**Lesson 14: Presentation of 3D Model**

**Problem Statement:.** Students must work together in teams to create a design a growing environment on Mars that will sustain three researchers for three years. This lesson culminates the unit as the children present their PPTs to the class and answer questions about their plans.

**Learning Objectives:**

Students will develop their scientific communication skills by presenting their work to an external audience and their peers.

**Lesson Standards (NGSS, CCSS, CTE):**

This lesson does not explicitly incorporate specific unit learning standards but the students will be able to practice the following 21st century skills:

* Science and Engineering Practices
  + Constructing Explanations and Designing Solutions
    - articulate an explanation
    - cite evidence to support explanation
    - describe connected reasoning
    - evaluate potential solutions
  + Obtaining, evaluating, and communicating information
    - communicate information in at least 2 different formats
    - use clear and effective communication skills
    - connect Disciplinary Core Ideas (DCI) and Cross Cutting Concepts (CCC)

**Materials**

* Mars farm 3D model constructed by the students (1 per group)
* Powerpoint presentation (1 per group)
* Peer review worksheets ( 1 per individual)
* Assessment rubric

**Lesson Preparation**

* Convene a ‘NASA’ panel external to your classroom

**Note:** Teachers may look for outside volunteers or other faculty or staff on campus depending on availability.

* Set submission deadline of the final powerpoint to the day before presentation. Load all presentations on one computer in order to facilitate a smooth transition from group to group during class time.
* Decide on presentation order

**Time Required**: 60 minutes

**Lesson Components[[1]](#footnote-0):**

* This lesson is designed as an extended share-out with teacher leading the whole group through small group discussion between presentations.
* Each group gives a 5-8 min presentation of their model. Students will write down a question they have for each group in their notebook. Teacher will randomly call on 2-3 students to ask their question to the group (time permitting)
* ‘NASA’ panel of adults are encouraged to ask students clarifying questions and probe into their group process and decision making strategies.
* All groups achievements are celebrated!

**Assessment:**

* Each student lists a question they have for each presentation group in notebook.
* Final powerpoint presentation according to final project assessment rubric

**Accommodations:**

* Classrooms have microphones for hearing impaired.

**Extensions:**

* Depending on the number of groups in a given classroom, presentation time may be inadequate. Teachers can forgo the external panel and spread out the presentations over the course of severals days or up to a week. This modification would depend more heavily on peer-peer interactions.

1. The sub-sections of the procedure section (e.g., Understand the Problem, Explore the Problem) are from the Illinois Math and Science Academy’s PBL Teaching and Learning Template, however, the descriptions were developed by WABS and do not necessarily represent the views of IMSA. [↑](#footnote-ref-0)