Learning Targets

Exponents and Scientific Notation

Lesson 1: Exponent Review

- I can use exponents to describe repeated multiplication.
- I understand the meaning of a term with an exponent.

Lesson 2: Multiplying Powers of Ten

- I can explain and use a rule for multiplying powers of 10.

Lesson 3: Powers of Powers of 10

- I can explain and use a rule for raising a power of 10 to a power.

Lesson 4: Dividing Powers of 10

- I can evaluate 10^0 and explain why it makes sense.
- I can explain and use a rule for dividing powers of 10.

Lesson 5: Negative Exponents with Powers of 10

- I can use the exponent rules with negative exponents.
- I know what it means if 10 is raised to a negative power.

Lesson 6: What about Other Bases?

- I can use the exponent rules for bases other than 10.

Lesson 7: Practice with Rational Bases

- I can change an expression with a negative exponent into an equivalent expression with a positive exponent.
- I can choose an appropriate exponent rule to rewrite an expression to have a single exponent.

Lesson 8: Combining Bases

- I can use and explain a rule for multiplying terms that have different bases but the same exponent.

Lesson 9: Describing Large and Small Numbers Using Powers of 10

- Given a very large or small number, I can write an expression equal to it using a power of 10.

Lesson 10: Representing Large Numbers on the Number Line

- I can plot a multiple of a power of 10 on such a number line.
- I can subdivide and label a number line between 0 and a power of 10 with a positive exponent into 10 equal intervals.
- I can write a large number as a multiple of a power of 10.

Lesson 11: Representing Small Numbers on the Number Line

- I can plot a multiple of a power of 10 on such a number line.
- I can subdivide and label a number line between 0 and a power of 10 with a negative exponent into 10 equal intervals.
- I can write a small number as a multiple of a power of 10.

Lesson 12: Applications of Arithmetic with Powers of 10

- I can apply what I learned about powers of 10 to answer questions about real-world situations.
- I can tell whether or not a number is written in scientific notation.

Lesson 13: Multiplying, Dividing, and Estimating with Scientific Notation

- I can multiply and divide numbers given in scientific notation.
- I can use scientific notation and estimation to compare very large or very small numbers.

Lesson 14: Adding and Subtracting with Scientific Notation

- I can add and subtract numbers given in scientific notation.

Lesson 15: Is a Smartphone Smart Enough to Go to the Moon?

- I can use scientific notation to compare different amounts and answer questions about real-world situations.