

# Careers in Action

## Summer Teacher Internship/Lesson Plan Writing Project

This lesson has been endorsed by Michelle Quiroz, Industrial Engineer, Motorola Inc.

MILA M. OBNIAL

9th, ALGEBRA 1

Summer 2007

**Teacher's Name**

**Course/Subject**

**Date(s)/Time**

<b>Content</b>	<b>Objective(s)</b>	<b>Career Concentration(s)</b>	
	Learners will determine measure of surface areas of rectangular prisms by using Math formula and solve various related real-life application problems with 98% accuracy.	<input type="checkbox"/> Agricultural Science <input type="checkbox"/> Art, Communications & Media <input type="checkbox"/> Business & Marketing <input type="checkbox"/> Health Science Technology	<input type="checkbox"/> Human Dev., Management & Services <input checked="" type="checkbox"/> Industrial and Engineering <input type="checkbox"/> Personal and Protective Services

**TEKS Reference:**

**TAKS Reference: Objective 8- Measurement and Similarity**

<b>Process</b>	<b>Focus/Anticipatory Set</b>	<b>Bloom's Taxonomy in Lesson</b>	<b>Multiple Intelligences</b>	<b>SCANS</b>					
	Present the pictures of the Motorola warehouse racks with all the different sizes of corrugated boards (nets) to be formed as boxes. Show video clip how boxes are constructed.			<b>Foundation</b>	A	B	C	D	E
<b>Relevance/Connection to Workplace</b>	Motorola McAllen facility is a benchmark for quality systems. It optimizes the application of technology and automation in their systems and processes. They use a 1/2Hp, 1750 rpm, 90V,5A wrapping machine to hold stacked boxes on 48"x40"pallets.	<b>Competencies</b>	<b>1</b>		A	B	C	D	E
				2	3	4	5		

**Instructional Methodology (Activities)**

- |  |  |
|--|--|
| <input type="checkbox"/> Lecture                       | <input checked="" type="checkbox"/> Class/Group Discussion |
| <input type="checkbox"/> Teacher Modeling              | <input checked="" type="checkbox"/> Question/Answer        |
| <input checked="" type="checkbox"/> Media Presentation | <input checked="" type="checkbox"/> Guided Practice        |
| <input checked="" type="checkbox"/> Small Group        | <input checked="" type="checkbox"/> Independent Practice   |

**Instructional Material(s)**

Video clip of wrapping machine, video clip of box maker; photos of warehouse racks filled with the box nets, Math formula chart, sets of boxes

**Detail(s) of Instructional Methodology (Activities)**

Using the sample boxes, students in group of 4 will measure dimensions (LxWxH) and record data. Create corresponding net of the boxes measured. Using the Math formula, calculate the respective surface area of the net. Construct a proportional box using half of the original dimensions. Create the net and solve for the surface area. Compare the values of the surface areas obtained and explain relationship. Show the video clip for wrapping machine: using the dimensions:L=42",W=36", and H=50", plastic sheath=20", calculate the total amount of plastic used if there are a total of 20 complete revolutions.

**Materials/Resources**

Construction papers, bond papers, pairs of scissors, rulers, glue, graphing calculator, LCD projector, computer

**Use of Technology**

Graphing calculator, LCD projector, graphing calculator

**Accommodations**

Modifications for the special education, 504 and LEP students will be based on individual IEP.

<b>Product</b>	<b>Assessment</b>	<b>Bloom's Taxonomy in Assessment</b>	
	<input type="checkbox"/> Teacher Evaluation <input type="checkbox"/> Employer Evaluation <input checked="" type="checkbox"/> Test/Quiz	<input checked="" type="checkbox"/> Peer/Self Evaluation <input checked="" type="checkbox"/> Written/Oral Presentation <input checked="" type="checkbox"/> Others; <u>written output</u>	<input type="checkbox"/> Knowledge <input type="checkbox"/> Comprehension <input checked="" type="checkbox"/> Application
<b>Product</b>	<b>Reteach Activity/Homework</b>	<b>Lesson Closure</b>	
	Cover the boxes and cylinder with wrapping materials. Students will estimate the amount of wrappers used in terms of square units.	Journal writing: Where can I relate the topic about surface areas in my everyday life?	