## UNIT OF STUDY #2

**Title:** writing & simplifying algebraic expression  
**Subject/Course:** 9th Res. Math  
**Length:** 2 weeks

<table>
<thead>
<tr>
<th>Topic: combining like terms</th>
<th>Grade: 9th</th>
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<tbody>
<tr>
<td>evaluating expression</td>
<td>Designer: K. Henderson</td>
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### UNIT GOALS AND EXPECTATIONS

#### IMPORTANT CONCEPTS/UNDERSTANDINGS:
- combining like terms
- evaluate expressions
- meaning of a coefficient \([i.e. 3x = x + x + x]\)
- meaning of a power \([i.e. x^3 = (x)(x)(x)]\)
- integer arithmetic

#### ESSENTIAL QUESTIONS:
- What is a like term?
- What is an constant?
- What is a variable, algebraic expression, term, and coefficient?
- How do you classify a polynomial?
- What is a square root?
- What is an absolute value?

### STUDENT LEARNING EXPECTATIONS:

- **L.A.1.AI.1** – Evaluate algebraic expression, including radicals, by applying the order of operations.
- **L.A.1.AI.5** - Perform polynomial operations (addition, subtraction, multiplication) with and without manipulatives

### SPECIFIC DECLARATIVE KNOWLEDGE – What I know

Vocabulary words – integer, exponent, base, square root, order of operations, variable, algebraic expression, term, constant, radical sign, coefficient, monomial, binomial, trinomial, and like terms.

### SPECIFIC PROCEDURAL KNOWLEDGE – What I need to do

- recognize like terms
- use like terms to simplify expressions.
- add and subtract polynomials both vertically and horizontally.
- evaluate algebraic expressions for given numerical values
- use the order of operations.
- remove parentheses that are preceded by "+".

### UNIT ASSESSMENTS

*(Include tasks related to Dimensions 3 and 4 and Bloom's Taxonomy)*

open response question
- requiring the student to use the order of operations when combining like terms (application)
- evaluate expressions with real world application – formula for interest (application)
### Traditional Assessments:
- independent practice worksheets
- Test
- warm-up or homework quizzes

### Other Evidence of Learning:
- notes
- guided practice
- observation
- marker board review

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<thead>
<tr>
<th>ACTIVITIES AND LEARNING EXPERIENCES</th>
<th>Resources</th>
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<tr>
<td>1. 4 step vocabulary to introduce key words from the unit.</td>
<td>4 step worksheet</td>
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<tr>
<td>2. Lesson 2.4 combining like terms – use example of fencing cows and wolves together.</td>
<td>Algebra’s Cool DVD program Unit A</td>
</tr>
<tr>
<td>3. Lesson 2.5 – evaluating expression – replace the variable with the given number. * explain what happens when the absolute value bars are taken away. * what do you do when your problem looks like a fraction.</td>
<td>Algebra’s Cool DVD program Unit A</td>
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<tr>
<td>4. marker board review – group review</td>
<td>marker board &amp; eraser</td>
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### Career Connections
- travel agent, train conductor, mover, farmer