Deliciously Charming Arithmetic Ratios and Proportions	**Student/Class Goal** Students will be familiar with common numerical operations including estimation involving ratios and percents, scientific notation, fractions and percents, and applying laws of exponents.
Outcome (*lesson objective*) Students will demonstrate their knowledge of Ratios and Percents by counting and applying laws of exponents to solve problems based on everyday objects and activities.	**Time Frame** 3 Hours
Standard *Use Math to Solve Problems and Communicate*	**NRS EFL 5-6**

Components of Performance (COPs)	**Activity Addresses COPs** (process)
Understand, interpret, and work with pictures, numbers, and symbolic information.	Students will solve problems using different math operations creating and identifying different strategies and numerical operations. Students will order and compare equivalent fractions, decimals, and percents
Apply knowledge of mathematical concepts and procedures to figure out how to answer a question, solve a problem, make a prediction, or carry out a task that has a mathematical dimension.	Students will use problem solving strategies to assess and appraise various math functions Students will diagram various shapes and figures and create a graph.
Define and select data to be used in solving the problem.	Students will choose the correct unit of numerical operation and the appropriate strategy.
Determine the degree of precision required by the situation.	Students will compare/contrast calculated mathematical findings/data; students will estimate whole numbers and square roots. Students will use estimating and predict numerical outcomes.
Solve problem using appropriate quantitative procedures and verify that the results are reasonable.	Students will use a calculator to check radicals and square roots. Students will create proportions and ratios.
Communicate results using a variety of mathematical representations, including graphs, charts, tables, and algebraic models.	Students communicate with each other in pairs for the purpose of ordering and classifying objects. Students will create a bar graph to analyze data.

Activity Addresses Benchmarks (content)
M.6.2, M.6.3, M.6.4, M.6.5, M.6.27, M.6.29

Materials
Pencils
Colored Pencils
Rulers
Lucky Charms Cereal
Vocabulary Sheets
Graph Paper
Calculators
Assessment

Learner Prior Knowledge
Square roots, exponents, percentiles, proportions, scientific notation, equivalent fractions, solving proportions, radicals, conversions, rounding.

Instructional Activities

Step 1
Instructor will supply students with a vocabulary summary defining various math terms such as radical, integer, exponents, etc… Teacher will distribute math packet containing various problems and self made graphing templates to the students. Instructor will review radicals, exponents, proportions, percents, decimals, and integers with the class. Students will then receive one cup of Lucky Charms Cereal for calculating proportions, estimating, math problems and graphing activity.

Step 2
Students will sort through their cup of Lucky Charms Cereal separating the marshmallows from the cereal. Students will create a graph lining the various shapes (clovers, horse shoes, moons, stars, and pot of gold) lining the shapes up on the pre-made graph and later tracing the shapes with colored pencils. Students will tally each shape recording the number of each found with in one cup of cereal.

Step 3
Students should then complete the math packet solving various problems according to their finding in the cup of cereal. Students will order and compare various numerical operations.

Step 4
Students will count the pieces of cereal remaining in the cup and use these to calculate scientific notation to the negative quotient and the positive quotient.

Step 5
Students will determine how many of each marshmallow and how many pieces of cereal are contained in an entire box of lucky charms cereal by creating a proportion and solving for the unknown integers. Students must estimate their calculations. Students may share their findings.

Assessment/Evidence (*based on outcome*)
McGraw Hill Number Sense Ratio and Proportions page 74-77 with 80% accuracy (complete as take home or partially in-class).

Teacher Reflection/Lesson Evaluation
Not yet completed

Next Steps