# 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** |

**Content**

### Objective(s)

The students will estimate missing measurements such as the path of the forklift and the dimension of the truck trailer by using the Pythagorean Theorem to the nearest tenth of the unit.

### Career Concentration(s)

- ☐ Agricultural Science
- ☐ Art, Communications & Media
- ☐ Business & Marketing
- ☐ Health Science Technology
- ☐ Human Dev., Management & Services
- ☑ Industrial and Engineering
- ☐ Personal and Protective Services

### TEKS Reference: 8.9(A), 8.9(B)

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

**Process**

### Focus/Anticipatory Set

Present Motorola,Inc. logo using the LCD projector; ask students to form any right triangle using the logo as reference; measure the 3 sides formed by the right triangle.

### Relevance/Connection to Workplace

Motorola, Inc, Mc Allen is a worldwide distribution center and a benchmark for Quality systems. It maximizes logistics resources. Forklift equipment is widely used in the facility to expedite the distribution process to move and store bulk materials. The movement of the equipment makes use of Pythagorean Theorem.

### Bloom's Taxonomy in Lesson

- ☐ Knowledge
- ☐ Comprehension
- ☑ Application
- ☑ Analysis
- ☑ Synthesis
- ☑ Evaluation

### Multiple Intelligences

- ☑ Linguistic
- ☑ Logical/Math
- ☐ Musical
- ☑ Spatial
- ☑ Bodily-Kinesthetic
- ☑ Intrapersonal
- ☑ Interpersonal
- ☐ Naturalist

### SCANS

**Foundation**

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | ☑ | ☑ | ☑ | ☑ | ☑ | |
| 2 | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ |
| 3 | ☑ | ☑ | ☑ | ☑ | ☐ | |

**Competencies**

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | ☑ | ☑ | ☑ | ☑ | | |
| 2 | ☑ | ☑ | ☐ | ☑ | ☑ | ☑ |
| 3 | ☑ | ☑ | ☑ | ☐ | | |
| 4 | ☑ | ☑ | ☐ | | | |
| 5 | ☑ | ☑ | ☐ | | | |

### Instructional Methodology (Activities)

- ☐ Lecture
- ☐ Teacher Modeling
- ☑ Media Presentation
- ☑ Small Group
- ☑ Class/Group Discussion
- ☑ Question/Answer
- ☑ Guided Practice
- ☑ Independent Practice

### Instructional Material(s)

Photos/video clips of the forklift operations including the warehouse racks. Dimensions of the racks; photos of the truck trailer.

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

Students in group of three will be provided with the copy of the warehouse layout showing the dimensions of the racks, the spaces in between them and the heights of the racks. All other materials will likewise be distributed to illustrate, analyze and create related applications of Pythagorean theorem. Feedback will be generated throughout the instruction. Each group will present their work for 2 minutes.

### Materials/Resources

"Consumer application" : Algebra book by Holt, graphing paper, ruler, construction paper, glue, white paper, transparencies (for group presentation).

### Use of Technology

Computer, LCD projector, graphing calculator, video clip from United Streaming website.

### Accommodations

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

**Product**

### Assessment

- ☐ Teacher Evaluation
- ☐ Employer Evaluation
- ☑ Test/Quiz
- ☑ Peer/Self Evaluation
- ☑ Written/Oral Presentation
- ☐ Others; _____

### Bloom's Taxonomy in Assessment

- ☐ Knowledge
- ☐ Comprehension
- ☐ Application
- ☐ Analysis
- ☑ Synthesis
- ☑ Evaluation

### Reteach Activity/Homework

Assign two different types of triangles per pair of students.

### Lesson Closure

Ask students to write in their own words, on an index card, what they

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|---|---|---|
| P | Students to estimate the squares of each side of the 2 triangles. Connect the 3 squares (per type of triangle) on a construction paper so that the central part forms the type of triangle. Evaluate the relationship of the sum of the area for the 2 legs with that of the hypotenuse. | learned about the lesson on Pythagorean theorem. |

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