**TEACHER RESOURCE LIBRARY**

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

|  |
| --- |
| **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 |