

THE SPILL

GOAL: Teach how propane will evaporate if spilled, leaving the soil still usable; whereas diesel fuel will contaminate the ground.

AGES: Appropriate for all ages

MATERIAL LIST:

2 plastic cups
1/8 cups of apple cider vinegar
Water
Bean seeds
Paper towels
Plastic storage bags



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WHAT TO DO:

1. Gather two clear plastic cups, water, 1/8 cup of apple cider vinegar, bean seeds, paper towels, and plastic storage bags.
2. Place one paper towel in the bottom of each plastic cup; this represents the soil.
3. Pour water over paper towel in one of the cups to represent propane; and pour the vinegar over the paper towel in the other cup, representing diesel fuel.
4. Leave the experiment on a flat surface, away from the kids, and wait a few hours until the liquids have absorbed into the paper towels, and the water has had a chance to dry.
5. Bring the children back to the cups and take the paper towels out of each cup and examine them. The paper towel with the water should be dry and the paper towel with the vinegar should be discolored and not quite so dry.
6. Explain that the water represented the propane and that propane will evaporate into the air and leave the soil (paper towel) unharmed and still usable for growing crops. The paper towel that had the diesel fuel spill (vinegar) is contaminated and will not be able to grow crops very well.
7. Tell the kids you will now test the soil (paper towels) to see how the crops will grow after a propane or diesel spill. Place the seeds on the contaminated paper towel, fold it over, and then use the vinegar to dampen it. Place more seeds onto the dry paper towel you used to show propane, fold it over, and dampen it with water.
8. Leave the experiment for a few days and come back to it once the seeds have started to germinate.
9. Unfold the top layer of paper towel to reveal the seeds. Those in the vinegar-stained towel should have not sprouted or barely at all, and those in the towel dampened with water should be green and sprouting healthy. Reiterate the importance of using propane versus diesel fuels in order to keep crops and the soil healthy.

BRINGING IT ALL TOGETHER:

Be sure to emphasize that if spilled, propane evaporates from the ground with no harm or damage done to the soil, so crops can still grow. Diesel fuel will puddle up and soak into the area where it spilled and will need to be dug out from the ground, or that plot of land cannot be used for growing crops.

In this case, relying on diesel fuel is much more detrimental to the soil and takes many more steps to fix the issue if it spills than if propane were to be used.