Math 9

Unit 6 Linear Equations and Inequalities

**Big Idea:** The skills learned in mathematics will be used long after the variables are gone!

**Outcomes**: P9.2 and P9.3

* Model and solve situational questions using linear equations of many forms.
* Demonstrate understanding of single variable linear inequalities with linear coefficients including; solving inequalities; verifying; comparing; graphing

**Understandings:**

* Many real world situations can be demonstrated using algebraic symbols.
* These symbols can be used to solve problems and visually display results (such as inequalities)
* There are a number of processes we use to solve equalities and inequalities that are the same.

**Essential Questions:**

* What kind of real life situations can we demonstrate using equalities and inequalities?
* How do using algebraic symbols make problems easier to solve and see visually?
* How can I use the principle of inequality (learned in previous years) to solve inequations?

**Students need to know:**

 -must know the difference between an equality and an inequality

- the correct steps used to solve an equality and an inequality

 - how to show their solutions on a graph

 - and be able to verify solutions

 - and be able to compare solutions using inequality symbols

 - appropriate vocabulary (see attached sheet)

**And be able to do:**

* Write a linear equation to represent real world situations
* Verify a solution to a linear equation
* Demonstrate correct mathematical steps used to solve a linear equation of all different types listed in the objectives.
* Analyze solutions that are incorrect and identify the errors
* Solve problems using linear equations
* Demonstrate the ability to apply the above skills to solving inequalities
* Compare solving linear equalities to solving linear inequalities
* Graph the solution to a linear inequality on a number line