

VEEP's Electricity and the Environment



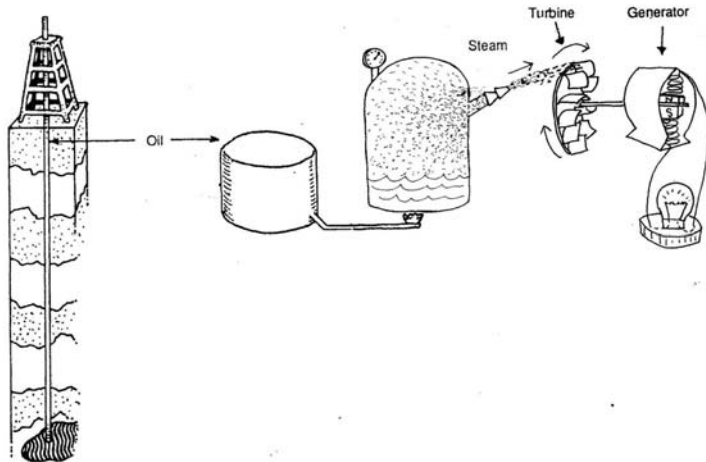
Grade level: Grade 5 through Adult

Teacher Time Commitment: Approximately 2 ½ hrs (planning and in-class time)

Classroom Time Commitment: 90 minute interactive classroom presentation, plus set-up and take down

Electricity and the Environment is an introductory program into the world of electricity and how it connects to our environment. Teachers and students are led through a guided discovery approach to building the basic concepts of electrical energy generation. They participate in hands-on explorations of generating electricity with hand-crank generators and flashlights. Using schematic diagrams, students apply what

they learned to discover and explain how electricity is generated using fossil fuels, nuclear, solar, biomass, wind and water power and by using methane from landfills and dairy farms. They discuss advantages and disadvantages of each method.



The culminating activities consist of riding the VEEP Energy Bike to compare the human pedal-power needed to light two incandescent lights and then compare that with the power needed to light two equivalent compact fluorescent lights (CFL's). Students discover that CFL's are energy efficient, and that energy efficiency means doing the same or more work with less energy. Students learn that it is important to become energy efficient in our selection of behaviors and technologies to help slow the rate of global warming. Finally they brainstorm ways to reduce CO₂ emissions.

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