# Unwrapping the CCSS

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| **Content Area** | Mathematics |
| **Grade/Course** | Algebra 1 |
| **Unit of Study** | Unit 1: Relationships Between Quantities & Expressions |
| **Duration of Unit** | 16 Days |

Insert a standard below (include code). **CIRCLE** the **SKILLS** that students need to be able to do and **UNDERLINE** the **CONCEPTS** that students need to know.

**MCC9-12.N.RN.2** Rewrite expressions involving radicals and rational exponents using the properties of exponents.

**MGSE9-12.N.Q.1** Use units of measure (linear, area, capacity, rates, and time) as a way to understand problems.

**MGSE9-12.A.APR.1** Add, subtract, and multiply polynomials; understand that polynomials form a system analogous to the integers in that they are closed under these operations.

**MGSE9-12.A.SSE.2** Use the structure of an expression to rewrite it in different equivalent forms.

| **Concepts** (what students need to know) | **Skills** (what students must be able to do) | **DOK Level / Bloom's** |
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| **Expressions**<br>**Radicals**<br>**Rational Exponents**<br>**Properties of Exponents**<br>**Units of Measure**<br>**Polynomials**<br>**Integers**<br>**Polynomial Operations (Add, Subtract, Multiply)**<br>**Equivalent Forms** | • **Use** properties of exponents to rewrite radical and rational exponent expressions in multiple forms.<br>• **Use** units of measure for conversions between units.<br>• **Use** polynomial operations and integer rules to combine polynomial expressions.<br>• **Apply** knowledge of equivalency to rewrite equivalent expressions. | **Application (2)** |

| **Determine BIG Ideas** (enduring understandings students will remember long after the unit of study) | **Write Essential Questions** (these guide instruction and assessment for all tasks. The big ideas are answers to the essential questions) |
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| Properties of exponents can be applied to write radical and rational exponent expressions in various forms.<br><br>Convert from radical representation to using rational exponents and vice versa.<br><br>Know equivalent expressions for real numbers to include radicals and numbers in exponential form.<br><br>The structure of expressions and the meaning of their parts in context.<br><br>Similarities between the system of polynomials and the system of integers.<br><br>Addition, Subtraction, and Multiplication of polynomials is closed. | • **How do I choose and interpret units of measure in context?**<br>• **How do I interpret parts of an expression in terms of context?**<br>• **How are polynomial operations related to operations in the real number system?**<br>• **How can polynomials be used to express realistic situations?**<br>• **How do I justify simplification of radicals using visual representations?**<br>• **Why is the sum or product of rational numbers rational?**<br>• **Why is the sum of a rational number and irrational number irrational?**<br>• **Why is the product of a nonzero rational number and an irrational number irrational?** |

**Next step, create assessments and engaging learning experiences**