

A Field Trip to the Particle Zoo

Workshop Syllabus

STEM Teach IV

Summer I 2020

July 14, 2020

9 a.m. - 3 p.m.



Instructor

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Learning Outcomes

In this workshop, attendees will:

- Better understand the basic science involved in each of the workshop topics
- Demonstrate that understanding to each other through a series of formative assessments
- Produce a short video to help their students or friends better understand one of the workshop topics

Workshop Topics

Physics

- A Field Trip to the Particle Zoo: to the Standard Model and Beyond
- Nuclear This or That
- More Than One Me? Dimensionality and the Multiverse
- Is Pluto a Planet or Not?
- Real Space Cadets: The United States Space Force and Future Space Exploration

Biology

- So, What Exactly is a Human Genome?
- DNA Ancestry: Lederhosen or a Kilt, or Perhaps Some Beads?
- How They Spread: Bacteria, Viruses, and Epidemics or Pandemics

Chemistry

- Trash and Footprints: It's Not Easy Being Green

How to Tell Someone Everything They Need to Know in a Two-Minute Video

Logistics

- Six hours, one day, online
- Have a fully-charged cellphone or other device capable of recording a short video; have your fully-charged laptop or tablet if it will help you produce a higher quality video.