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| Lesson 8: Reflection & Presentation |

Problem Statement:

The city of Bothell needs help! In the event of a natural disaster (e.g., earthquake, fire, flood, land/mudslides, and storms), power goes out, methods of communication and transportation are often lost or damaged, medical care is needed, and basic survival resources need to be maintained and distributed to those in the disaster area. Often, resources are low or have been damaged/contaminated. Your goal is to aid the community in the event of a disaster, with each group in charge of an area within the city affected by the disaster. Groups will identify two problems that can occur within a city grid, then develop a physical solution (build/repair) or a conceptual solution to a problem in future lessons.

Learning Objectives: Students will…

* Reflection & Presentation - Students will present to the class the results of their physical solution and the revised content of their conceptual solution. Students will reflect on the engineering design process and its role in STEM and non-STEM careers.

Lesson Standards (NGSS, CCSS, CTE):

* MS-ETS1-2. Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
* 21st Century Skills: Communicate Clearly, Collaborate with Others, Critically Thinking and Problem Solving

Materials:

* Student Reflection Sheet
* Access to computer presentation for groups to present to class
* Google power point slides lesson 7 - 8
* Optional STEM career reflection form

Lesson Preparation:

* Photo copy student reflection sheet and STEM career reflection
* Use of google power point lesson 7 - 8
* Available video clips of possible stem careers (optional)

Time Required:

40 minutes ( one class period)

Grouping of students for instruction:

* Students will be in their “anchor groups” which is their assigned seating. These groups are based on prior performance in order to scaffold each group to have a strong leader, strong academic performer, and a social individual. Each group should have 3-4 students.

(TEACHER SPECIFIC) Brainstorm What Students Know/Need to Know from prior lessons

This lesson is a student presentation/reflection. All steps of the engineering design process should be complete. The student reflection is an evaluation piece of what students have learned throughout the PBL lesson.

LESSON PROCEDURE:

* Organize a schedule for groups to present their PBL solutions to class. For example one may alternate between physical solution groups and re-designed conceptual solution groups presenting..
* Introduction to STEM related careers through use of google powerpoint lesson ⅞
* Students complete reflection to turn in

Accommodations:

* Support student group and order of presenters in each group. Offer suggestions as to which student may feel more comfortable sharing certain aspects of their solutions with the class. For example, one student may share how the model was built, another could share how the design is solving the material with a focus on the criteria.

Extensions:

* Continued discussion and research into STEM related career fields