**TEACHER RESOURCE LIBRARY**

Grade 6 ~ ***Expressions and Equations: One-variable Equations and Inequalities (6.EE.5-8)***

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| **Reason about and solve one-variable equations and inequalities.** | | | | |
| **Resources** | **5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.** | **6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.** | **7. Solve real-world and mathematical problems by writing and solving equations of the form *x* + *p* = *q* and**  ***px* = *q* for cases in which *p*, *q* and *x* are all nonnegative rational numbers.** | **8. Write an inequality of the form *x* > *c* or *x* < *c* to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form *x* > *c* or *x* < *c* have infinitely many solutions; represent solutions of such inequalities on number line diagrams.** |
| **My Stuff** |  |  |  |  |
| **Resource Books** | **Substitution of Variables**  **Elementary & Middle School Mathematics (VanDeWalle, 7th Ed.)**   * TEACHER CONTENT   + The Meaning of Variables: p. 262-264 * STUDENT ACTIVITIES   + Balls, Balls, Balls (Activity 14.8): p. 262   **Elementary & Middle School Mathematics (VanDeWalle, 6th Ed.)**   * TEACHER CONTENT   + Variables in Equations: p. 262-265 * STUDENT ACTIVITIES   + Tilt or Balance (Activity 15.5): p. 264   + Adjust the Balance (Activity 15.6): p. 264   **Elementary Mathematics for Teachers (Parker, Baldridge, 2004) ISBN 0-9748140-0-8**   * TEACHER CONTENT   + Letters and Expressions: p. 87-94 | | | |
| **Web** | **Solve One-Variable Equations**  STUDENT ACTIVITIES/LESSONS   * **Shodor - Algebra Four - Game** - (All activities except quadratics.) <http://www.shodor.org/interactivate/activities/AlgebraFour/> * **MathsNet - Unknowns on Both Sides** - **Class Interactive**- <http://mathsnet.net/algebra/cu1.html> * **MathsNet - Equation Buster - Class Interactive**- <http://www.mathsnet.net/algebra/equation.html>   **Substitution of Variables**  STUDENT ACTIVITIES/LESSONS   * **MathsNet - Substituting Values - Tutorial** - <http://mathsnet.net/algebra/a11.html> * **BBC - Late Delivery - Game** - <http://www.bbc.co.uk/education/mathsfile/shockwave/games/postie.html>   **Write Expressions and Equations**  STUDENT ACTIVITIES/LESSONS   * **MathsNet - Word Problems - Class Interactive** - <http://mathsnet.net/algebra/c11.html> * **LearnAlberta - Exploring Algebra Noodle - Game** -   <http://www.learnalberta.ca/content/mejhm/index.html?l=0&ID1=AB.MATH.JR.PATT&ID2=AB.MATH.JR.PATT.ALG&lesson=html/object_interactives/algebra/use_it.html>  **Balancing Equations**  STUDENT ACTIVITIES/LESSONS   * **NLVM - Algebra Balance Scales - Student Interactive** -   <http://nlvm.usu.edu/en/nav/frames_asid_201_g_3_t_2.html?open=instructions&from=category_g_3_t_2.html>   * **Illuminations - Pan Balance - Numbers - Class Interactive** - <http://illuminations.nctm.org/ActivityDetail.aspx?ID=26> * **Illuminations - Pan Balance - Expressions - Class Interactive** - <http://illuminations.nctm.org/ActivityDetail.aspx?id=10> * **LearnAlberta - Balancing Equations - Video Lesson** -   <http://www.learnalberta.ca/content/mesg/html/math6web/index.html?page=lessons&lesson=m6lessonshell11.swf>   * **CORE Academy - 6th Grade, 2005 Participant Handbook - Balance or Tilt? Lesson**  -   <http://coreacademy.usu.edu/Materials/2005/Handbooks/SixthGrade.pdf>   * **BBC - Equation Match Game** - <http://www.bbc.co.uk/education/mathsfile/shockwave/games/equationmatch.html>   **Inequalities**  STUDENT ACTIVITIES/LESSONS   * **SpeedMath - Inequalities - Game** - <http://education.jlab.org/sminequality/index.html> * **IXL Math - Comparing Integers - Student Interactive** - <http://www.ixl.com/math/practice/grade-5-compare-integers> * **MathsNet - Inequalities - Tutorial -** <http://mathsnet.net/algebra/c31.html> | | | |
| **Literature Connections** | Equal Shmequal by Virginia Kroll | | | |