

From the Ground to Fuel

A lesson in the process of oil production

Objective: Students will be able to explain the steps from oil in the ground to useful energy products and describe all the jobs involved in the process.

Grade Level: Kindergarten

Materials: Coarse Sand
Shovels
Marbles/rocks
PVC Pipe or plastic rain gutter
Buckets
Sieve
Play Gas Pump
Vehicles (Tricycles or Play Cars)

Process: Explain that they are going to act out the process from getting oil out of the ground to making it into gasoline for their cars.

Divide the students up into 6 groups and give each group one of the following jobs:

1. Oil Producers - they must remove the oil (sand) from the ground (sand table or large box) and put it into the pipeline making sure none of the rocks goes with it.
2. Pipeline Owners -- they must make sure the pipeline stays in good repair, the oil is being safely delivered to the processing plant, and that the product is pure (no rocks or marbles traveling with it).
3. Processing Plant Owners -- they must take the product from the pipeline, put it through the process of creating a better product (sifting it through a sieve to get a finer product) and deliver it to the trucking company.
4. The truckers -- they must safely deliver the product from the processing plant to the gas stations.
5. Gas Station Owners -- they must safely store the product and courteously deliver it to the customer.
6. Customers -- they must drive their vehicles into the gas station and purchase the product.

Evaluation: The Students will be able to verbalize each step the oil had to go through before it could be delivered to the customer as a usable product. Ask the students what would happen if one group decided not to help in our process.

Follow Up: Have a guest speaker from the oil industry come talk to the class about what part they play in the process.

Use "My Book about Energy" coloring book (by Chevron – see <http://www.channing-bete.com>) to talk about all the different kinds of energy we use. Then redo the above process with a food energy (such as dry Jell-O) and have the processing plant make it into a usable energy source (food) for the students to eat.

If available, have your students go on a field trip so they can visit a facility that shows them part of the process they just learned about.