Fractions

1. Students must experience fractions in many ways including parts of wholes, ratios, and division.
2. Three types of models exist: area, length, and part of a set.
3. Partitioning and iterating are ways to understand.
4. Students need to have many experiences estimating with fractions.
5. Understanding equivalence is critical.

Computation
1. The meaning of each operation with fractions is the same as the meaning of each operation with whole numbers.
2. Estimation is tied to the concept of the operations.

Fraction Riddles
Draw a rectangle to represent the following scenarios:
- A rectangle is 1/2 red, 1/5 green, 1/10 blue, and the rest yellow. How much of the rectangle is yellow?
- A rectangle is 3/5 red. The rest is blue and yellow but not in equal amounts. What could the rectangle look like?
- A rectangle is 1/2 red and 1/3 blue. It also has green and yellow in equal amounts. What could the rectangle look like?

What is a Fraction?
- Sharing
  - 10 brownies shared with 4 children
  - 5 pizzas shared with 3 children
- Ratios
- Division

What is the Whole?
Why does the Whole matter?
- Measurement wholes
- Geometric wholes
- Part of a set
  - If xxx is 1/3, what is the whole?
  - If xxxxxx is 3/8, what is the whole?
What is the Whole?

- Geometric Wholes
- Tangrams
- Pattern blocks
- Geoboards
- Fraction circles
- Graph paper
- Fraction bars / Cuisenaire rods
- Fraction plates

Fractions and Number Sense

- Comparing and ordering fractions
- Order the following set of fractions from smallest to largest value in your journal without using computation. Explain to a partner how you know the fractions are in the right order.

1/8 3/7 1/2 3/5 1/4 3/2 5/9
2/3 2/9 7/12 5/6 8/11 7/10 7/4

Review of the Meaning of Addition and Subtraction

- What is addition?
- What is subtraction?

What does the common denominator have to do with anything?

Number Sense ASR Activity

- Closer to 0, 1/2 or 1

Review of the Meaning of Multiplication and Division

- What is multiplication?
- What is division?

- Rectangular array
- Multiplying and Dividing with Fractions (MMO p. 63)

Multiple Strips

NLVM - Factor Tree – Venn Diagram

Draw a picture in your journal representing the following problems

- Wanda really likes cake. She decides that a serving should be 3/5 of a cake. She has 4 cakes. How many servings does she have?

- I put 2 2/3 gallons of gas into my empty lawn mower. I notice that it is now 2/3 filled. What is the capacity of my gas tank?

Write an equation for each problem.