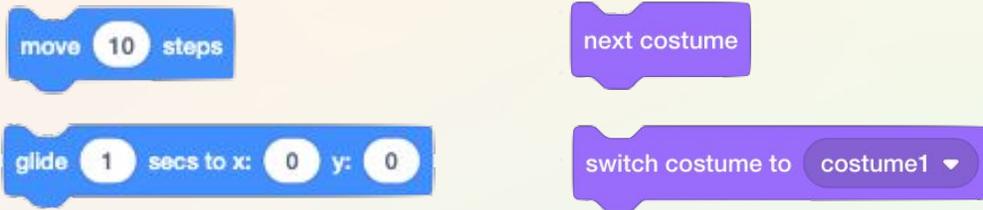
Once you've got the core part of your animation working, try using broadcast to add some more pizzazz to your story. Do you want another sprite to talk or appear at a certain time? Do you want to use broadcast to make sprites move or add a graphic effect? Think about where in your project you should add the broadcast blocks to sequence events and actions in your project as you planned.

Broadcast Tips:

- You can broadcast the same message to multiple sprites and the backdrop to save time!
- Be sure to give your broadcast messages specific names so it is easy to remember the purpose of the message. For example if you want to make a sprite walk, you might broadcast a message named "walk".

- **Add movement to the sprites in your story.**

Consider having your sprites move around the stage to add interest. Try using the **move _ steps** block or **glide _ secs to x:_ y:_** block from the **Motion** menu to have your sprite move. If you used a sprite from the Scratch library you can see if it has multiple costumes available to use. You can create the appearance of walking by combining move blocks with the **next costume** or **switch costume to _** blocks. Try repeating that sequence until you find something you like. You can also try out the [Animate A Character](#) tutorial in Scratch to learn how to animate your sprites.



- **Add graphic effects to your sprites or backdrop.**

Under the Looks menu you can find many different graphical effects blocks. Try experimenting with blocks like **change size by_** or **change color effect by _** to see what happens. We recommend checking out the [Add Effects and Make It Spin](#) tutorials on Scratch.



- **Add sounds to your sprites or backdrops.**

Explore options in the **Sound** menu to add sound effects to your project. Scratch already has sounds available for you to use in their sound library or you can record or upload your own sounds! You can also test out the [Record a Sound](#) tutorial on Scratch.



Step 5: Share Your Creation (5 mins)

1. **Share your project on Scratch.**

Once your project is finished, or at least ready for you to share with others you can press the Share button in Scratch. We recommend you add instructions to the project page so users know how to view your digital story. If you used other images or sounds give credit on the project page by updating the Notes and Credits section.

2. **Share how you are tackling challenges with Girls Who Code at Home!**

Don't forget to share your projects on social media. Tag @girlswhocode and use the hashtag #codefromhome. We might even feature you on our account!

Planning and Storyboarding Worksheet

Who are the characters in your story?

What scenery or backdrop(s) will you want for your story? Where does your story take place?

How will your story start?

How will the story end?

What do you want the viewer to take away from your story? What message are you hoping to send?

What are 1-3 major events that happen during the story?

1.

2.

3.

Planning and Storyboarding Worksheet

SCENE #__ SCENE NAME:

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