

# Careers in Action

## Summer Teacher Internship/Lesson Plan Writing Project

This lesson has been endorsed by James J. McNamara, Principal, Maquillogistics Inc.

Mayra Silva

Algebra II/Review of Symbolic Manipulation

June 4-21, 2007

**Teacher's Name**

**Course/Subject**

**Date(s)/Time**

Content

### Objective(s)

The student will examine common mistakes in symbolic manipulation and develop at least four guidelines to reduce the occurrence of such errors. The guidelines will be evaluated using a given rubric.

### Career Concentration(s)

- |                                                      |                                                                |
|------------------------------------------------------|----------------------------------------------------------------|
| <input type="checkbox"/> Agricultural Science        | <input type="checkbox"/> Human Dev., Management & Services     |
| <input type="checkbox"/> Art, Communications & Media | <input checked="" type="checkbox"/> Industrial and Engineering |
| <input type="checkbox"/> Business & Marketing        | <input type="checkbox"/> Personal and Protective Services      |
| <input type="checkbox"/> Health Science Technology   |                                                                |

TEKS Reference: A.4A TSW find specific function values, simplify polynomials, and solve equations

TEKS Reference: A.4B TSW use the commutative, associative, and distributive property to simplify expressions.

TEKS Reference: A.7B TSW solve linear equations and inequalities.

TEKS Reference: A.11A TSW simplify expressions with exponents.

TEKS Reference: 8.15A TSW use language to communicate mathematics.

TAKS Reference: OBJECTIVES 2, 4, 5, & 10

Process

### Focus/Anticipatory Set

TTW: Show students PowerPoint presentation titled "What if?" Discuss how important it is in an algebra class for students to check for mistakes in symbolic manipulation.

### Relevance/Connection to Workplace

Employers look for employees that have good work ethic-those that take pride in doing their work well. They want employees that can monitor and correct their performance so that they can avoid mistakes that could cost money, time, or even human life.

### Bloom's Taxonomy in Lesson

- |                                                   |
|---------------------------------------------------|
| <input checked="" type="checkbox"/> Knowledge     |
| <input checked="" type="checkbox"/> Comprehension |
| <input checked="" type="checkbox"/> Application   |
| <input checked="" type="checkbox"/> Analysis      |
| <input checked="" type="checkbox"/> Synthesis     |
| <input type="checkbox"/> Evaluation               |

### Multiple Intelligences

- |                                                   |
|---------------------------------------------------|
| <input checked="" type="checkbox"/> Linguistic    |
| <input checked="" type="checkbox"/> Logical/Math  |
| <input type="checkbox"/> Musical                  |
| <input type="checkbox"/> Spatial                  |
| <input type="checkbox"/> Bodily-Kinesthetic       |
| <input type="checkbox"/> Intrapersonal            |
| <input checked="" type="checkbox"/> Interpersonal |
| <input type="checkbox"/> Naturalist               |

### SCANS

	A	B	C	D	E	F
Foundation	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competencies	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Instructional Methodology (Activities)

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

### Instructional Material(s)

PowerPoint Presentation, Error Log, Guidelines Sheet, Rubric, Students' previous day homework and Justification Sheets

	<p><b>Detail(s) of Instructional Methodology (Activities)</b></p> <p>Day 1:</p> <ol style="list-style-type: none"> <li>1. Ask students to pair up with one of their group members from the previous day.</li> <li>2. Have them exchange their homework and complete that new set of exercises on a separate sheet of paper without looking at their peer's work.</li> <li>3. Have students grade their work.</li> <li>4. Ask students to work in pairs to identify common mistakes in their work and keep a log of them.</li> <li>5. Have students brainstorm how they can avoid those mistakes.</li> </ol> <p>Day 2:</p> <ol style="list-style-type: none"> <li>1. Have students group into their original group and hand them back their Justification Sheets.</li> <li>2. Have students use their error logs to discuss with each other the types of errors that are most common and some possible ways of avoiding them.</li> <li>3. Have students decide four main errors for each type of exercise and guidelines to avoid such errors.</li> <li>4. Have students present at least two of their Guidelines Sheets to class.</li> </ol>	<p><b>Materials/Resources</b></p> <p>Computer, Eike Projector</p>
		<p><b>Use of Technology</b></p> <p>Project PowerPoint presentation at the start of class.</p>
<p><b>Accommodations</b></p> <p>Allow students more time if needed. Help students brainstorm ways to avoid errors. Refer to individual IEPs for special education students.</p>		
<p><b>Product</b></p>	<p><b>Assessment</b></p> <p><input type="checkbox"/> Teacher Evaluation    <input type="checkbox"/> Peer/Self Evaluation</p> <p><input type="checkbox"/> Employer Evaluation    <input type="checkbox"/> Written/Oral Presentation</p> <p><input type="checkbox"/> Test/Quiz    <input checked="" type="checkbox"/> Others; <u>Rubric</u></p>	<p><b>Bloom's Taxonomy in Assessment</b></p> <p><input checked="" type="checkbox"/> Knowledge    <input checked="" type="checkbox"/> Analysis</p> <p><input checked="" type="checkbox"/> Comprehension    <input checked="" type="checkbox"/> Synthesis</p> <p><input checked="" type="checkbox"/> Application    <input type="checkbox"/> Evaluation</p>
	<p><b>Reteach Activity/Homework</b></p> <ol style="list-style-type: none"> <li>1. Go over mistakes that students may have overseen and discuss as a class. Discuss other ways to avoid mistakes not included in students' work.</li> <li>2. For homework have students do a small poster to be displayed in hall or room with one mistake and how to avoid it. They can decorate as they wish.</li> </ol>	<p><b>Lesson Closure</b></p> <p>Ask students if computers and calculators do mistakes. Who is at fault?</p>