**Lesson Plan Format**
**School of Education**
**The College of New Jersey**

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MTT 202-03 — 4th Grade
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**1.) Title or Topic of the Lesson and Grade Level**

Fractions
4th Grade

**2.) Lesson Essential Question(s):**

Will the students be able to demonstrate common fractions and how fractions can comprise one whole? Will students be able to demonstrate equivalent fractions?

**3.) Standards:**

CCSS.MATH.CONTENT.4.NF.B.3.A

Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

CCSS.MATH.CONTENT.4.NF.B.3.B

Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*

**4.)**

| Lesson Objectives | Assessments |
|---|---|
| Students will demonstrate common fractions such as one whole, ½, ¼, and ⅛. and show using manipulatives, how different fractions can comprise one whole. | The teacher will assess by having students construct "paper plate fractions" using various colored plates, scissors, and a ruler and will be able to demonstrate how the partitioned segments relate to one whole and how different partitioned segments can form a larger fraction. Students will answer |

| | |
|---|---|
| | questions on a worksheet that relate to common fractions and use their previously constructed manipulatives to find their answers. |
| Students will be able to demonstrate equivalent fractions. | The teacher will assess by giving each group a game board and a deck of cards to play the "numerator game". Students will identify the numerator given a set of equivalent fractions that is missing one numerator. |

**5.) Materials:**

-Whiteboards and dry erase markers

-Various colored plates(at least four colors). Each group of four students will receive a pack of 4 different colored plates).

-Scissors

-Rulers

-Game board for "The Numerator Game"(One for each group)

-Cards with equivalent fractions to go along with "The Numerator Game"

https://youtu.be/9lbkdyKPCmw (Tutorial on how to cut up fraction plates)

https://deceptivelyeducational.blogspot.com/2015/04/equivalent-fractions-missing-numerator.html - the numerator game

**6.) Pre-lesson assignments and/or prior knowledge:**

Students should have a basic understanding of what it means to have a fraction of something or to have a whole quantity. Students should also know what the terms numerator and denominator mean.

**7.) Lesson Beginning:**

Teachers will begin with Math Warm-Up activity specified in the Everyday Math curriculum planner. Students practice a few problems dealing with rounding and fluency on their whiteboards, and show their answers to the teachers for assessment purposes. After the Warm-Up, the "math message," or content of the lesson, will be introduced.

**8.) Instructional Plan:**

- ❏ Teacher will organize students into groups of four.
- ❏ Teacher will give each group of four a packet of plates(4 different colors), a pair of scissors, a ruler, and a marker.

- ❏ Teacher also give students a sheet of paper with directions to follow.
- ❏ First, students will pick one color plate to represent "1" and write "one whole" in the center of the plate.
- ❏ Next, the students will pick another color plate to represent "½". Students will then use the ruler and a pair of scissors to cut the plate into two equal pieces. Students will write "½" on each part of the plate.
- ❏ Then, students will pick another color plate to represent fourths. The students will need to repeat the previous process.
- ❏ Students will use the remaining plate to represent eights and repeat the previous process.
- ❏ After constructing their own manipulatives, students will answer a series of questions provided by the teacher.
    - ❏ Teacher will ask the following questions:
      -How many halves make up one whole?
      -How many fourths make up one whole?
      -How many eighths make up one whole?
      -Does anyone see a pattern between the denominator of the fractions and the amount of parts needed to make up one whole?
      -½ = how many eights?
      -¾ = how many eighths?
      -½ = how many fourths?
- ❏ Teacher will then collect the scissors, rulers, and markers.
- ❏ Teacher will pass out game boards and cards that go along with boards.
- ❏ Teacher will explain how the numerator game works by introducing the topic of "equivalent fractions" and demonstrating an example of a card on the board. Ex: 2/4 = ?/2
- ❏ Teacher will explain to students that they can use the manipulatives they just constructed to help answer the questions on the cards.
- ❏ Teacher will explain to students that the answer they get when finding the new numerator is the amount of spaces that they must move forward on the game board.
- ❏ Teacher will allow students time to play the game and ask questions if additional assistance is needed.

- <u>Differentiation:</u>
  Teacher will have the opportunity to give additional assistance to students when needed during the colored plated activity and the numerator board game. The teacher will walk around the room and to the various groups and ask if anyone has questions to resolve any confusion.

- Questions:
  -What is a fraction?
  -What is a numerator/denominator?
  -How many parts make up a whole with various fractions(eights, fourths, halves).
  -How many pieces are in one whole?
  -How do you write fractions?
- Classroom Management:
  Teacher will emphasize before beginning the colored plates activity that students should work together to cut the fractions and use good team-work skills. Teacher will make groups prior to class meeting to ensure that students are in groups that are beneficial and conducive to their learning.
- Transitions:
  Teacher will ask for 3 volunteers that are sitting quietly and following directions to collect the scissors, markers, and rulers. Teacher will select two more volunteers to pass out game boards/cards to each group. Teacher will not begin instruction of numerator game until all students are ready to begin learning.

**9.) Closure:**

Students will complete the Math Masters worksheet on page 105. This worksheet covers the topic of fraction circles and finding multiple and factors of different numbers. This worksheet will serve as an appropriate assessment at the end of the lesson to determine what skills the students are strong in and which areas should be addressed in future lessons.