Guess Who I Am
Task #6

(This Task builds from Task 1,2,3, 4, and 5)

Adapted from North Carolina Department of Public Instruction

Student Objectives: "I can analyze and communicate the value of fractions."

Standards to Measure	**Mathematical Practices**
4.NF.A.1 Explain why a fraction *a/b* is equivalent to a fraction *(n x a)/(n x b)* by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principal to recognize and generate equivalent fractions. **4. NF.A.2** Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as ½. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model	1. Make sense of problems and persevere in solving them. 3. Construct viable arguments and critique the reasoning of others.

Materials:
puzzle cards, fractions manipulatives (optional)

G **Engage Students with the Goal**	<u>State and Rate</u> Objective: "I can analyze and communicate the value of fractions." Students rate themselves to the goal (1, 2, 3, 4).	Setting Objectives and Providing Feedback
A **Access Prior Knowledge**	Ask students, "How many of you like riddles?" Give them this riddle: I have parts. I am used in measurement. I am used with food. I have a bar. I can be part of a whole or a set. What am I? A student should guess "fraction." Tell students today they are going to be working with riddle-type problems to figure out fractional parts.	Nonlinguistic Representation Identifying Similarities and Differences

N **New Information**	**Introduce the class to puzzle 1:** **Puzzle 1** ¼ 1/2 ¾ 4/4 5/4 Show the first clue to the puzzle: *"I am more than one half."* Which of these fractions does this clue help us eliminate? 1/4 and 1/2. Discuss with the class why this clue helps us determine which choices to eliminate. Show the second clue to the puzzle: *"My denominator is larger than my numerator."* How does this help us get closer to the answer? This will eliminate the fraction 5/4, leaving us 3/4 and 4/4. Show the last clue: *"I cannot be written any other way."* The only fraction left that can be written another way is 4/4, which can be written as 1, so the answer has to be 3/4. After the class has discussed how to use the clues to solve the puzzles, explain that they will be working on more puzzles in pairs.	Similarities and Differences Nonlinguistic Representation Cues, Questions, and Advance Organizers
A **Application**	Students work in pairs or at stations to solve the remaining Fraction Puzzles. As the students are working, observe how the students are solving the puzzles. What are strategies that students use to get started? What clues do they not understand? When students are finished with the remaining puzzles, students are to attempt to write their own fraction puzzles in their math notebook. Choose any five fractions, and write clues that will help eliminate a fraction or two at a time, but keep the others. See if other classmates are able to solve their puzzles. As a class discuss how students were able to solve the puzzles. What clues were most helpful, and what clues were least helpful? Which clues did students need help with? Share some of the puzzles that the students made. If time permits, work as a class to solve a few of the puzzles that students have created.	Cooperative Learning Providing Feedback Generating and Testing Hypotheses Practice and Homework
G **Revisit the Goal**	<u>State and Rate</u> Objective: "I can analyze and communicate the value of fractions." Students rate themselves to the goal (1, 2, 3, 4).	Setting Objectives and Providing Feedback

Guess Who I Am

Puzzle 1 **Guess Who I Am** 1/4 1/2 3/4 4/4 5/4 • I am more than one half. • My denominator is larger than my numerator. • I cannot be written any other way. I am _____.	**Puzzle 2** **Guess Who I Am** 2/3 3/4 2/5 7/10 6/8 • My numerator is an even number. • I am greater than one half. • I am written in simplest form. I am _____.
Puzzle 3 **Guess Who I Am** 2/8 4/6 9/12 3/5 5/12 • I am greater than 1/4. • My denominator is a multiple of three. • I can be simplified. • When I am reduced, my numerator and denominator are less than five. I am _____.	**Puzzle 4** **Guess Who I Am** 1/2 5/12 1/4 8/10 2/3 • I am less than one half. • I am greater than one third. • My denominator is a multiple of three. • I am simplified. I am _____.

Puzzle 5

Guess Who I Am

2/4
3/9
1/5
7/12
9/10

- I am greater than 1/4.
- I cannot be reduced.
- I am closer to 1 than one half.

I am _____

Puzzle 6

Guess Who I Am

5/4
1/5
4/6
3/8
2/10

- I am less than one.
- My denominator is even.
- I can be written in a different way.
- I am another way to say 2/3.

I am _____.

Puzzle 7

Guess Who I Am

6/10
4/8
5/9
1/3
3/12

- I am greater than one fourth.
- I am not another way to write 1/2.
- I am written in lowest form.
- I am less than one half.

I am _____.

Puzzle 8

Guess Who I Am

7/8
4/9
2/10
9/6
2/12

- I can be reduced to a simpler fraction.
- I am less than one.
- My denominator is a multiple of three.
- I am closer to one half than I am to zero.

I am _____.