

Working with Fractions

Lesson Summary Students will construct fraction strips to represent part of a whole while understanding the correlation between equivalent fractions.

Major Topic and SOL
Math SOL (2009) 4.2.a, 4.2.b

Length of Unit 2 – 50 minute periods

Student Objectives

In Mathematics the student will be able to:

- Identify, model, compare, and order rational numbers (fractions), using concrete objects and pictures
- Represent equivalent fractions by using fraction strips ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, and $\frac{1}{8}$)

In Language the students will be able to:

- Apply key vocabulary such as less than, greater than, equal to, and equivalent to the fractional parts of a whole
- Explain the difference between vocabulary terms in relation to concrete manipulatives

21st Century Skills

- Critical-Thinking and Problem Solving
- Communication
- Creativity and Innovation
- Collaboration
- Contextual Learning

Assessment Evidence

- The student pairs will present their findings by explaining the relationships between fractions of different denominators.
- Student's work is completed on the notebook paper and collected after the assignment is completed
- Each student is assessed on his/her fraction strip booklet and the drawings, which label and compare fractions with like and unlike denominators.

Supplies/Materials/Technology

- **Teacher Materials:**
 - Assorted Colors of Construction Paper
 - Scissors
 - Stapler with Staples
 - Black Marker for Labeling Fractions
 - Magnetic or Overhead Fraction Strips
- **Student Materials:**
 - A set of colored construction paper (a specific color to represent each of the different fraction strips)
 - Scissors
 - Notebook paper
 - Colored Pencils
 - Pencil and Black Marker

Lesson Plan

Motivation & Building Background:

- **Background:** The students have worked with fractions and understand the concept (the bigger the denominator, the smaller the fraction piece in relation to one whole.)
- **Motivation:** To engage the students by applying vocabulary words to concrete materials. Students will work with partners to construct and manipulate the fraction strips. Students will relate fractions to objects from their prior knowledge such as pizza slices, a pan of brownies cut into equal sections, etc.

Presentation

- Show the students the overhead/magnetic fraction strips on the board, or use Active Inspire (Promethean board), to display the sets of fraction strips.
- Discuss with the class how the order of strip size (fractions) relates to each other.

Practice/Application

- Explain to students the objective of this activity (to make our own set of fraction strips in a book format.)
- **Steps for activity:**
 - Distribute construction paper to each student. Students will need to have scissors available for the first steps of this activity.
 - Begin by teacher modeling each piece of colored construction paper, one at a time. For example, red will represent halves, blue will represent thirds, and so on.
 - After each color (fraction strip) has been divided into its equal portions: halves, thirds, fourths, etc. the students will use these to compare sizes of each fraction in relation to one whole.

- Students will illustrate on notebook paper, using the same colors via colored pencils to draw the fractions in relation to each other. (For example: $1/2$ compared to $1/5$, $2/4$ compared to $4/8$, and so on.)