

**Topic/Title:** Scientific Notation and Scale Representations

**Grade Level:** 8<sup>th</sup> Grade Algebra Intensive Class

**Source:** Distances were found at: Arnett, Bill. "The Sun's Satellites". The Sun. 14 November 2000. <http://www.seds.org/billa/tnp/sol.html>

**Preplanning Information**

<p><b>Math Concepts</b></p> <ul style="list-style-type: none"> <li>• Conversions</li> <li>• Measurement</li> <li>• Scientific Notation</li> <li>• Scale Representation</li> </ul>	<p><b>Goal</b></p> <p>Students will have a better understanding of scientific notation through the use of models to compare distances written in scientific notation.</p>	<p><b>Prerequisite Skills</b></p> <p>Students need to understand what scale representations are used for and have a basic understanding of how to write numbers in scientific notation.</p>
<p><b>Estimated Time</b></p> <p>To complete the scale model, discuss as a class, and at least start the worksheet, it will take the entire class time: 50 minutes. If there is extra time, we will use it to discuss their answers to the questions.</p>	<p><b>Materials Needed</b></p> <ul style="list-style-type: none"> <li>• 8 meter sticks</li> <li>• Adding machine tape (6 meters per group)</li> <li>• Copies of the worksheet and questions</li> </ul>	<p><b>Reproducibles/Transparencies</b></p> <ul style="list-style-type: none"> <li>• Two worksheets with the directions, charts and follow-up questions</li> <li>• Overhead of the same worksheets</li> </ul>
<p><b>Organizational Tips</b></p> <ul style="list-style-type: none"> <li>• Start the class by reviewing the directions</li> <li>• Students get in groups to make the models</li> <li>• Come together to compare models</li> <li>• Students complete the questions individually</li> <li>• Discuss answers as a class</li> </ul>	<p><b>National Standards (PSSM)</b></p> <ul style="list-style-type: none"> <li>• Measurement</li> <li>• Algebra</li> <li>• Data Analysis</li> <li>• Number and Operations</li> <li>• Geometry</li> <li>• Connections</li> <li>• Communication</li> <li>• Representation</li> </ul>	<p><b>State Standards (Show-me)</b></p> <p>(Let me know if you want me to do this part :)</p>