

Course/Level	8 th Grade	Topic	Constructing a Lunar Roadway
---------------------	-----------------------	--------------	------------------------------

Lesson Plan
<p>Students will research the oldest bridges in the United States – Pennypack Creek Bride, Pennypack Bridge, Holmesburg Bridge, Union Bridge (Waterford Bridge), Kingston Bridge, Skippack Bridge, Stony Brook Bridge, Choate Bridge, Sewall’s Bridge, Old Stone Arch Bridge, and the Frankford Avenue Bridge. These are the earliest bridges of America and what will become the United States. They will research materials and architectural structure of the bridges and how they have change over time based on the amount of traffic and weight of traffic crossing the bridge.</p> <p>Then students will use what they have learned to complete the following task: You are the first settlers on the moon. You must plan, develop, and construct the first lunar roadway from Lunar Settlement #1 to Lunar settlement #2. You have to take into consideration how to move people and objects from one settlement to the other across the surface of the moon.</p> <p>While building the roadway, you will need to cross several valleys, canyons, crevices, and large openings in the surface. Your job is to construct a bridge, calculate the gravity, and weight of cargo that can be transported safely from one settlement to the next.</p> <p>Students will use the engineering problem solving process: Ask, research, imagine, plan, create, test, improve to build their bridges.</p> <p>Bridges will be judged based on design, structure, structural functionality.</p>

Materials
5 Educational Innovations Bridge Building Kits (Serves 24 students each)