Defined STEM: Working Through a Performance Task

1. Read, View and Analyze the problem scenario.

> Review the *Video* resources
> - ☐ Review Goal, Role, Audience, Situation
> - ☐ Discuss within your group to decide what is important and why
> - ☐ Take notes on group discussion identifying thoughts and ideas

Teacher Checkpoint: Check for understanding of purpose and critical information found with videos and scenario.

2. List what is known and add knowledge.

> - ☐ Make a list of everything that is **K**nown about the situation
> - ☐ Add knowledge that group members already know
> - ☐ Complete *Informational Language Task/Constructed Response*
> - ☐ Add this information to your group's list
> - ☐ May want to make a list of things you think you know but are not sure

3. Develop a problem statement. A problem statement should come from your analysis of what you know. In one or two sentences you should be able to describe what it is that your group is trying to solve, produce, respond to, or find out.

> - ☐ Think about it as "what is" and
> - ☐ Think about "what should be."
> - ☐ Create a problem statement with these two ideas.

Teacher Checkpoint: Check for understanding of what is known, information gained from the Informational Language Task/Constructed Response, and the problem statement.

4. List what is needed and developing questions.

> - ☐ Consider the development of a hypothesis (es)
> - ☐ Prepare a list of questions you think need to be answered to solve the problem. Several types of questions may be appropriate.
>   - o Some may be about the situation
>   - o Some may be about content/concepts

5. Planning and Investigating.

- ☐ List actions to be taken to answer questions: e.g., question an expert, get on-line data and/or information, visit library, conduct experiments, etc.
- ☐ *Get approval from teacher to conduct research*
- ☐ Conduct research
- ☐ Share research and answers to questions with the group

Teacher Checkpoint: Prior to conducting research students will need teacher approval. Once approval is granted, students will conduct research and share findings, perceptions and beliefs before moving forward

6. Analyze information and Construct Solutions.

- ☐ Based on your analysis of the research, list recommendations, solutions, and/or hypotheses proved or disproved
- ☐ Decide if more research is needed or additional questions answered
- ☐ Completing the *Argumentative Language Task* at this point will require students to look at the task from multiple lenses.
- ☐ Determine potential solutions/opinions to the problem
- ☐ Determine which of these solutions/opinions will be utilized

7. **Present findings.**

- ☐ Prepare a product(s) in which you provide solutions, make recommendations, predictions, inferences, or other appropriate needs based upon the products you are creating.
- ☐ Consider multiple products and their purpose for the audience
- ☐ Be prepared to support your decisions and the products you have developed with evidence to justify and support your findings and beliefs.

Teacher Checkpoint and Product Rubrics: Check for understanding through products produced and alignment with product rubrics. Students should reflect on the purpose and focus for development of the products. Were the requirements met and was the problem statement addressed?