



## **Common Core Math Newsletter**

### **6th Grade Unit 2: Inequalities and Equations**

*In this unit, students will interpret and write expressions, equations, and inequalities all in an effort to solve several types of real world problems.*

#### **Standard**

##### **6.EE.7**

- Solve real world and mathematical problems by writing and solving equations of the form  $x + p = q$  for cases in which  $p$ ,  $q$ ,  $x$  are all nonnegative rational numbers

##### **6.EE.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 inequality solutions on a number line diagram

##### **6.EE.9**

- Use variables to represent two quantities in a real world problem that change in relationship to one another
- Write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable
- Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation

## 6th Grade Common Core Math

### Unit 2: Inequalities and Equations

#### Vocabulary

<b>expression</b>	mathematical phrase that can contain ordinary numbers, variables, and operators
<b>equation</b>	statement of values of two mathematical expressions are equal; indicated by = [e.g. $4 \times 16 = (4 \times 10) + (4 \times 6)$ ]
<b>inequality</b>	statement that two expressions are not equal; indicated by $<$ , $>$ or $\neq$
<b>dependent variable</b>	variable (often denoted by $y$ ) whose value depends on that of another variable (e.g. video game rentals are \$2 per game after a one time startup fee of \$10; $2x + 10 = y$ )
<b>independent variable</b>	variable (often denoted by $x$ ) whose variation does not depend on that of another variable (e.g. video game rentals are \$2 per game after a one time startup fee of \$10; $2x + 10 = y$ )
<b>tape diagram/ bar model/ double line graph</b>	drawing that looks like a segment of tape, used to illustrate number relationships; also known as strip diagram, bar model, fraction strip, double line graph or length model

**Developing Conceptual Understanding**  
Concrete  $\rightarrow$  Pictorial  $\rightarrow$  Visualization  $\rightarrow$  Abstract

2 apples + 5 apples = 7 apples  
 $2 + 5 = 7$

$S = J - 3$   
 $S + J = 7$

**Forms of the Tape Diagram**

<p><b>Part Whole Model</b></p>	<p><b>Fraction Model</b></p>
<p><b>Additive Comparison Model</b></p>	<p><b>Models for Ratios &amp; Multiplicative Comparison</b></p>

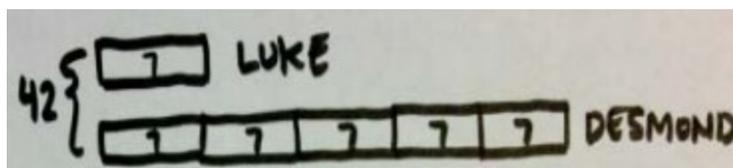
## 6th Grade Common Core Math

### Unit 2: Inequalities and Equations

#### Vocabulary (cont'd.)

example of  
real world  
problem  
solved with  
tape diagram  
and equation

Desmond has 5 times as many toy cars as Luke. They have 42 cars altogether. How many cars does each boy have.



$$l + 5l = 42$$

$$6l = 42$$

$$l = 7$$

#### Additional Resources

##### IXL.com Topics:

- Algebra
- Exponents
- Consumer Math

##### LearnZillion.com Videos:

- <https://learnzillion.com/lessons/460-write-numerical-expressions-involving-whole-number-exponents>
  - Quick Code LZ460
- <https://learnzillion.com/lessons/466-use-alternative-notation-for-multiplication-and-division-in-algebraic-expressions>
  - Quick Code LZ466
- <https://learnzillion.com/lessons/2882-write-and-solve-subtraction-equations-using-a-bar-model>
  - Quick Code LZ2882
- <https://learnzillion.com/lessons/1655-identify-variables-and-their-relationship-in-a-table>
  - Quick Code LZ1655

*Be sure to look to the left of the video to see other lessons on the standard.*