

Subject Area: 9-12th grade Math																									
Title: Lesson Plan 1																									
Teacher:																									
School:																									
Lesson Objective(s): To learn to make precise measurements using a vernier caliper.																									
<p>Activity: Separate class into groups of 2 or 3. Provide each student group with a set of four different shaped objects with measurements known to the instructor. Have each student in each group determine and record the objects length, width, and thickness in a table format.</p> <table border="1"> <thead> <tr> <th></th> <th>Object</th> <th>length (mm)</th> <th>width (mm)</th> <th>thickness (mm)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4.</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Object	length (mm)	width (mm)	thickness (mm)	1.					2.					3.					4.				
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1.																									
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Evaluation: Before class starts, the instructor selects four different shaped objects and finds their dimensions. The instructor can grade each group individually or each student of each group individually using the four objects.																									
Extension/Modification: Exchange the set of objects provided by the instructor. Have students measure a personal item (i.e. pencil, notebook, wallet, lipstick, etc.).																									
SCAN Skills: Information, teamwork, technology, reading, writing, mathematics, decision making, problem solving, reasoning, and visualization.																									
Cooperative Learning Ideas: Prior to class have students bring to class one item (no glass items allowed) that they would like to measure. After measuring and recording measurements have students exchange items several times. Make sure that students measure different items. Observe how students measure, which part they measure first, how close were they to the owner's measurements.																									
Team Project, Guest Speaker, or Field Trip: Guest speakers could be machinists, engineers, technicians, teachers. Field trip to manufacturing and industrial companies (Eureka).																									
Resources: Paper, pen/pencil, a set of objects, laboratory experiment text. a) Vernier, David, Selected Vernier Software, 2920 S.W. 89th Street, Portland, Oregon: Vernier Software.																									