# Trading Up to One

**Subject**: Math
**Grade Level**: 3rd-5th grades
**Summary**: Students will use various coin denominations to explore the concept of fractions.

## BIG QUESTION

How can I make a dollar with coins?

## TIMING

0 to 45 minutes

## LEARNING OBJECTIVES

- Students will demonstrate an understanding of the fractions 1/2 (50 cents), 1/4 (25 cents),10ths (10 cents) and 20ths (5 cents) by using fraction circle pieces to create whole units (1dollar).

## MATERIALS

- Fraction circles: whole circle, half, quarters, tenths and twentieths
- Coin pictures (half dollar, quarter, dime, and nickel)
- Coins (dollars, quarters, dimes, nickels, and pennies)
- Fraction and coin dice (or spinner)

## PROCEDURE

1. Divide the students into pairs. Give each student a complete set of fraction circles (whole, half, quarters, tenths, twentieths). Students can use pre-made fraction circles or have students make them in a prior class period. The object of the activity is to see who can create a whole unit (or $1.00) first.
2. Have the students place their whole circle in front of them and take turns rolling the fraction or money dice or spinning the spinner. They then place the corresponding fraction piece onto their whole piece if they can. As they go, the players should trade down their fraction parts (2 dimes and a nickel for a quarter, 2 quarters for a half dollar, and so on).

3. Let the play continue until someone wins by creating a whole unit or exactly $1.00.

## ASSESSMENT

Use observation to see which student pairs understand the fraction concepts, and which pairs are having difficulty. After everyone is comfortable with the rules and the fractions, the students should be able to finish a whole unit (1 dollar).

## DIFFERENTIATE

- Allow students to work in pairs by putting them into groups of 4 and allowing the pairs to play against each other.

## RELATED

- U.S. Mint Coin Classroom circulating coin information: https://kids.usmint.gov/learn/kids/about-the-mint

## STANDARDS

CCSS.Math.Content.2.OA.B.2
Fluently add and subtract within 20 using mental strategies.[2] By end of Grade 2, know from memory all sums of two one-digit numbers.

CCSS.Math.Content.3.NF.A.1
Understand a fraction 1/*b* as the quantity formed by 1 part when a whole is partitioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by *a* parts of size 1/*b*.

CCSS.Math.Content.3.NF.A.3
Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

CCSS.Math.Content.3.NF.A.3.a
Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

CCSS.Math.Content.3.NF.A.3.b
Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.

CCSS.Math.Content.3.NF.A.3.c
Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram*.

CCSS.Math.Content.3.NF.A.3.d
Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.