**UNIT OF STUDY**
**#4**

**Title**: solve basic absolute value inequalities **Subject/Course**: 10th Res. Math
**Length: 2 weeks**

**Topic:** absolute value inequalities **Grade:** 10th **Designer: K. Henderson**

## UNIT GOALS AND EXPECTATIONS

**IMPORTANT CONCEPTS/UNDERSTANDINGS:**

- combine like terms
- inverse operations
- inequality symbols
- order of operations
- absolute value

**Use distance to explain that |x| < a translates into -a < x AND x < a, while |x| > a translates into x < -a OR x > a. In |x| < a, you want the distance that x is from 0 to be less than a so you must stay within a units of 0. In |x| > a you want x to be farther away from 0 than the distance a.**

**ESSENTIAL QUESTIONS:**

- What is an absolute value?
- When do you rewrite an absolute value equation as a compound equation?
- When does an absolute value equation have only one answer or no solution?
- What is a solution set?
- How do you solve inequalities containing the absolute value is ≥or ≤ ?
- **How do you write an absolute value inequality as a compound statement?**

STUDENT LEARNING EXPECTATIONS:

*SEI.2.AI.4 - Solve and graph simple *absolute value equations* and *inequalities* (Ex. |x| = 5, |x| ≤ 5, |x| > 5)

**SPECIFIC DECLARATIVE KNOWLEDGE – What I know**

Vocabulary words – absolute value, coefficient, solution set, isolate, compound statement, disjunction, conjunction

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

- write 2 equations when the answer is a positive number ( a positive and negative answer) **Great! This is asking them to think at a higher level.**
- write 1 equation when the answer is a zero
- solution set is the empty set when the answer to the problem is a negative
- don't forget to "switch" the symbol when multiplying or dividing by a negative number

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

open response question

- requiring the student to use absolute value inequalities (application)

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| **Traditional Assessments:**<br>independent practice worksheets<br>Test<br>warm-up quizzes or homework quizzes | **Other Evidence of Learning:**<br>notes<br>guided practice<br>observation<br>marker board review |

| ACTIVITIES AND LEARNING EXPERIENCES | Resources |
|---|---|
| 1. 4 step vocabulary to introduce key words from the unit.<br><br>2. Lesson 6. 3 and 6.4 solve absolute value inequalities using ≥or ≤ .<br>* isolate the absolute value before determining how many equations to write.<br>* remember that ≥ greater than can have "or" in the answer<br><br>3. marker board review – group review | 4 step worksheet<br><br>Algebra's Cool DVD program Unit B<br><br>marker board & eraser |
| **Career Connections** | |
| survey consultants, personal trainer | |