8th Grade - Unit 1 - Math - The Number System

Content Area: **Mathematics**
Course(s): **Math 6, Generic Course**
Time Period: **Generic Time Period**
Length: **10 days**
Status: **Published**

Established Goals/Standards

Please choose the appropriate Goals/Standards from the Standards tab above.

MA.8.NS.A	Know that there are numbers that are not rational, and approximate them by rational numbers.
MA.8.NS.A.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.
MA.8.NS.A.2	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2).

Essential Questions

Please add your Essential Questions by clicking on the Lists tab above.

- How do radicals and squares help solve real world problems?
- How do you convert a rational number into a decimal?
- How do you use a number line to compare two rational numbers?
- What are numbers that are perfect squares and perfect cubes?
- What is the difference between irrational and rational numbers?

Enduring Understanding

Please add your Enduring Understandings by clicking on the Lists tab above.

- A number line can be used to compare rational numbers by placing them in their corresponding position on a number line.
- Every real number is either a rational number or irrational number.
- Perfect squares and perfect cubes are numbers whose geometric dimensions are the same.
- Rational and irrational numbers can be ordered and compared using decimal approximations.
- Rational are numbers that can be written as a fraction. Irrational numbers are numbers that can not be written as a fraction.
- Rational numbers can be converted into a decimal by using division.
- Repeating decimals can be represented as an equivalent rational number.

Content

Students will be able to:

- Write equivalent fractions and decimals
- Find and estimate square roots
- Classify numbers as rational or irrational
- Identify perfect squares and perfect cubes
- Approximate square roots and cube roots

Vocabulary:

- Cube root
- Irrational numbers
- Perfect cube
- Perfect square
- Rational number
- Real numbers
- Repeating decimal
- Square root
- Terminating decimal

Assessment

Resources

- Pearson textbook and online resources
- Teacher made flip-charts
- Web-based activities (mathplayground.com) (coolmath.com)
- Teacher made worksheets/assessments
- mad minutes
- NJCTL.org (PMI math)
- Pizzazz series of worksheets