Facilitator Guide: Scientist Trading Cards

Process	Description	Your Plan
Transparency	This activity encourages students to engage with and learn from all of students in the classroom, to enhance their skills of collaboration and build connections with people they might not otherwise know. Research suggests that we tend to form friendships with individuals who are similar to us, and yet additional scholarship points to the beneficial role of working with diverse group mates to improve our problem solving and work as scientists. This activity is designed to help make those connections. Additionally, if you use cards that highlight a wide range of scientists in the field, you are increasing the chance that students will see examples of a successful scientist who holds similar identities to their own.	
Connection	Share with students why it is important to you that they get to know each other and that they work with folks whom they may not otherwise immediately seek out as lab partners. You can also highlight how these skills of collaboration across diverse others will serve students in many professional roles, such as working in a large company setting, in a health profession, or in education.	
Modeling	You could model finding one's partner by calling out the scientist's name ("Mae Jamison, Mae Jamison") and then model the first steps of the introduction ("Hi, my name is __. Nice to	

	meet you!) as well as learning more about the information on the trading card ("Wow, I have never heard of ____, but they were involved in _____. Had you heard of them before?").	

Scientist Trading Cards Action Steps:

- Time Required: 5 minutes per class session in which these are used. Materials Required: A set of cards (one card per person) with pairs of duplicate cards in the set.

- If you choose to create your own cards, here are some templates and examples:
    - Women in science playing cards that can be downloaded from https://www.luanagames.com/index.html
    - Chemist trading cards https://talented12.cenmag.org/2017/
    - Inspiration for other subject-specific cards you might create:
        - Periodic Table
        - Biological Mechanisms
        - Faculty and Staff in STEM at your institution

- You can also use playing cards for this activity; make sure that you combine across two decks of cards so that you have duplicate cards for each pair of students.

- Shuffle the cards and randomly distribute one card to each student. If you have an odd number, you could serve as a partner for one of the students.

- Students then move across the room to identify the individual with their same card. Encourage them to take a few minutes to introduce themselves to each other and (if not using playing cards) to familiarize themselves with the information on their card.

References:

Goethe, E. V., & Colina, C. M. (2018). Taking Advantage of Diversity within the Classroom. *Journal of Chemical Education*, *95*(2), 189–192. https://doi.org/10.1021/acs.jchemed.7b00510

Hong, L., & Page, S. E. (2004). Groups of diverse problem solvers can outperform groups of high-ability problem solvers. *Proceedings of the National Academy of Sciences of the United States of America*, *101*(46), 16385–16389. https://doi.org/10.1073/pnas.0403723101

Liberman, Z., & Shaw, A. (2019). Children use similarity, propinquity, and loyalty to predict which people are friends. *Journal of Experimental Child Psychology*, *184*, 1–17. https://doi.org/10.1016/j.jecp.2019.03.002

Selfhout, M., Denissen, J., Branje, S., & Meeus, W. (2009). In the eye of the beholder: Perceived, actual, and peer-rated similarity in personality, communication, and friendship intensity during the acquaintanceship process. *Journal of Personality and Social Psychology*, *96*(6), 1152–1165. https://doi.org/10.1037/a0014468