



# The 5E Model in Action

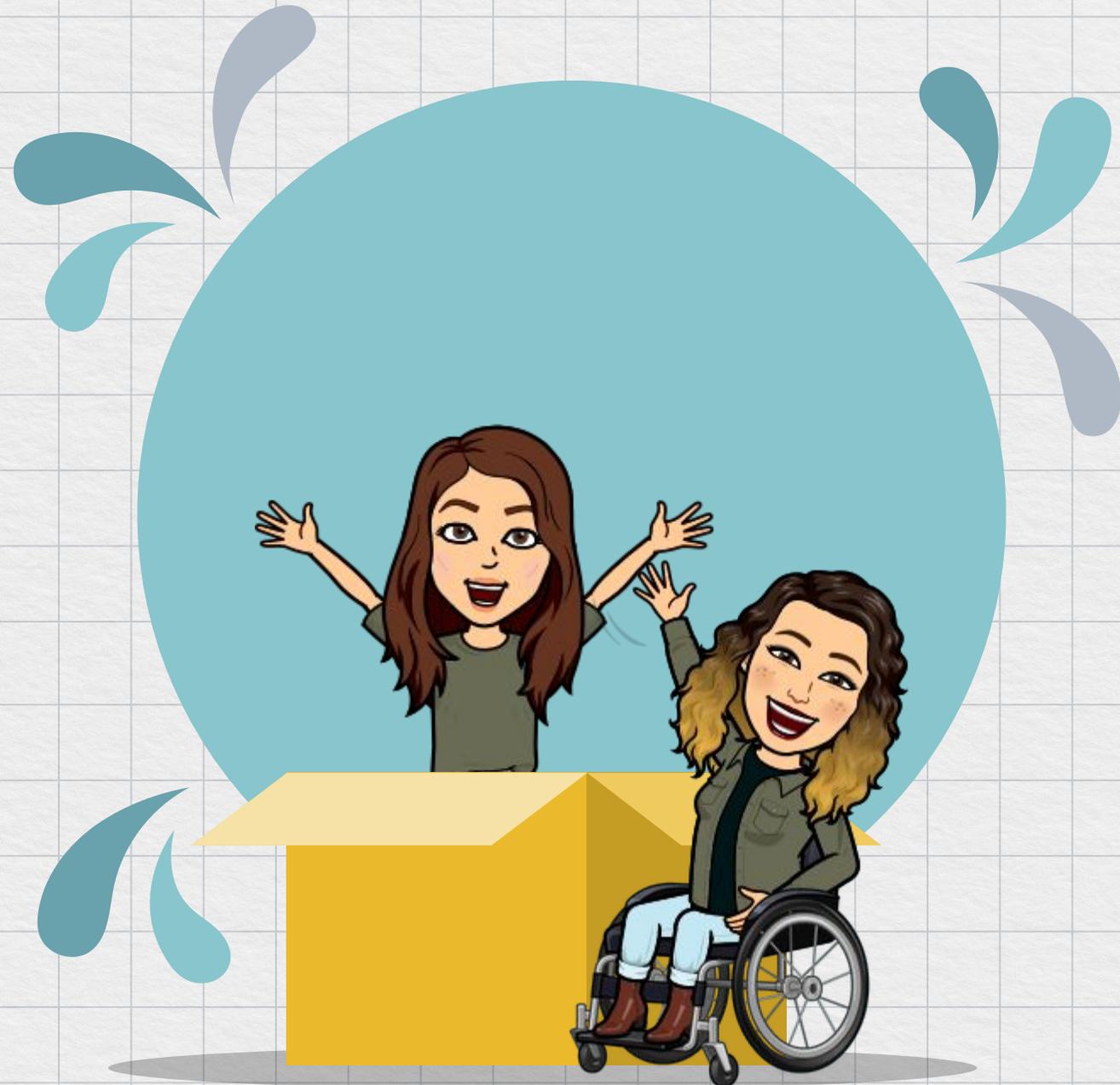
**An Inquiry Approach to Learning**

# Hello! We are...

1/2 of the Science Department from  
Butler County High School

Emily McAfee- Biology 1 Teacher

Kayla Spurgeon - Integrated Science



# Hello! We are...

The Science Department from  
Butler County High School

Jennifer Davis

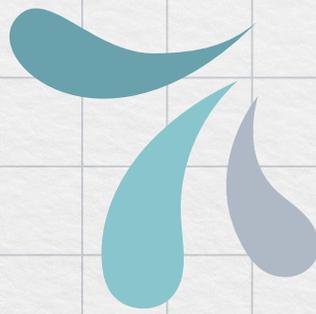
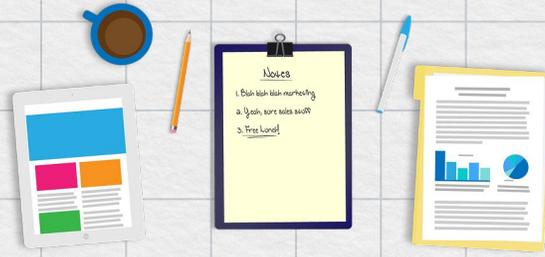
Madison Staton

Emily McAfee

Kayla Spurgeon

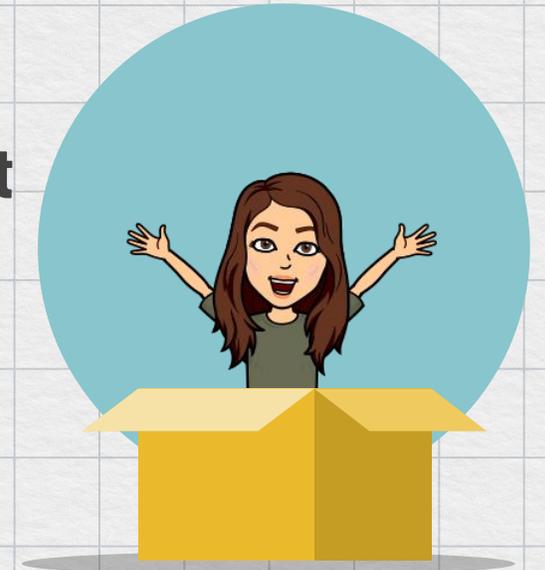


# Justification



We chose to develop a Professional Development showcasing the 5E model because of the obvious benefits of **student engagement**.

- Ability to integrate **real-world phenomena**
- Capture **student interest** and utilize student background knowledge
- Exploration allows for integration of **authentic NASA data**
- Sets a framework for leading up to any **"Engineering Design" Project**
- Demonstrate how the 5E model is a **fluid process** & not a rigid "5 exact steps".



# Audience



Our STEM integration professional development was hosted at **Hardin County Technical College**.

- ❖ The professional development consisted of **two days**, the first with elementary educators and the second with secondary educators.
- ❖ Each day roughly 30 participants attended our professional development.
- ❖ Thus, any educator that taught **math/science** was invited to attend, as we adjusted the material to meet the needs of the grade levels.



# Project Summary



-Kayla presented her Physics Unit Project, **Engineer a Mars Rover**, as it the participants were the students. Thus, participants worked through the engage, explore, and explain portions of the lesson. For the elaboration and evaluation, participants were presented with evidence from her classroom.

-For the engage and explore, Kayla utilized the **“Access Mars with Google”** NASA resource, where participants had to collect qualitative data about the terrain of Mars and the specific parts to the rover.

-At the end, Kayla asked participants to assign the different steps of the 5E model to the activity that they completed.



# Project Summary

The first portion of our PD showcased the **5E Instructional Model** and how it would feel as a student being lead through an inquiry based lesson.

- Teachers completed each part of 5E Model during Human Impact on CO2 Levels
- Teachers collaborated using cooperative learning strategies
- NASA Data was utilized to help teachers explain the phenomena they explored in the engagement portion of the lesson.
- “Students” were allowed to make hypotheses, test predictions and form



*Engage* Students were shown images of different cities before and after the COVID-19 lockdown. Then asked, “Based on your observations, what are you curious about from these photos?”.

*Explore* Students used NASA data cubes to explore the phenomena from the exploration.

*Explain* Students conducted lab to test carbon dioxide levels effect on temperature.

# Reflection

## Suggestions for improvement from participants:

- "I would have liked some presentations about interdisciplinary STEM approaches".
- "Make it more content friendly for people outside of math and science classrooms".

## What did you learn that was significant and useful from this session?

- "It is okay not to have all 5 E's in each lesson".
- "I loved the different ways you integrated different engaging manipulatives for each activity".



# Thank you!

Do you have any questions?

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