

# Activity: Unit Planning

TITLE: VOLUME and MAKING A 3-D MODEL	TEACHER: GLORY ANN D. GREGORIO	COURSE: TRADES MATH	DURA
<b>CONTENT—What will students learn?</b>			
<b>CAREER/TECHNICAL KNOWLEDGE AND SKILLS</b>	<b>ACADEMIC KNOWLEDGE AND SKILLS</b>	<b>21ST</b>	
Mathematics Modeling and Graphic Design	Precision and Reasoning	Creativity and	
<b>SCENARIO OR PROBLEM/ESSENTIAL QUESTIONS</b>			
<p>At the end of the unit the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Model with Mathematics.</li> <li>4. Attend to precision</li> </ol>			

**ASSESSMENT (Check all that apply)**

FORMATIVE		SUMMATIVE
Business Planning Brainstorming		Essay Test
Rough Draft of Business Plan Presentation	✓	Written Product with Rubric
Practice Presentation	✓	Oral Presentation with Rubric
Preliminary Plans/Goals/Checklists of Progress	✓	Other Product or Performance with Rubric
Journal/Learning Log	✓	Self-Evaluation or Reflection
Other:		Evaluation by Authentic Audience

**MATERIALS AND RESOURCES NEEDED TO SUPPORT THE UNIT**

**Pen and Paper**

**Materials for their Illustrations and making of a 3-D Model**

**SUPPORT, MODIFICATIONS AND EXTENSIONS—What is needed to provide support for students who have difficulty modify for students with special learning needs, or provide enrichment for advanced students?**

**As this is will be a group activity, it is up to the group to collaborate on their performance task. The teacher will monitor and will provide assistance when needed.**

<b>CALENDAR OF MAJOR LEARNING ACTIVITIES</b>			
<b>BRIEFLY DESCRIBE THE LEARNING ACTIVITIES FOR EACH DAY</b>			
<b>Week 1</b>			
<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>
<ul style="list-style-type: none"> <li>• Prior knowledge about how to find the volume of a cylinder.</li> <li>• Brainstorm how to find the volume of a sphere and share with the class.</li> </ul>	<ul style="list-style-type: none"> <li>• Using a 3-D Model of a cylinder and a hollow sphere or a hemisphere of same diameter and height.</li> <li>• Fill the hollow sphere or a hemisphere twice with rice and have students dump the rice inside the cylinder to discover relationship between the volume of a cylinder and a sphere.</li> </ul>	<ul style="list-style-type: none"> <li>• Help the students derive the formula of a cylinder and a sphere with the same diameter and height in terms of <math>\pi</math> and radius.</li> <li>• Let the students find the volume using different size balls, orange or Styrofoam balls.</li> </ul>	<ul style="list-style-type: none"> <li>○ Give students activities that enhance their understanding of the volume of a sphere and a cylinder.</li> </ul>
<b>Week 2</b>			
<ul style="list-style-type: none"> <li>• Students will be given the time to brainstorm with their group on creating a 3-D Model with specific Diameter and height for each group.</li> <li>• Each group will create a model that will represent their interests/future career.</li> </ul>	<ul style="list-style-type: none"> <li>• Create a plan for their 3-D Models</li> <li>• Create a presentation on how they will make use of the models in their career.</li> </ul>	<ul style="list-style-type: none"> <li>• Let the students prepare for the presentation with their group.</li> <li>• Let them practice and finalize everything.</li> </ul>	<ul style="list-style-type: none"> <li>• Final Presentation with the Models Displayed</li> </ul>

Jnit Plans