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Getting the Oil Out:

Have you ever wondered how oil is recovered from the rock formation? After the well is drilled, a pumping unit is sometimes installed and is used to pump oil out of the ground.

In this activity, students will create their own artificial lift system to demonstrate how they can be used to help pull oil out of the ground.

Materials:

- 2 sets of 8-10 drinking straws
- Masking tape
- Scissors
- 2 types of dark liquids: Carton of chocolate milk, carbonated soda, chocolate syrup, etc. (choosing different thickness will demonstrate the differences in the viscosity of liquids)

Procedure:

1. Using scissors, cut a 1 centimeter slit at one end of each straw (teacher may need to do this before beginning the activity).

2. Place the slit end of the straw into the adjoining straw to form one long tube. This will act as your tubing.

3. Place masking tape over each connected end to secure the joint and create an airtight seal.

4. Place a cup of the first liquid on the floor. Insert tubing made in steps 2 and 3 into the carton. Using suction, try to lift the liquid from the cup to the top.

5. Now, decrease the number of straws used for the tubing. Have the same student try to bring the liquid to the top.

6. Repeat steps 4 and 5 with the second cup of liquid.

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Conclusion:

Have your students discuss the following:

1. Which length of straw required the most effort to bring the liquid to the top? Which length of straw required the least effort to bring the liquid to the top?

2. Were the results the same for both types of liquids or does the viscosity (thickness) make a difference?

3. Does the length of the straw tubing make a difference in the amount of suction needed to lift each type of liquid?

4. As a group, discuss and decide what kind of equipment we would need to lift oil from 7,500 feet (2,286 meters) below the earth's surface.

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