



Biofuels Facilitator Outline

Materials:

Empty 20oz water bottle (4 per team)	9" latex balloons	tape measure	light colored corn syrup
Sugar packets (8 per team)	scissors	small plastic funnel (3)	markers
Warm tap water	string	yeast (bulk, Costco)	masking tape
Ground up leaves or bran flakes (from bulk foods in grocery store)			

Do	Say	Materials	Time
Welcome & Introduction	"Who has ever heard of biofuels?" Explain what a biofuel is (definition on page 7 of the leader guide) "Today we are going to make two different biofuels and see how they work."	biofuels	5 min
Part 1: Yeast Biofuel Older children can work in their group to mix their own biofuel. Younger children will need help from a volunteer leader and may watch the	"Each team is a science lab whose job is to create a biofuel."	Experiment instructions, 1 per group Bottle Yeast	10-15 min



<p>process.</p> <p>Mix the ingredients and using the funnel, pour the mixture into a bottle. Place the balloon on the bottle and write the name of the team on the bottle with a sharpie.</p> <p>Set the bottle aside and let the biofuel do its job.</p> <p>Note: for K-2, you may now hand out the activity sheet, pencils and crayons.</p> <p>Let the students draw what they see, and help them fill in the blanks.</p> <p>After this activity, measure the balloons of each group and let the students write down the measurement of the their groups' balloon.</p>	<p>“</p>	<p>Sugar Balloon Measuring spoon Funnel water</p>	<p>30 min</p>
<p>Part 2: Making Ethanol</p> <p>Do this experiment, if time permits, with grades 3 & 4.</p> <p>It would be best to combine groups and to have fewer groups with more students.</p>	<p>Explain that ethanol is a biofuel made from corn products.</p> <p>“Ethanol can be mixed with gasoline to power engines.”</p> <p>“Now we will create a biofuel</p>	<p>3 bottles per group Corn syrup Dried leaves Yeast Water Teaspoon balloons</p>	<p>15 min</p>



<p>After the experiment is assembled, hand out the crossword puzzle.</p>	<p>that is similar to ethanol, using organic material and a corn product.”</p> <p>Guide the students through making the three bottles. One is a negative control and nothing will be added.</p> <p>One bottle will have the corn syrup and one the dried leaves.</p> <p>Observe, measure the balloons, compare and discuss.</p>		
<p>Conclusion</p>	<p>Review the answers to the crossword puzzle if there is time.</p>		<p>5 min</p>