



**Solid Waste Authority - 4<sup>th</sup> Grade Lesson Plan**

<b>Title</b>	What is the History of Garbage?
<b>Student Target</b>	I can organize the history of garbage over time in an original timeline.
<b>Materials</b>	<p><b>Activity:</b>  <b>SWA Preparation:</b></p> <ul style="list-style-type: none"> <li>• History of Garbage PowerPoint</li> </ul> <p><b>Teacher Preparation:</b>  <u>Please have prepared prior to SWA Lesson</u></p> <ul style="list-style-type: none"> <li>• 1 bottle for each student cut in half, save bottom half and recycle top half</li> <li>• Dirt/Soil</li> <li>• Clay</li> <li>• Wax Paper</li> <li>• Cornstarch “Popcorn” pieces</li>   <li>• Paper for group timelines</li> <li>• “Landfills and Dumps” worksheet</li> <li>• “History of Garbage” student Sheet</li> </ul> <p><b>Textbook:</b>            Science Fusion Connection: Unit 1 Studying Science, Lesson 1</p>
<b>Warm-up (SWA)</b>	<p><b>ENGAGE</b> (I Do)</p> <ol style="list-style-type: none"> <li>1. Ask students: How do you think people took care of their trash 100 years ago? 1000 years ago?</li> <li>2. List student’s responses.</li> </ol>
<b>Vocabulary</b>	<ul style="list-style-type: none"> <li>• Waste – refuse from places of human or animal habitation</li> <li>• Garbage – discarded or useless material</li> <li>• Landfill – a system of trash and garbage disposal in which the waste is buried between layers of earth</li> </ul>
<b>(SWA)</b>	<p><b>EXPLORE</b> (We Do)</p> <ol style="list-style-type: none"> <li>1. Show PowerPoint, “History of Garbage.”</li> <li>2. Highlight key points throughout time.</li> <li>3. Discuss what it might have looked like, smelled like, etc. Compare to present day.</li> </ol>

<p><b>Wrap-Up (SWA)</b></p>	<p><b>EXPLAIN</b> (You Do) Students will create their own “landfill.”</p> <ol style="list-style-type: none"> <li>1. Cut the top off a clear water bottle and recycle the top half.</li> <li>2. Peel the label off the bottle.</li> <li>3. Place about 1” of dirt on bottom of bottle.</li> <li>4. Cut out a square piece of wax paper and place over dirt.</li> <li>5. Place a thin layer of clay over wax paper.</li> <li>6. Cut out a 2<sup>nd</sup> square piece of wax paper and place over clay.</li> <li>7. Place about 1 ½” of dirt on top of 2<sup>nd</sup> piece of wax paper.</li> <li>8. Cover with cornstarch “popcorn” pieces.</li> </ol> <p>Students should be able to explain the different layers and why the wax paper liner is important (to protect the aquifer).</p>
<p><b>Daily Assessment (Teacher)</b></p>	<p><b>EVALUATE</b> Teacher will evaluate student’s comprehension of materials presented.</p>
<p><b>School Based Standard</b></p>	<p>SC.4.N.1.1 Raise questions about the natural world, use appropriate reference materials that support understanding to obtain information (identify the source), conduct both in and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.</p>
<p><b>Other Activities/Resources</b></p>	<ul style="list-style-type: none"> <li>• Resource Depot <a href="http://www.resourcedepot.net">www.resourcedepot.net</a></li> <li>• Environmentalist Everyday <a href="http://www.environmentalistseveryday.org/publications-solid-waste-industry-research/educational-resources/index.php">http://www.environmentalistseveryday.org/publications-solid-waste-industry-research/educational-resources/index.php</a></li> <li>• History of Garbage- Trash Timeline <a href="http://www.bfi-salinas.com/kids_trash_timeline-printer.cfm">http://www.bfi-salinas.com/kids_trash_timeline-printer.cfm</a></li> <li>• The History of Garbage <a href="http://www.environmentalchemistry.com/yogi/environmental/wastehistory.html">http://www.environmentalchemistry.com/yogi/environmental/wastehistory.html</a></li> <li>• A Garbage Timeline <a href="http://www.astc.org/exhibitions/rotten/timeline.htm">http://www.astc.org/exhibitions/rotten/timeline.htm</a></li> <li>• The History of Garbage Collecting <a href="http://www.acedisposal.com/history/history_garbage.aspx">http://www.acedisposal.com/history/history_garbage.aspx</a></li> <li>• History of Garbage PowerPoint (attached)</li> </ul>
<p><b>Reteaching/Enrichment (Teacher)</b></p>	<p><b>ELABORATE</b> <b>Reteaching:</b> Students will independently read “History of Garbage” and “Landfills and Dumps”.</p> <p><b>Enrichment:</b> Students will create a timeline with an illustration and caption describing sanitation over time using the clues from “History of Garbage.”</p>