

# Teaching and Learning Through Models

Practicum in STEM Leadership

Yong-Ju Reichenberger



Developing and  
Using Models



Endeavor

STEM Teaching Certificate Project



## Purpose

To share best practices on how to help our students **understand** provided models and also **create their own models** to illustrate their understanding of a phenomenon, data, etc

# Agenda

- What is modeling?
- How do I use modeling in my classroom?
- Example activity: Sweet Beets - Making Sugar Out of Thin Air
- How can you use modeling in your classroom?
- Feedback and Reflection form

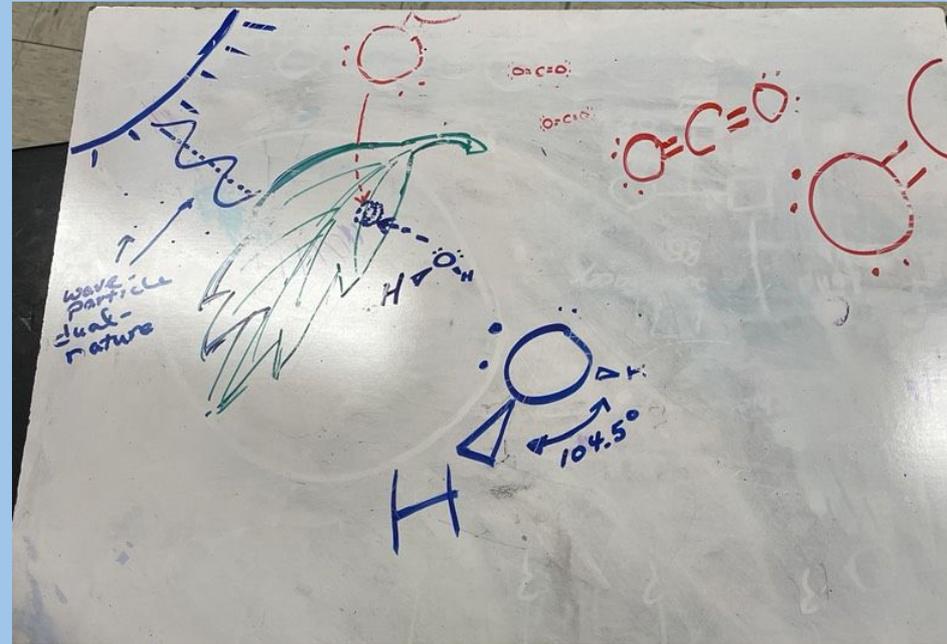
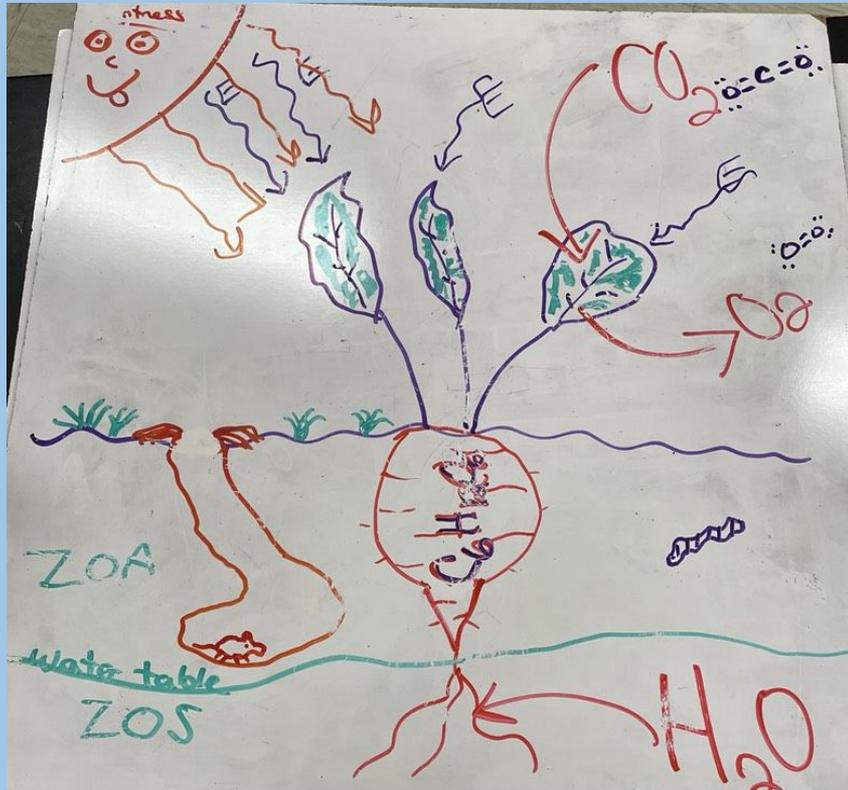
# Audience

- This PD was presented to the **13 high school science teachers plus one elementary school teacher** (science specialist)
- Pre-PD Comfort Rating with Modeling (scale of 1 to 10):
  - **Range 5-8**



Casual PD on solar eclipse day!

# Hands On Activity - Modeling Photosynthesis



Survey Data: After taking part in this PD, on a scale of 1 to 10, how comfortable do you feel using models in your classroom?

Average Rating: 8.5!

Survey Data: “How would you implement modeling in your classroom? In other words, where can you see modeling fit in your lessons?”

“Everywhere. At the beginning of units and lesson along with end of unit to monitor growth”

“Modeling is already used with diagrams, but I can try having my students revisit models over the course of a unit.”

“Modeling can be used to demonstrate atomic behavior and interactions as well as more abstract concepts like energy transfer.”

## Survey Data: What other takeaways do you have from this PD?

I'm going to implement the idea of modeling at the **beginning, middle, and the end of a unit** to watch for growth in understanding.

There are a lot of different models and pathways to use models. I appreciated the time and perspective to show us **so many different types** and ways of modeling with students. I truly look forward to more PD from this presenter!

I hope to use modeling as an **assessment tool** as well as learning tool.

Models can be used to **help struggling students**. Bravo!

My big takeaways?

Thank you!