## C2.0 Investigations into Mathematics Unit 5 Course Outline

## The Real Number System

| Topic | Instructional Foci |
|---|---|
| **Topic 1: Magnitude and Scientific Notation** | In this topic, students continue their study of exponents by investigating very large and very small quantities. This requires them to represent, estimate, and calculate numbers expressed in scientific notation. Students apply the properties of integer exponents to transform expressions as they explore equivalency.<br><br>*Concepts*<br>Explore the magnitude of numbers.<br>Express very large and very small numbers in scientific notation.<br>Explore properties of integer exponents through patterns.<br>Solidify understanding of properties of integer exponents.<br>Reason about and solve problems using scientific notation. |

| Topic | Instructional Foci |
|---|---|
| **Topic 2: Rational and Irrational Numbers** | In this topic, students differentiate between rational and irrational numbers by exploring repeating decimal patterns. They evaluate square roots and cube roots of perfect squares and perfect cubes. Students use rational approximations of irrational numbers to estimate the value of irrational numbers, compare their size, and locate them approximately on a number line diagram.<br><br>*Concepts*<br>Know that numbers that are not rational are called irrational.<br>Use geometric representations to explore squares and cubes.<br>Solve equations involving perfect squares and perfect cubes.<br>Estimate non-perfect roots between two integers. |