General Information:
- Teacher - Ms. Karyakose
- Subject Area - Math
- Lesson Title - Converting Ratios and Percentages
- Grade Level - 6th

Essential Question(s):
- Why do we convert data?

Summary:
- Student will use what they have learned about Ratios, Fractions, Decimals and Percents and given data survey results to make Ratios and Proportions of the class statistics. Student will then correctly convert and simplified the Ratios and proportions to create their own charts and graphs of classroom stats, using google spreadsheets.

Objective(s):
- Students will be able to correctly convert raw data in ratios, fractions, percents, and decimals
- Students will be able to create Charts and Graphs in Google Spreadsheet of classroom data with the assistance of the Charting and Graphing Guide

State Content Standard(s)/Benchmark(s):
- 6.RP.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, "The ratio of wings to beaks in the birdhouse at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."
- 6.RP.3c Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.

Technology Standard(s):
- Communication and Collaboration
- Research and Information Fluency
- Digital Citizenship
- Technology Operations and Concepts

Procedures:
Prior to this lesson students will have learned and finished upto chapter 6-8 and done a small questionnaire as homework the night before

Day 1 Anticipatory set
- Upon entering class have an iPad or computer loaded with the following web site: http://answergarden.ch/view/57780 Answer Garden question "Things you can take the Ratio or Proportion of:"
- Have the student type a couple words in answer garden then have a seat
- When the whole class has entered their phrases show a final
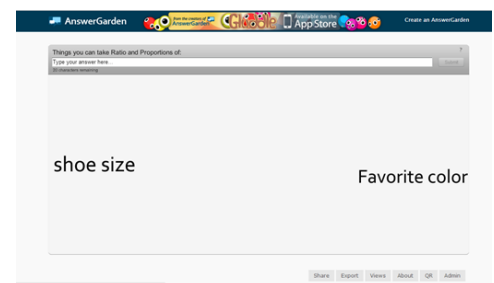
presentation of all the things that we can take ratios and percentages of.

- Have the students turn to a partner and discuss 3 new things that hadn't thought of and how you might take a ratio or percent of those things (example: boys favorite color)

Day 1 Direct Instruction, Check for Understanding

- Pull up the data from the class questionnaire, click the filter button ▼ Filter "a-z" it by boys and girls by clicking the top of the gender column
  - o Ask the students to figure out how many boys and girl answered the survey write the data on the board
  - o Have the students figure the ratio of Boys to Girls in the class and write it in number form (1:5) and word form (for every one boys there are 5 girls) down in their classwork section
  - o When most of the class has figured out the ratio ask for a students to volunteer their answer
- Pull up the Ratio Tab in the activity to show them how they will be doing the same thing again later in groups
- Display the data again this time only show girls by clicking the top of the column and dissecting boys (only girls should appear)
- Once only the girls appear sort the number of sibling column "a-z" this will put them in number order
- Ask the students how many of the girls in our class have 1 sibling (8) call on students until the correct number is achieved
- Ask the students to write a the fraction for the Number of Girls who have no,1,2,3,4,6 siblings in the class work section, then the decimals, and percentages
- when most of the class is finished have students volunteer the answers and chart it on the board
- Pull up the Fraction, Decimal, Percent tab in the activity to show them how they will be doing the same thing again later in groups
- Divide the class in pair, preferably the table mate
- Explain to the students that they will be creating their own Ratio and Fraction, Decimal, Percent data chart and graph tomorrow but to starting planning their ideas
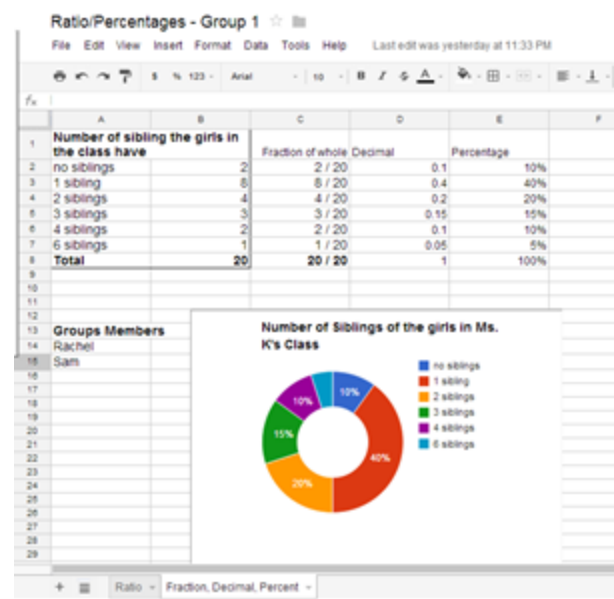
Day 2 Anticipatory Set

- When the students arrive to computer lab have them pick up a "charting and graphing guide" and have the question "What are you taking the ratio of:" to get them thinking about what they have decided to take a ratio of

**Day 2 Independent Practice and Assessment**

- Have the students follow the step by step guide of making the Charts and Graphs
- After they are done creating their Charts and Graphs have the students reflect on what they learned about the makeup of our class in one to two paragraphs
- Have the students attach to the Rubric for submission and grading

Marzano Instructional Strategies:

- Identifying similarities and differences (1)
- Summarizing and note taking (2)
- Reinforcing effort and providing recognition (3)
- Nonlinguistic representation (5)
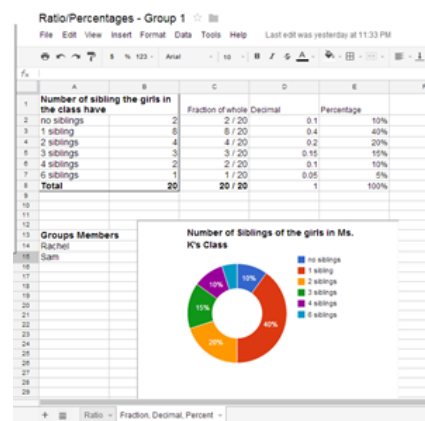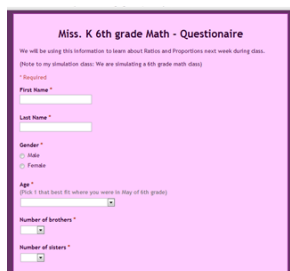- Cooperative learning (6)

Technology Integration:

- Using Answer Garden, Google Forms, students will take class data to make Ratios, Fractions, Percentages, Decimals in Google Spreadsheet .
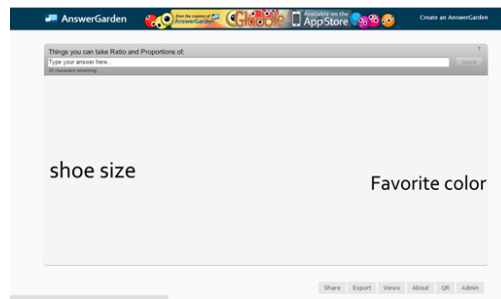
Materials and Resources:

- 6th grade Math Textbook (access code : D6F8688EC1)
- Answer Garden
- Data Chart
- Graphing/Charting Guide Sheet

Assessment Method(s):

- Ratio/Percentage Charts and Graphs - graded with the rubric

Notes:

- Classroom computer or IPAD needed Day 1
- Computer Lab needed Day 2