

# WOMEN IN STEM

## UNIT 3: AT THE

## INTERSECTION OF WOMAN + SCIENCE



Most of the time, people talk about how women are underrepresented in science. But who exactly do we mean by women? Do all women experience the world in the same way? The theory of intersectionality addresses how identifying with more than one social group can create a unique set of challenges. What does that mean for women in science who are also visible minorities or who have disabilities?

### CURRICULUM CONNECTIONS

Social Studies; people and groups; history; stereotypes and societal norms

### LEARNING OUTCOMES

- **Describe** how one or more parts of a person's identity can combine to create unique challenges.
- **Think critically** about ideas related to different parts of identity.
- **Work collaboratively** to understand individual experiences and perspectives.
- **Communicate** effectively and respectfully with others when discussing how identities may intersect among all people, but particularly among women in STEM.

SUGGESTED GROUP SIZE: 5 TO 30

SUGGESTED TIME: 2 TO 4 HOURS



## INTRODUCTION AND BACKGROUND INFORMATION

In general, women are underrepresented in science, technology, engineering and mathematics (STEM). However, referring to all women as one big group might not be the best way to understand women's underrepresentation. For this reason, it is useful to apply the theory of intersectionality<sup>1</sup> to the issue of women's underrepresentation in science. This theory suggests that identifying with more than one social group who experiences discrimination will likely mean experiencing more bias. So, in the case of women in science, this suggests that if all women are underrepresented, that some groups of women must be even less represented.

In fact, research studies show support for this idea – for example, if women in science are also visible minorities, have disabilities, or identify as sexual minorities, they are far less represented than other women and they face more discrimination. (Ivie, R., Anderson, G., & White, S. (2014). African Americans & Hispanics among Physics & Astronomy Faculty: Results from the 2012 Survey of Physics & Astronomy Degree-Granting Departments. Focus On. Statistical Research Center of the American Institute of Physics.)

How can science be more inclusive of all people?

This discussion will get students thinking and sharing about how occupying different identities might impact the experiences and representation of women in STEM.

This discussion will get students thinking and talking about the problem of women's underrepresentation in STEM.

## DISCUSSION QUESTION

**How does occupying different social identities impact the experiences and representation of women in STEM?**

## GENERAL GUIDING QUESTIONS

1. What possible social groups can people identify with?
2. Individually, what social groups do you identify with?
3. How do the different identities in your life relate to each other?
4. What are the potential advantages of identifying with multiple social groups?
5. What are the potential challenges of identifying with multiple social groups?

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<sup>1</sup> Crenshaw, 1989



## POSTERS

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## RECOMMENDED PROCESS

1. Arrange the physical space and materials prior to beginning the discussion.
2. Provide all students with the necessary background information about the topic.
3. Provide all students with an overview of the discussion and activity.
4. Assign students to work in pairs.
5. Each pair should work together to brainstorm a list of social categories with which people can identify. Pairs can also identify where they see themselves in terms of social location and (depending on grade level), complete a brief activity illustrating how different identities may connect. This activity includes providing a blank sheet of paper to each student and asking them to draw circles in various sizes to represent each social identity. The size of the circle is proportionate to the importance of the identity, and its position in relation to the other circles reflects how these identities intersect (or not).
6. Encourage pairs to:
  - Be open-minded and inclusive of others' identities. Be respectful of others and of yourself.
  - Only discuss or name identities that they are comfortable revealing to others. Sometimes, people draw circles and do not label them, which is completely appropriate.
  - Discuss with another pair about the experience of thinking about and identifying social groups.
  - Debrief with the educator to review what it was like to discuss people in terms of social location. Was it difficult? Why or why not? What thoughts and feelings did you have?

### Remember to...

- ✓ Reinforce the idea that all people may have a different understanding about an issue, so showing compassion for each other throughout learning is critical.
- ✓ Establish expectations about taking turns to speak so that all students have their voices heard.
- ✓ Encourage students to listen and speak throughout the discussion.
- ✓ Promote an environment of respectful conduct, even when students disagree.
- ✓ Remember that topics related to equity, diversity, and inclusion may bring up strong attitudes or opinions.
- ✓ Remind yourself and students that intersectionality is a complex topic.



## ADAPTING TO DIFFERENT GRADE LEVELS

**Grades 4-6:** Discussion and pair and share in fourth to sixth grades should be focused on the following:

- What possible social groups can people identify with?
- Individually, what social groups do you identify with?
- How do the different identities in your life relate to each other?

Social Studies for this grade range involves thinking about different social groups and cultures, therefore focusing on discussing different social groups and social identities is appropriate.

**Grades 6-8:** Discussion and pair and share in sixth to eighth grades should be focused on the following:

- What possible social groups can people identify with?
- Individually, what social groups do you identify with?
- How do the different identities in your life relate to each other?

Social Studies for this grade range involves topics like identity, equity, and power relations, therefore focusing on how others' and one's own social identifications may impact experiences is appropriate.

**Grade 9+:** Discussion and pair and share in ninth and greater grades should focus on the following:

- What are the potential advantages of identifying with multiple social groups?
- What are the potential challenges of identifying with multiple social groups?

Social Studies for this grade range involves topics like civic or political engagement, therefore focusing on how different social identities impacts social equity and inclusion in science is appropriate.

## REFERENCES

Crenshaw, K. (1989). Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine. *University of Chicago Legal Forum* (139–168).