

# Field Plastic

<b>Grade Level:</b> 3 <sup>rd</sup> -5 <sup>th</sup>	<b>Topic:</b> Corn	<b>Estimated Time:</b> 50 minutes
<p><b>Brief Lesson Description:</b> Students will describe how plant-based products are used in daily life. Then, students will make observations, predictions and write a hypothesis while investigating the differences between a biodegradable packing peanut and a petroleum-based packing peanut. In groups, students will make a corn-based plastic to take home.</p>		
<p><u>Next Generation Science Standards:</u>  <b>Performance Expectation(s):</b>  <b>3-5ETS1-1:</b> Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.  <b>4-ESS3-1:</b> Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.  <b>5-ESS3-1:</b> Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.  <b>5-PS1-2:</b> Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.  <b>5-PS1-3:</b> Make observations and measurements to identify materials based on their properties.  <b>5-PS1-4:</b> Conduct an investigation to determine whether the mixing of two or more substances results in new substances.</p> <p><u>National Agricultural Literacy Outcomes:</u>  <b>T1.3-5 e:</b> Recognize the natural resources used in agricultural practices to produce food, feed, clothing, landscaping plants, and fuel (e.g., soil, water, air, plants, animals, and minerals).  <b>T2.3-5 b:</b> Distinguish between renewable and non-renewable resources used in the production of food, feed, fuel, fiber (fabric or clothing) and shelter.  <b>T4.3-5 d:</b> Provide examples of science being applied in farming for food, clothing, and shelter products.  <b>T5.3-5 b:</b> Discover that there are many jobs in agriculture.  <b>T5.3-5 d:</b> Explain the value of agriculture and how it is important in daily life.</p>		
<p><b>Specific Learning Outcomes:</b>  <b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Identify renewable and nonrenewable resources and define biodegradable.</li> <li>2. Compare petroleum and plant based-Styrofoam by running a series of tests and comparing the results.</li> <li>3. Identify types of physical properties.</li> <li>4. Describe how plants can be used in everyday products such as food, fuel and fiber.</li> </ol>		
<p><b>Narrative / Background Information</b></p>		
<p><b>Prior Student Knowledge:</b>  <b>Students should be familiar with:</b></p> <ol style="list-style-type: none"> <li>a. Basic role of a farmer</li> <li>b. Plants are living organisms</li> <li>c. Basic role of a scientist</li> <li>d. How to use measuring spoons</li> <li>e. Basic understanding of physical and chemical properties, or observing characteristics of objects</li> </ol>		