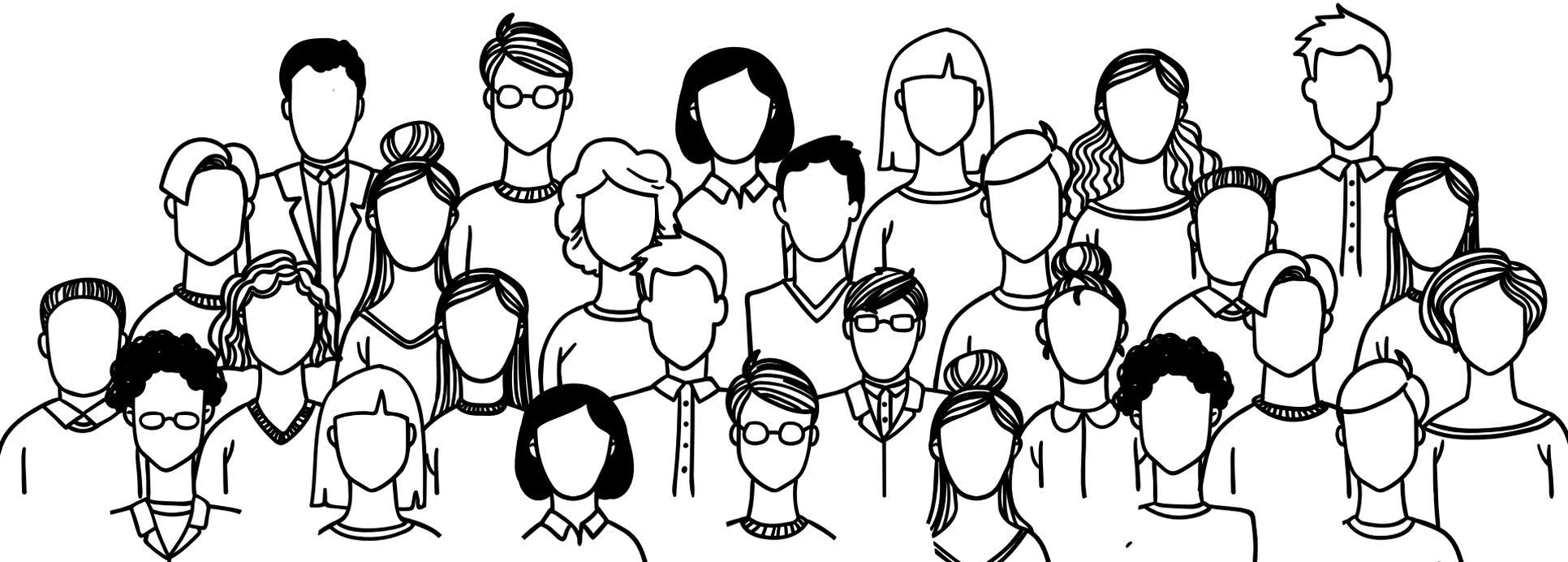


# STEM and the Collaboration Process

By Jesiah Jeffers



# The PD Plan

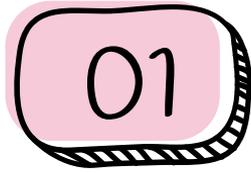


- Give a practical way for teachers in our building to collaborate
- Use STEM as a way to collaborate cross-curricularly
- Give time for teachers to design a cross-curricular STEM lesson
- Give teachers STEM resources



- Use the 5E lesson model as the template of the PD and as the template for teachers to create their lesson
- Engage/Explore: Teachers are put into groups and do an escape room with teachers from different departments
- Explain: Gather teachers and explain 5E model and give my presentation
- Elaborate: I provided many STEM resources by subject and gave time for teachers to explore them
- Evaluate: Teachers paired with a teacher from another department and designed a cross-curricular 5E lesson outline.

# Resources



## The 5E LESSON PLAN MODEL

5E Lesson Plan	
<b>Engage</b>	
The purpose for the ENGAGE stage is to pique student interest and get them personally involved in the lesson, while pre-assessing prior understanding.	
<b>Explore</b>	
The purpose for the EXPLORE stage is to get students involved in the topic; providing them with a chance to build their own understanding.	
<b>Explain</b>	
The purpose for the EXPLAIN stage is to provide students with an opportunity to communicate what they have learned so far and figure out what it means.	
<b>Elaborate/Extend</b>	
The purpose for the EXTEND stage is to allow students to use their new knowledge and continue to explore its implications.	
<b>Evaluate</b>	
The purpose for the EVALUATION stage is for both students and teachers to determine how much learning and understanding has taken place.	



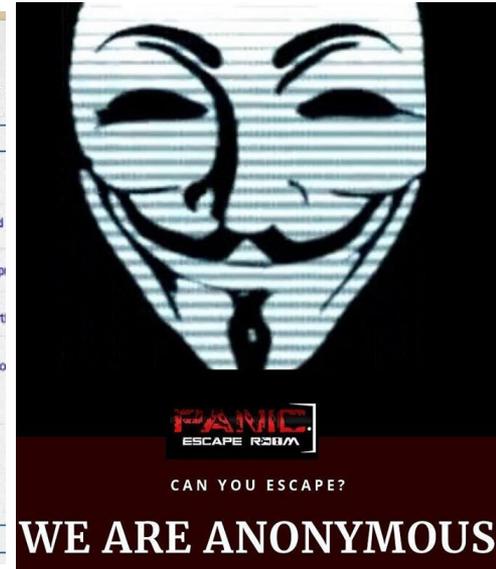
## STEM Resources by Subject

### Math Resources for your use:

- [Nasa Quest](#)  
NASA/University of Arizona Math Resources - resources below all accessed from: <http://quest.arc.nasa.gov/vft/>
  - [What's the Difference](#)  
Compare geometric shapes in pictures, graphics, animations, and movies side by side and explore area, volume, and
  - [Solar System Math](#)  
Access four classroom lessons centered on pre-algebra topics such as measurement, unit conversion, ratio and pi
  - [Moon Math](#)  
A software application, with accompanying lessons, where users investigate lunar habitat design through learning ti proportion using geometric shapes.
- [Space math @ NASA](#)  
Use of mathematics in the context of today's scientific discoveries and explore how many kinds of mathematics skills come to
- [Illuminations](#)  
Look up standards, lesson plans, & they have tons of interactive applets FOR ALL GRADES
- [Figure This](#)  
Close to 100 challenges to ignite your mathematical brain & add some fun to your class, organized by topic
- [Math Forum](#)  
A large library full of activities, monthly challenges, technology resources, lesson plans for K-12 & above
- [MathBits](#)  
Resources geared towards HS and above, including integrating technology, movies, and caching worksheets.



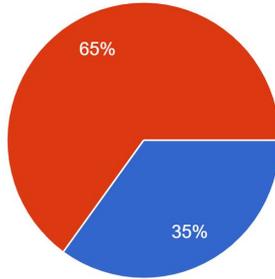
## ESCAPE ROOM



## NASA

Are you aware of NASA lesson resources online?

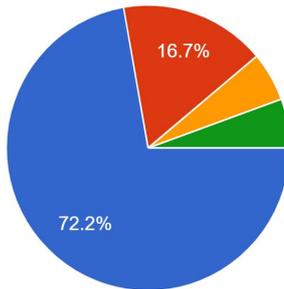
20 responses



- Yes
- No

Are you interested in more resources?

18 responses



- Yes
- No
- possibly, if there is an assigned OW class that needs extensions
- Yes but it's tough in my content area.

Overwhelmingly  
Positive

95% Will use  
what they  
created

Link to Voiceover