

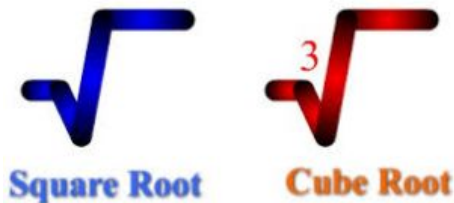
8th Grade Math unit 1

(These are the items that you'll be learning about.)

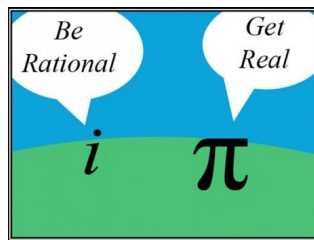
- Exponents



- Roots



- Rational Numbers



- Scientific Notation

The parts of Scientific notation
example

$$\underset{\text{coefficient}}{5.67} \times \underset{\text{base}}{10^{\text{exponent}}}$$

Name: _____ Period: _____

Don't throw this away until the end of quarter one!

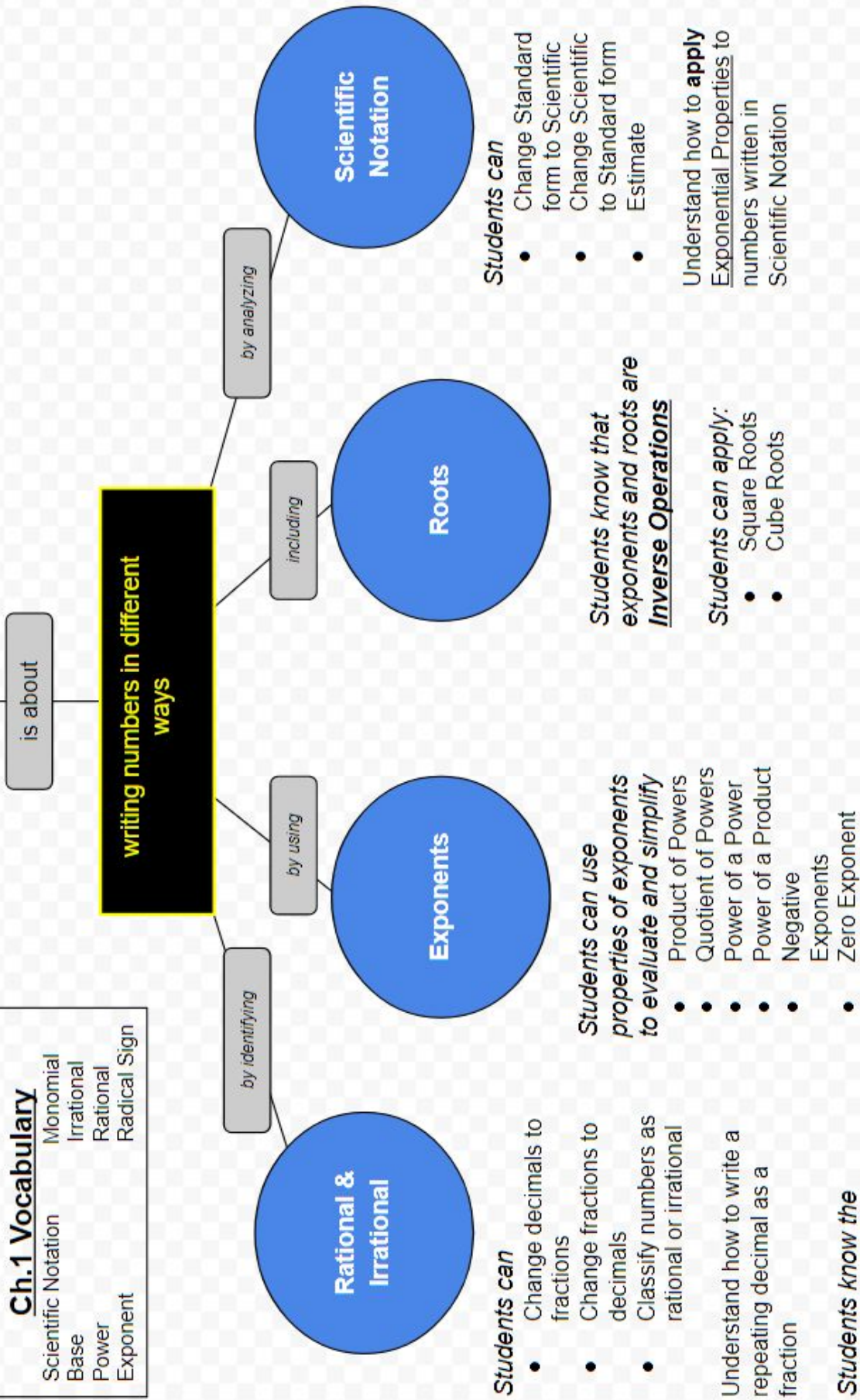
Notes

unit 1 Standards:

Standard	What that really means...	A few examples...
<p>8.EE.1: Know and apply the properties of integer exponents to generate equivalent numerical expressions.</p>	<p>Students will need to learn how to simplify expressions that have exponents.</p>	<ul style="list-style-type: none"> • $8^4 \cdot 8^5 = 8^9$ • $3^{-3} = \frac{1}{3^3}$
<p>8.EE.2: Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.</p>	<p>Students will need to be able to find the square root and cube root of a given number. They will also have to solve equations when a variable is squared or cubed.</p>	<ul style="list-style-type: none"> • $x^2=25$ $x=?$ • Find all square roots of 64. • Find the cube root of 27.
<p>8.NS.1: Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.</p>	<p>Students will have to classify numbers as rational or irrational and justify why. They will also have to convert numbers from fractions to decimals and decimals to fractions.</p>	<ul style="list-style-type: none"> • Is 0.83333...rational or irrational? How do you know? • Write 0.22222....as a fraction.
<p>8.EE.4: Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.</p>	<p>Students will have to write numbers in scientific and standard notation. They will also need to perform operations such as $(+ \cdot - \div)$ using numbers that are in scientific notation.</p>	<ul style="list-style-type: none"> • Write the number 1,200,000 in scientific notation. • $(8.32 \times 10^3) \times (5.56 \times 10^9)$

Unit 1: Real Numbers - Chapter 1

Ch.1 Vocabulary	
Scientific Notation	Monomial
Base	Irrational
Power	Rational
Exponent	Radical Sign



Ch.1 Vocabulary

Scientific Notation	Monomial
Base	Irrational
Power	Rational
Exponent	Radical Sign

Students can

- Change decimals to fractions
- Change fractions to decimals
- Classify numbers as rational or irrational

Understand how to write a repeating decimal as a fraction

Students know the decimal of a rational number terminates or repeats.

Students can use properties of exponents to evaluate and simplify

- Product of Powers
- Quotient of Powers
- Power of a Power
- Power of a Product
- Negative Exponents
- Zero Exponent

Students can

- Change Standard form to Scientific
- Change Scientific to Standard form
- Estimate

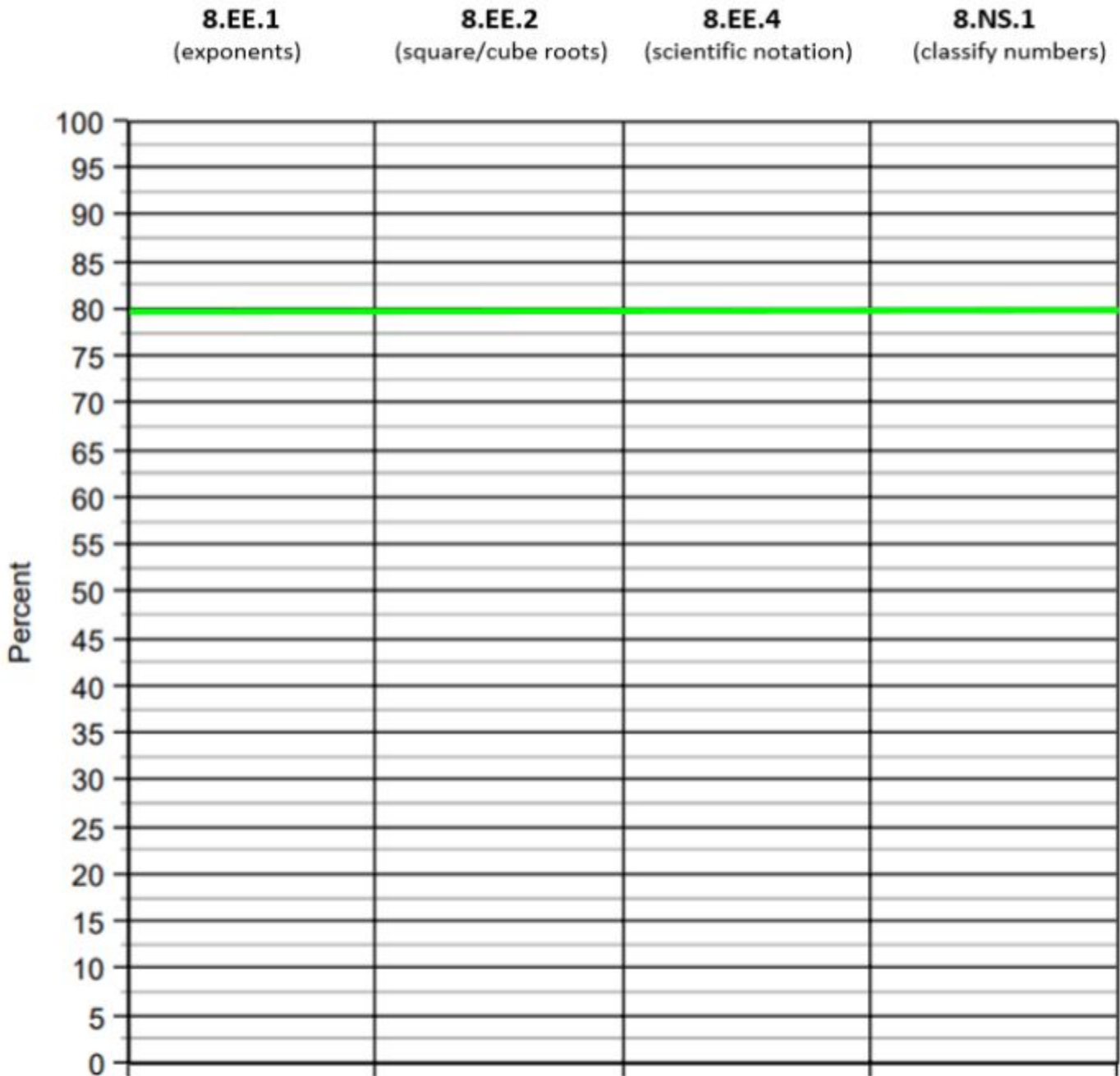
Understand how to apply Exponential Properties to numbers written in Scientific Notation

Students know that exponents and roots are Inverse Operations

- Students can apply:
- Square Roots
 - Cube Roots

Let's see how you're doing on the standards...

There is a difference between **NOT KNOWING** and **NOT KNOWING YET**



Key:

- - Pretest
- - Quiz
- ▲ - Post Test

Are you ready for the test?

Studying for a test checklist

- Go over the study guide by yourself. Look at your mistakes and learn from them. You could even print a blank study guide and try it again.
- Go over the study guide with a friend/ family member. Explain to him/ her how to solve each problem.
- Use the “Extra Practice Problems” in your book and look through the examples.
- Finally, double check! Do you know how to..
 - Define natural numbers, integers, rational, irrational, and real numbers?
 - Use the product, quotient, and power rules to simplify exponential expressions?
 - Write numbers in scientific notation and standard form?
 - Multiply, divide, add, and subtract in scientific notation?
 - Solve square and cube problems?
 - Know the number of solutions of squares and cubes?

If you're not feeling ready, try some of these...

- Go to www.ixl.com. Click on 8th grade and try some of these.
 - D.5, F.2, F.8, F.9, F.6, F.13, G.3, G.4
- Khan academy
 - <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-numbers-operations>
- Your textbook has great examples and problems to try. Just look at your notes to see what sections you want some more practice on.
- Go back over your notes or quizzes that are stored right here in this booklet!

Important "stuff"

