SCRATCH LESSON PLAN





A new school year or learning cycle is an opportunity to get to know classmates and build community based on shared values. At Scratch, we have a strong focus on building community, kindness, and respect through our Community Guidelines, as well as connecting learners with each other and with educators in meaningful ways.

This lesson presents 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. Using a combination of written and verbal reflection, digital design, and classroom discourse, learners will practice communication, coding, presentation, and feedback skills that provide an important base for establishing a positive learning community.

Audience: Classroom Teachers, Instructional Technology Specialists, Library Media Specialists, Informal Learning Environments

Time: Approx 3 hours total

- Part 1: About Me Brainstorm 50 minutes
- Part 2: Communicating with Code 50 minutes
- Part 3: Share and Reflect 30 to 50 minutes

Objectives (Learners Will):

- Identify unique attributes of their personal and cultural identities
- Create an original character, called a "sprite" in Scratch, to represent aspects of their identity
- Design an animated narrative or interactive collage by adding code to their original sprite
- Reflect on their sprite design and creative process with peers
- Communicate and share their interactive projects with their learning community

Standards Aligned (full standards listed on page 7):

CSTA Standards Alignment	ISTE Standards Alignment	CASEL Framework Alignment
Grade 3-5 • 1B-AP-10 - Create programs • 1B-AP-11 - Decompose problems • 1B-IC-20 - Seek diverse perspectives	1.6.b Creative Communicator1.7. Global Collaborator	Self-awarenessSocial AwarenessRelationship Skills
 Grades 6-8 2-AP-11 - Create clearly named variables 2-AP-12 - Design and iteratively develop programs 2-AP-13 - Decompose problems and subproblems into parts 2-AP-16 - Incorporate existing code, media, and libraries 		

Bring Yourself Into Scratch, Part 1: About Me



Brainstorm (10 minutes)

Ask learners to think about what they want to share about their identity: a favorite activity, important food, family pet, key item of dress, beloved book character...anything that speaks to their unique background, culture, or personality. Use the following brainstorming sheet to spark ideas. Learners are encouraged to write and draw their answers.

Resources:

About Me Brainstorming (Worksheet)

Design Your Sprite (35 minutes)

Now, it is time to pick one idea and design a Scratch sprite to represent it. A "sprite" in Scratch is an object or character that can be programmed to perform actions.

Learners will use the Scratch paint editor tools to create at least one original sprite based on their brainstorming that is relevant to their culture or community. Learners may create more than one sprite if time allows.



Sprite examples by pondermake, SaffronChai, Chumie, algorithmar, and watse166.

- Step 1: To start, have learners head to https://scratch.mit.edu, login to their account (so their work is automatically saved), and click "Create." (Alternatively, learners can use the offline editor and save their work to their computer.)
- Step 2: 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 using the paint editor in Scratch:

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

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, and add and remove elements. This flexibility is important if you or another Scratcher wants to remix a sprite later.

Step 3: Let's create! The video tutorial and written guide below can guide learners through more details about creating a sprite in the paint editor.

Resources:

- Create a Sprite with the Scratch Paint Editor (Video Tutorial)
- Create a Sprite with the Paint Editor (Written Guide)

Alternative Options

Hand-draw: Learners can create a hand drawn image to be scanned/photographed and uploaded as a sprite.

- Bring Your Drawings Into Scratch (Video Tutorial)
- Bring Your Drawings Into Scratch (Written Guide)

Remix: Learners can mix, match, and edit desired pieces of vector sprites already in the Scratch Library, as well as add missing elements with shape and line tools.

- Remix and Re-imagine Scratch Sprites (Video Tutorial)
- Remix and Re-imagine Sprites (Written Guide)

Reflect (5 minutes)

Learners are prompted to turn-and-talk with a fellow learner about the asset they created. Prompts you can use are:

- The reason I created this sprite was... -or- This has special meaning to me because...
- If I had two more days I would add...

Bring Yourself Into Scratch, Part 2: Communicating with Code



Getting Ready to Code

Now, it is time for learners to add code to their original sprite. By doing this, learners will:

- Communicate to a viewer why they chose to create the asset they made in Part 1.
- Expand on pathways for creative expression by bringing their sprite to life with sound or movement.

Optional (15 minutes): Project Planning Sheet (Worksheet) - This can be used by students to plan their project before they begin coding in the project editor. If you opt to set aside time for planning, the overall lesson time will be extended, or you may opt to plan in one session and code in a separate session.

Demonstration (10 minutes)

Share the resources below or facilitate a coding tutorial to Demonstrate how learners might begin to code their original asset created in Part 1.

Resources:

Grade 3-5:

- Sounds in Scratch: Add, Record, and Use Text to Speech Blocks (Video Tutorial)
- Sound: Add, Record, and Use Text to Speech Blocks (Written Guide)

Grade 5+:

How to Make an "About Me" Project in Scratch (Video Tutorial)



Project example is a remix of an original project by cantalloupe.

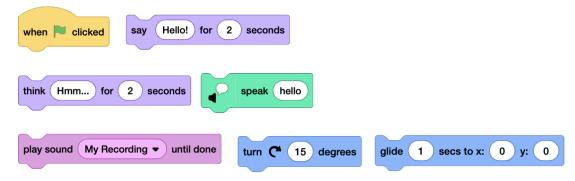
Code the Sprite (40 minutes)

- Step 1: To start, have learners head to https://scratch.mit.edu and login to their account to access their saved original sprite project (or upload their project file to the offline editor).
- Step 2: Share the block examples provided below. Highlighting blocks to try helps those learners who need extra scaffolding or ideas to get started.

Grade 3-5:

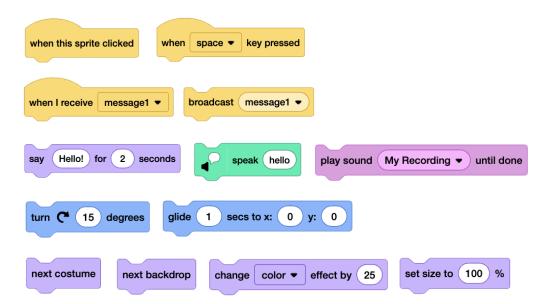
Learners will animate their original sprite. Options include using blocks to hear or see a narrative on the screen, adding text or custom backgrounds, as well as using motion blocks to give the sprite movement. Blocks to try include:





Grade 5+:

Learners will animate their original sprite, along with one or more other sprites, in a digital collage. Use motion blocks and event blocks (like "broadcast" or "when clicked") to trigger action or make the project interactive. Blocks to try include:



Resources:

- Getting Started Guide (Written Guide) If you are new to Scratch and just getting started, this resource has helpful information.
- Scratch Ideas Page (Webpage) This is a great place to short tutorials and Scratch Coding Cards.

Bring Yourself Into Scratch, Part 3: Reflect and Share



Reflect (15 minutes)

Learners can reflect on their project creation and process as they complete the Bring Yourself Into Scratch Sharing Sheet.

Next, their peers are encouraged to leave feedback or comments on the sheet for the creator as they view the projects in a studio or participate in the gallery walk.

Resources:

Bring Yourself Into Scratch: Sharing Sheet (Worksheet)

Share Option #1: Create a Class Studio to Gather Shared Projects

Studios are a space on Scratch where users can come together to make, share, and collect projects related to a particular theme, idea, or prompt. Set up a class studio* for your learners and add their original asset projects. Learners are encouraged to take time to look at projects and read/listen/interact with them to learn more about their peers.

Resources:

- Teacher Account Guide (Written Guide) This resource contains information on setting up teacher accounts and student accounts, managing classes, and class studios.
- Scratch Studios Guide (Written Guide) This resource contains information on setting up and managing studios generally.

*Note: Learners will need a Scratch account and access to the online Scratch editor to participate in this option.

Share Option #2: Gallery Walk

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. Learners are encouraged to take time to look at projects and read/listen/interact with them to learn more about their peers.

More Things to Try

- <u>Debugging Reflection</u> (Worksheet) Dive into the practice of debugging with learners and use this reflection sheet to help them explore.
- <u>Debugging Strategies Posters</u> (Printable Posters)
- <u>Scratch Community Guidelines Poster 8.5x11</u> or <u>18x24</u> (Printable Poster)
- Getting Started in the Online Community (Written Guide) A guide all about the Scratch Online Community.

Full List of Standards Aligned

CSTA Standards Alignment

Grades 3-5

- 1B-AP-10 Create programs that include sequences, events, loops, and conditionals
- 1B-AP-11 Decompose (break down) problems into smaller, manageable subproblems to facilitate the program development process.
- 1B-IC-20 Seek diverse perspectives for the purpose of improving computational artifacts.

Grades 6-8

- 2-AP-11 Create clearly named variables that represent different data types and perform operations on their values.
- 2-AP-12 Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals.
- 2-AP-13 Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs.
- 2-AP-16 Incorporate existing code, media, and libraries into original programs, and give attribution.

ISTE Standards Alignment

- 1.6.b Creative Communicator Learners create original works or responsibly repurpose or remix digital resources into new creations.
- 1.7. Global Collaborator Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.

CASEL Framework Alignment

- Self-awareness: The abilities to understand one's own emotions, thoughts, and values and how they influence behavior across contexts.
- Social Awareness: The abilities to understand the perspectives of and empathize with others, including those from diverse backgrounds, cultures, & contexts.
- Relationship Skills: The abilities to establish and maintain healthy and supportive relationships and to effectively navigate settings with diverse individuals and groups.

Tip: If you'd like to translate this guide, **click here to make a copy** of this Google doc.

