

## Unit Plan by Prioritized Standards

<b>Content Area</b>	MATH
<b>Grade/Course</b>	6th
<b>Unit of Study</b>	Ratio/Proportional Reasoning and Equations/Inequalities
<b>Duration of Unit</b>	28 days - 7 weeks

Insert priority standards below (include code). **CIRCLE or Highlight** the **SKILLS** that students need to be able to do and **UNDERLINE** the **CONCEPTS** that students need to know. (address “supporting” standards in daily lesson plans)

**MGSE.6.EE.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.

**MGSE.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 solutions of such inequalities on number line diagrams.

**MGSE.6.EE.9** **Use variables** to represent two quantities in a real-world problem that change in relationship to one another.

a. Write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable.

b. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation  $d = 65t$  to represent the relationship between distance and time.

Skills (what must be able to do)	Concepts (what students need to know)	DOK Level / Bloom's
Solve	Equations of the form $x+p = q$ and $px=q$ (nonnegative rational numbers)	2/3
Write/Recognize	Inequalities of the form $x<c$ or $x>c$ ; they have infinitely many solutions	2/3
Use variables	To represent two quantities	3
Continued on next page		

**Step 5: Determine BIG Ideas** (enduring understandings students will remember long after the unit of study)

**Step 6: Write Essential Questions** (these guide instruction and assessment for all tasks. The big ideas are answers to the essential questions)

<ul style="list-style-type: none"> <li>• <b>Represent, analyze, and generalize a variety of patterns with tables, graphs, words, and, when possible, symbolic rules.</b></li> <li>• <b>Relate and compare different forms of representation for a relationship.</b></li> <li>• <b>Use values from specified sets to make an equation or inequality true.</b></li> <li>• <b>Develop an initial conceptual understanding of different uses of variables.</b></li> <li>• <b>Graphs can be used to represent all of the possible solutions to a given situation.</b></li> <li>• <b>Many problems encountered in everyday life can be solved using proportions, equations or inequalities.</b></li> <li>• <b>Students will solve one-step equations.</b></li> </ul>	<ul style="list-style-type: none"> <li>• What strategies can I use to help me understand and represent real situations using proportions, equations and inequalities?</li> <li>• How can I write, interpret and manipulate proportions, equations, and inequalities?</li> <li>• How can I solve a proportion and an equation?</li> <li>• How can I tell the difference between an expression, equation and an inequality?</li> <li>• How are the solutions of equations and inequalities different?</li> <li>• How can proportional relationships be described using the equation <math>y = kx</math>?</li> <li>• How can proportional relationships be represented using rules, tables, and graphs?</li> <li>• How does a change in one variable affect the other variable in a given situation?</li> </ul>

<b>Essential Unit Vocabulary</b>
----------------------------------

- |   |
|---|
| <ul style="list-style-type: none"> <li>● <b>Addition, Subtraction, Division, and Multiplication Property of Equality</b></li> <li>    ● <b>Constant of Proportionality</b></li> <li>    ● <b>Dependent variable and Independent variable</b> <ul style="list-style-type: none"> <li>● <b>Direct proportion</b> <ul style="list-style-type: none"> <li>● <b>Equation</b></li> <li>● <b>Inequality</b></li> </ul> </li> <li>● <b>Inverse operation</b> <ul style="list-style-type: none"> <li>● <b>Proportion</b></li> <li>● <b>Substitution</b> <ul style="list-style-type: none"> <li>● <b>Term</b></li> <li>● <b>Variable</b></li> </ul> </li> </ul> </li> </ul> </li> </ul> |
|---|

<b>Next step, create assessments and engaging learning experiences</b>
--