

## Unit 3 - Instructor-Led Action Projects

This document contains a list of various activities that students might choose to pursue in their quest for social justice. Click on the link to each under the Table of Contents below to read more about each one.

NGSS connections: **Practices:** Asking Questions and Defining Problems; Planning and Carrying Out Investigations; Analyzing and Interpreting Data; Obtaining, Evaluating, and Communicating Information; Engaging in Argument from Evidence; Constructing Explanations and Designing Solutions; **CCCs:** Patterns; Cause and Effect; Systems and System Models; **DCI:** HS-ETS1-1.

### Starting point for instructors

- Prior to this lesson, work through [Unit 3 - Taking Action: Brainstorming and Planning](#) with your students to help brainstorm ideas they could take.
- Do [Unit 0 - Setting the Stage](#) before this, and review norms if needed.

### [A. Practicing Speaking Up](#)

### [B. Poster Making](#)

### [C. Researching & Presenting Underrepresented Scientists](#)

### A. Practicing Speaking Up

*Practicing Speaking Up. [20-40 minutes]*

The Learning for Justice (formerly Teaching Tolerance) [resources](#) about speaking up are excellent, but in some classes the [examples they provided](#) fall a bit flat. The instructor can start with a few (for example, #4, 6, & 7) and then spend most of the time asking students to anonymously share opportunities to speak up via an [Anonymous Poll](#).

**Write-Pair-Share:** Once the class chooses an example, ask students two questions:

- What makes this complicated or challenging?
- What could you do?

We suggest acknowledging complexity so the practice is realistic: if we only skim the surface, this exercise is less likely to be useful to students when moments to Speak Up arise. The class can problem-solve in pairs, small groups and even practice discussing or acting out the scene as a whole.

*Optional Extension:* Students can also benefit from learning to acknowledge that we all have learning to do. Ask them, “How will you respond when someone Speaks Up to something you’ve done?”



In this activity, students can learn that someone Speaking Up is a sign of respect, not an insult and that we can welcome feedback instead of getting defensive and writing the feedback off.

*Post-Lesson Homework [Optional]:*

*Sign Up To Speak Up*

Part of the Learning for Justice *Speak Up* curriculum includes [a pledge that students can sign](#). Facilitators give out blank copies to their students and invite them to take the copy home. Signing the form is optional. It can be helpful to explain why you have signed (if you have): some say that doing so helps them overcome the discomfort that frequently accompanies speaking up. It's important not to coerce students, and to remember that students have different reasons for not signing.

Some instructors collect any that students have signed the next day and make two copies onto card stock paper. One goes back to the student and the other can be posted publicly ([see this picture for an example of a public posting](#)), if you and your students are comfortable with this. (If you do make a display, you can also provide blank copies for other community members can sign, too.) Finally, some instructors make a wallet-sized copy to give back to students who signed the pledge, too, which they seem to enjoy.

## B. Poster Making

*Poster Making. [45-60 minutes]*

In this [Poster Making assignment](#) (modify to fit your implementation- this could easily be completed outside of class if necessary), we ask students to create informative posters about scientists from nondominant groups. This can be done during class or as homework. You can share [examples](#) that past students have made as a starting point.

When the posters are done, give each student a copy of [this cover sheet](#) that obscures the poster. Now the interactive posters can be hung around the school campus, and other members of the community get the experience of seeing that their stereotype of a scientist (physicist in this case) may not match the identity of the featured scientists.

**Instructor Note:**

Further extensions of this poster could include sharing this in local community newspapers, [creating wiki articles](#), posting on social media, and/or posting these around the local community.



## C. Researching & Presenting Underrepresented Scientists

*Research & Present Two Underrepresented Scientists [30-120+ minutes]*

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*Example assignment from a physics class for non-majors at a post-secondary institution.*

The goal of this project is to explore issues of representation in STEM by learning about two scientists from backgrounds historically underrepresented in [your subject here]. One scientist should have completed their work prior to 1950 and one after 1950 and you should have something in common with your scientists. For scientists alive today, you are welcome and encouraged to reach out to them by email or to conduct a short interview.

Create an Outline:

- Indicate the two people you are going to learn about.
- Briefly indicate in what ways they are from backgrounds historically underrepresented in [your subject here].
- Propose a format (e.g., essay, video, poster, etc.). You will choose how you submit the final project: for example, a ~1500 word essay; a 5-minute video or Podcast; an electronic poster, presentation, or handout; or writing a play/dialog.
- Indicate who you will work with (if applicable). You may work in pairs on this project.

*Post-Lesson Homework [Optional]:*

*Create a project that explores the following questions for two people*

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- Who is this person? What does this individual study? Why is what they study important?
- What makes this person underrepresented or counter-stereotypical in STEM?
- What was their career path? What hardships did they face?
- What is at least one thing you have in common with this individual?
- What is one thing you learned by studying this person about STEM, what it means to do STEM, or who does STEM?

## Resources

- [Lesson Plan Resources](#)



This lesson was last updated on 9/2/2024. If you have feedback, [please fill out this form](#). Updating is a volunteer effort and so your feedback is helpful. Unless otherwise noted, the [Underrepresentation Curriculum Project](#) pages are licensed under Creative Commons [Attribution-NonCommercial-ShareAlike 4.0 International](#).