**Lesson 3: Developing an Argument for Change**

**Problem Statement:** How can school lunches be modified to require less energy? This lesson guides students to finding sources of data that could help to support their proposed solution. Students will be encouraged to find existing data, and collect their own data, if possible.

**Learning Objectives:** Students will demonstrate understanding of how to collect valid and reliable data, and their ability to find credible existing resources.

**Materials:** Laptops or iPads (one per student or at least one per group), PowerPoint

**Lesson Preparation:** Find websites that might hold information students can use. Have the name(s) of district employees in charge of food service available for students to email, or plan to create one email with questions that arise. Make sure computers are available and charged.

**Time Required:**  Three 50 minute periods

**Procedure:**

**Introduction:**

If you wanted to provide evidence that your solution is accurate, how would you collect data? Brainstorm at least 3 sources of data that you could find or collect to support your solution.

**Exploration**

Students will be led in a discussion to explore the types of data that could be helpful for supporting that their solution will increase the sustainability of school lunches. The discussion will focus on the following prompts:

1. What type of data is most convincing to the general public?
2. What type of data is most convincing to scientists?
3. What do the terms reliable, valid and credible mean?
4. How can we collect reliable and valid data?
5. Where could we find credible data?
6. What keywords from your problem or solution could you use to search?
7. Is there a way to put together your data in a way that leads the audience to the conclusion you would like them to come to?

Students will be given time to plan their data collection methods with their group.  They will be directed to the rubric for the infographic to guide their selection.

**Conclusion**

Write down your assignment from your group. Remember that it is your responsibility to complete the task and communicate your progress with your group members.

Answer the following prompts tonight

1. Today I learned that…
2. An important idea to think about is…
3. Something that I don’t completely understand yet is…
4. Something that I’m really confident that I understand is…

**Homework:**

Students will be expected to collect their data before the rough draft of the infographic is due.

**Assessment:**

Formative: Warm up questions, class discussion of data, share out of plan for data collection

Summative: None for this lesson

**Accommodations:**

For students who do not have iPads or access to a laptop, they can work with a group member to find credible data.

**Extensions:**

With additional time, go into further detail about sources of data for scientific purposes.  Discuss peer-reviewed literature, and have the librarian come into class to discuss databases available to the school.

**References/Resources:**

Warm up questions and prompts: PowerPoint attached.