

Energy is Everywhere

GME 250-870-5136

Dates: Thursdays Jan. 16, 23, 30, Feb. 6, 2014.

Time: 2:40 – 3:40 pm. Cost \$40 per student



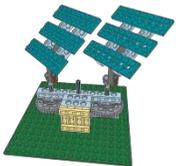
Windmill

A **windmill** is a machine that uses sails and gears to capture and transfer the energy of the wind. People have used windmills since at least 500 A.D. to grind grain, pump water, and in modern times, as wind turbines to convert wind energy into stored electrical energy. This versatile invention can be used to teach students about concepts relating to gears, energy, inventions, and history. Vocabulary includes *invention, discovery, transfer, energy, hub*.



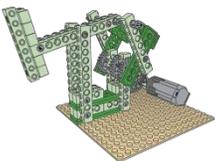
Garbage Truck

Did you know that Americans produce an average of 4.7 pounds of garbage per day? Have you ever wondered what happens to all that trash? Build a model of a **garbage truck** and learn how garbage can be used to create energy. This lesson includes a discussion of landfills and some challenges associated with waste disposal. Students will probably find that building a model of a garbage truck is a much more pleasant experience than riding on one! Vocabulary includes *disposable, landfill, decompose, biomass energy*.



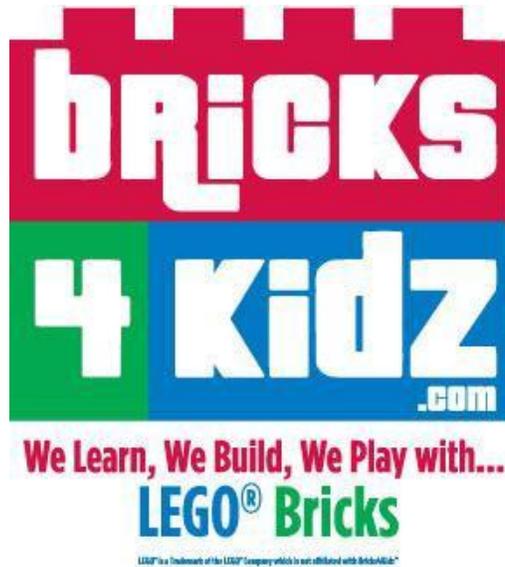
Solar Panels

Heat from the sun, called solar energy, is something we will never run out of. But how do we convert that energy into a form we can use? Here's a hint – it has to do with electrons and sand. Yes, sand! That's something else we have plenty of, which is why solar energy is a great source of renewable energy. Students will learn the basic principles behind solar energy and build a moveable model of a **solar panel**. Vocabulary includes *solar, photovoltaic, electrons*.



Oil Pump Jack

What is oil and why is it so valuable? How is oil found and pumped out of the earth? This lesson explores these and other questions, including a discussion of renewable and non-renewable energy sources. Students will construct a model of a **Oil pump jack** using gears, axles, technic beams and more. Vocabulary includes *crude oil, petroleum, renewable energy, non-renewable energy, geologist*.



Energy is Everywhere

Energy is essential to almost everything we do, from the lights in our homes and classrooms to the gasoline that fuels our cars. Introduce your students to the world of energy in all its amazing forms. This unit explores many sources of energy from wind and solar power to biofuel and fossil fuel. Students will define terms like renewable, landfill, greenhouse effect and generator and build moving models of just some of the awesome ways we power our world.