

## Chapter 1: Exponents

**Big Idea: You can use exponential notation to represent repeated multiplication of the same factor.**

| Standard | Skill/Objective   | Content Vocabulary   |
|----------|---|--|
| 8.EE.1   | Understand and use exponential notation.  | base<br>exponent<br>exponential notation<br>power<br>prime factorization |
| 8.EE.1   | Use exponents to write the prime factorization of a number.                           |  |
| 8.EE.1   | Understand the product of powers property   |  |
| 8.EE.1   | Understand the quotient of powers property  |  |
| 8.EE.1   | Multiply and divide expressions in exponential notation.                              |  |
| 8.EE.1   | Understand raising a power to a power.  |  |
| 8.EE.1   | Use properties of exponents to simplify expressions.                                  |  |
| 8.EE.1   | Understand the power of a product property  |  |
| 8.EE.1   | Understand the power of a quotient property   |  |
| 8.EE.1   | Use properties of exponents to simplify expressions.                                  |  |
| 8.EE.1   | Understand zero and negative exponents.   |  |
| 8.EE.1   | Simplify expressions involving zero and negative exponents.                           |  |
| 8.EE.2   | Evaluate square roots and cube roots of positive real numbers.                        |  |
| 8.EE.2   | Solve real-world problems that use equations involving squares and cubes of unknowns. |  |

## Chapter 2: Scientific Notation

**Big Idea: Scientific notation is a way of writing numbers that makes it easier to work with very big or very small numbers.**

| Standard | Skill/Objective                              | Content Vocabulary |
|----------|--|--------------------|
| 8.EE.3   | Understand the need for scientific notation. | coefficient        |

## Chapter 2: Scientific Notation

**Big Idea: Scientific notation is a way of writing numbers that makes it easier to work with very big or very small numbers.**

|        |  |                                      |
|--------|--|--------------------------------------|
| 8.EE.3 | Write numbers in scientific notation or in standard form.                          | scientific notation<br>standard form |
| 8.EE.3 | Compare numbers in scientific notation.  |                                      |
| 8.EE.4 | Add and subtract numbers in scientific notation.                                   |                                      |
| 8.EE.4 | Introduce the prefix system.   |                                      |
| 8.EE.4 | Multiply and divide numbers in scientific notation.                                |                                      |
| 8.EE.4 | Solve real-world problems involving the calculation of numbers in different forms. |                                      |
| 8.EE.4 | Use calculators to operate in scientific notation.                                 |                                      |