Lesson Plan

School Innovation Station Activity

https://mystemlabs.com/school-innovation-station-teacher-guide/

Grade: 6-8

Subject: Engineering

Lesson Topic: Introduction to the Engineering Design Process (Define, Brainstorm, Design)

Learning Objectives:

- Students will identify real-world problems that need solutions.
- Students will practice communicating their ideas in clear written and spoken form.
- Students will apply the first three steps of the engineering design process: define the problem, brainstorm solutions, and design a solution.

Materials Needed (Teacher):

- Computer and projector (or other way to present slides)

Materials Needed (Students):

- "School Innovation Station" worksheet
- Pencil or pen
- Colored pencils

Hook/intro:
Begin by asking: "What are some everyday problems you notice at school or in your community?" Share one or two quick, relatable examples (long lunch lines, crowded hallways, uncomfortable desks). Explain that engineers identify problems and design solutions, and today students will start thinking and working like engineers.

Lesson Structure (40 minutes, adjust as needed):

1. Hook (5 minutes): Whole-class brainstorm and discussion of school/community issues
2. Design Process Overview (10 minutes): Present slides, introduce first three steps, explain activity
3. Individual Work Time (20 minutes): Students complete worksheet, focusing on one chosen problem and communicating their solution clearly. Consider using an incentive to highlight thoughtful or creative designs.
4. Debrief/Closure (5 minutes): Students share ideas with peers. Facilitate a class discussion on what the next step in the design process would be and how to move forward.

Closure:

- Peer sharing of designs
- Whole-class reflection on the process
- Confirm student understanding of the first three steps of the design process