

Using Google Earth to Investigate Energy Resources

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Session Description: Learn about inquiry-based activities that use Google Earth to promote student learning of the world's energy resources.

Session Summary:

This session presents **Environmental Issues: Energy** - <http://www.ei.lehigh.edu/eli/energy/>, an interdisciplinary technology-enhanced science inquiry unit we have developed for diverse middle school students. The Energy unit focuses on the world's energy resources and their impacts on the environment, energy use and misuse practices, and ways to sustain the future of our environment with alternative energy sources. Session activities will highlight how to use Google Earth to explore worldwide energy sources, production facilities, and analyze their relation to population centers. Session attendees will be introduced to the instructional activities, Google Earth files, student handouts, assessments, and teacher resources and support materials.

Description of the Google Earth Activities:

Exploring Solar Power Plants with Google Earth

Students use Google Earth to view solar power plants around the world. Students take a Google Earth tour of 5 large solar power plants around the world then use the ruler tool to determine the perimeter of each solar plant.

Exploring Wind Farms with Google Earth

Students use Google Earth to investigate ideal features of wind farms. Students take a Google Earth tour of 5 large wind farms around the world then use the ruler tool to determine the estimated perimeter of each wind farm.

Exploring Water Bodies with Google Earth

Students use Google Earth to analyze the shapes of four water bodies to determine whether these would be good places to locate a tidal power plant.

Exploring Hydroelectric Dams with Google Earth

Students use Google Earth to examine diverse dams in the world and infer why dams are placed near population centers. Students use the ruler tool to measure dam widths and the distances from each dam to nearby population centers.

Exploring Pennsylvania Energy on the River with Google Earth

Students use Google Earth to view energy-generating facilities on the Allegheny and Susquehanna Rivers. Students take a Google Earth tour of 5 major hydroelectric facilities in Pennsylvania: Allegheny River (Seneca Pumped Storage Generating Station and Kinzua Dam) and Susquehanna River (Holtwood Dam, Safe Harbor Dam, and York Haven Dam). Students then explore the Three Mile Island nuclear power plant.

Where is the Best Place to Locate a Geothermal Power Plant?

Students use Google Earth to explore features of "hot Earth" areas in Iceland and in the United States. Then they determine the best place to locate a geothermal power plant in the Northwest United States.