8th Grade UNIT 3 OVERVIEW: *Properties of Exponents*

Unit Outcomes At the end of this unit, your student should be able to:	Key Vocabulary Terms to deepen the student's understanding
✓ Recall the use of exponents as an efficient way to express multiplication and simplify expressions involving exponents ✓ Simplify and evaluate expressions with zero and negative exponents ✓ Multiply expressions with exponents and show mastery of unit material to date ✓ Raise a variable or a product with powers to a power ✓ Divide powers that have the same base and different exponents ✓ Raise a quotient to a power	✓ Base ✓ Dividing Powers with the Same Base Property ✓ Exponent ✓ Exponential Form ✓ Laws of Exponents ✓ Multiplication Property of Exponents ✓ Perfect Cube ✓ Perfect Square ✓ Power ✓ Raising a Power to a Power Property ✓ Raising a Product to a Power Property ✓ Raising a Quotient to a Power Property ✓ Zero exponent
Key Standards Addressed Connections to Common Core/NC Essential Standards	Where This Unit Fits Connections to prior and future learning
8.EE.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions	**Coming into this unit, students should have a strong foundation in:** ✓ The effect of an exponent on an expression ✓ Simplifying expressions with exponents ✓ Simplifying fractions **This unit builds to the following future skills and concepts:** ✓ Performing operations with numbers expressed in scientific notation ✓ Solving equations with exponents
Additional Resources Materials to support understanding and enrichment	"Learning Checks" Questions Parents Can Use to Assess Understanding
✓ Teaching videos made by Wake County teachers ✓ WCPSS YouTube Channel – Math Playlist ✓ Properties of Exponents Overview ✓ Properties of Exponents Overview #2 ✓ Simplifying Overview ✓ Laws of Exponent Practice ✓ Exponent Practice ✓ Exponent Properties Video ✓ Applying Properties Video ✓ Professions that use Exponents	✓ Why is it beneficial to use exponents? What, if anything, would change if exponents were not available to be used? ✓ What difference do parentheses make when using exponents? ✓ What are the similarities and differences between zero, positive, and negative exponents? ✓ What steps do you take when multiplying expressions with the same base? ✓ Why can x^3y^5 not be simplified? ✓ How do you raise a power to a power? ✓ What is the difference between "simplifying a power to a power" and "simplifying a product to a power"? ✓ What steps do you take when dividing powers with the same base? ✓ How does dividing with exponents prove that $x^0 = 1$? ✓ Where do you see exponents in the real world?