

Applied Algebra  
West Aurora School District  
State Goal 6 – Number Sense

**STATE GOAL 6 – Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios, and proportions.**

**Concepts: Need to Know About Number Sense**

- Equivalent Number Forms
- Number Sentences and Word Problems
  - Rational Numbers
    - Single and Multi-Step
    - Ratios and Proportions
- Percent

**Skills: Be Able to Do**

- **Represent** (Equivalent Number Forms)
- **Set-up** (Single and Multi-Step Number Sentences and Word Problems Involving Ratios, Proportions, Percents, etc with Rational Numbers)
- **Evaluate** (Single and Multi-Step Number Sentences and Word Problems Involving Ratios, Proportions, Percents, etc with Rational Numbers)
- **Solve** (Single and Multi-Step Number Sentences and Word Problems Involving Ratios, Proportions, Percents, etc with Rational Numbers)

**Topics or Contexts:** Equivalent number forms include the following: fraction/decimal/percent, radical/rational exponents, exponential, absolute value, and scientific notation.

Order of operations was a standard in Alg, Seq 1, should it be here as well?

Various lessons in textbooks

Problem solving activities involving real-life situations

**Big Ideas**

**Essential Questions**

Applied Algebra  
West Aurora School District  
State Goal 7 – Measurement

**STATE GOAL 7 – Estimate, make and use measurement of objects, quantities and relationships and determine acceptable levels of accuracy.**

**Concepts: Need to Know About Measurement**

- Unit Conversions
  - Same System
  - Different System
- Common Geometric Figure Measurements
  - Length, Width, Height
  - Perimeter/Circumference
  - Area
  - Volume
  - Surface Area
  - Angle Measures (and Sums of Angles)

**Skills: Be Able to Do**

- **Change** (Within Units of the Same System or Between Units of Different Systems)
- **Determine** (Common Geometric Figure Measurements)
- **Calculate** (Common Geometric Figure Measurements)

**Topics or Contexts:** Various lessons in textbooks

Problem solving activities involving real-life situations

**Big Ideas**

**Essential Questions**

Applied Algebra  
West Aurora School District  
State Goal 8 – Algebra

**STATE GOAL 8 – Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.**

**Concepts: Need to Know About Algebra**

- Equivalent Algebraic Expressions
- Mathematical Relationships Using Symbolic Algebra
- Variable Expressions and Functions
- Graphs
  - Quantitative Relationships
  - Situational Relationships
- Linear Equations and Inequalities
  - Formulas

**Skills: Be Able to Do**

- **Simplify** (Equivalent Algebraic Expressions)
- **Identify** (Equivalent Algebraic Expressions)
- **Represent** (Mathematical Relationships Using Symbolic Algebra and Quantitative Relationships Algebraically and Graphically)
- **Interpret** (Meaning or the Situation Represented by the Graph)
- **Solve** (Linear Equations and Inequalities)
- **Select** (Appropriate Formula/Method)
- **Evaluate** (Formulas, Variable Expressions and Functions)

**Topics or Contexts:** Equivalent algebraic expressions would be in the form: exponential, rational, factored, polynomial.

Review plotting and identifying points on a coordinate plane.

Quantitative and situational relationships of graphs includes identifying the equation of a line and finding slope from equations, tables and graphs.

Various lessons in textbooks

Problem solving activities involving real-life situations

**Big Ideas**

**Essential Questions**

Applied Algebra  
West Aurora School District  
State Goal 9 – Geometry

**STATE GOAL 9 – Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes, and space.**

**Concepts: Need to Know About Geometry**

- Plane Figures
- Geometric Properties of Plane Figures
  - Triangles
  - Quadrilaterals
  - Parallel Lines Cut by a Transversal
  - Angles
  - Diagonals
  - Triangle Inequality

**Skills: Be Able to Do**

- **Classify** (Plane Figures)
- **Identify** (Geometric Properties of Plane Figures)
- **Apply** (Geometric Properties of Plane Figures)
- **Solve** (Geometric Properties of Plane Figures)

**Topics or Contexts:** Does classifying plane figures need to be its own “Power Standard” or can it be implied through the identifying plane figures by their properties?

Various lessons in textbooks

Problem solving activities involving real-life situations

**Big Ideas**

**Essential Questions**

Applied Algebra  
West Aurora School District 129  
State Goal 10 – Data Analysis, Statistics, and Probability

**STATE GOAL 10 – Collect, organize, and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.**

**Concepts: Need to Know About Data Analysis**

- Graphs, Charts, and Tables
- Probabilities
- Statistics

**Skills: Be Able to Do**

- **Read** (Graphs, Charts, and Tables)
- **Interpret** (Graphs, Charts, and Tables)
- **Predict** (Statistical Results)
- **Interpolate** (Data/Information)
- **Extrapolate** (Data/Information)
- **Compute** (Probabilities and Central Tendencies)

**Topics or Contexts:** Probability of single or repeated trials with or without replacement, and compound events.

Various lessons in textbooks

Problem solving activities involving real-life situations

**Big Ideas**

**Essential Questions**