

Every Fraction Tells a Story

Grade Level: Fifth

Standards: CA Mathematics Standards

Number Sense 1.0, 2.0, Mathematical Reasoning 1.0, 2.0, 3.0

Objectives:

Students will demonstrate their knowledge of different types of numbers, operations, what numbers mean, and values of numbers in comparison with others.

Student Grouping:

Lesson begins whole-class. Students then choose their fractions and clues individually. Whole-class comes together to guess each other's fractions.

Background:

Students have been working on using the four basic operations with different types of numbers. They have been focusing on the parts of a fraction and what those tell us about its value.

Materials:

Poster titled "Every Fraction Tells a Story" with instructions for fraction clues (See "Poster")

One index card per student

Crayons or markers

Opening Discussion:

Students gather in one group on the floor near the teacher. Teacher begins by telling students that this is a "culminating" lesson of sorts in that students will be showing what they know about different types of numbers and the four basic operations. What are the four basic operations? What types of numbers do we know and use?

Teacher refers to the poster and its clues to a fraction. Teacher then reads a second time, stopping after each clue to ask student input on what the fraction could be. Teacher models strategies for narrowing down the fractions it could be depending upon the clue(s). After the class determines the fraction together, students return to their desks.

Activity:

Students select any fraction and write it on index cards. Writing should be colorful and large (crayons or markers). Students write at least five clues for their fractions. They number them in order of most difficult to most obvious. Teacher mixes up the cards and tapes them in random order on the whiteboard.

Students and teacher gather on the floor near the whiteboard.

Students are encouraged to add to their clues as they listen to others give theirs.

A student volunteer begins. He/she reads the clues, beginning with the toughest one. The group refers to the board to see which fractions could fit this clue. Students are called upon by the presenter to offer their guesses. The first student continues reading clues and

calling on the audience until someone guesses correctly. The student who determines the correct fraction has the choice of going next or calling on someone else to go next.

Differentiation:

Each student chooses his/her own fraction as well as the clues. Students may choose the level of difficulty of their clues (for example, one student may give clues such as “even” or “odd” while another student gives clues of “square number” and divisibility. Five clues are asked for in the activity, but students may add as many clues as they wish during the course of the guessing.

During the Activity/Embedded Assessment:

Discussion and questions are encouraged. A constant math dialogue of how the clues fit, what the clues mean, is very important to this culminating activity. The teacher is able to assess student knowledge of mathematical vocabulary (such as factor and multiple) as well as extent of knowledge of different types of numbers and uses of operations.

Follow Up:

Students make a list of the fractions taped to the board and write one or two clues to everyone else’s fractions.

Are there fractions for which one clue fits both? Two clues?

Extension: Students write one clue which applies to most of the fractions displayed by students. Students take their own clue list home and add as many clues for their fraction as they can.