

Lesson Title: Produce Stand

Grade: 3rd/4th

Content Standards: 3.NF.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 $1/b$.

3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size (see detail of standard).

4.NF.1, 4.NF.2, 4.NF.3, 4.NF.4

Materials: Produce Stand game board, dice, Fraction Factory pieces, tokens.

Shared Experience: This is a starting point for working with fractions in 3rd grade (halves, thirds, fourths, sixths, eighths) and the game can be extended to 4th grade standards by adding additional fractional pieces (fifths, tenths, twelfths). The game and subsequent lesson are partially based on this premise: Students have difficulty understanding that a digit in the denominator of a fraction has a different role (naming the size of a fractional piece) than it has when that same digit is used as an integer. In the Produce Stand the standard way of naming fractions is delayed and the names of fraction pieces are reassigned in the following way:

1 whole is 1 basket (black)

$\frac{1}{2}$ is 1 pumpkin (orange)

$\frac{1}{3}$ is 1 green pepper (green)

$\frac{1}{4}$ is 1 tomato (purple)

$\frac{1}{6}$ is 1 watermelon (red)

$\frac{1}{8}$ is 1 corn (brown)

$\frac{1}{12}$ is 1 squash (tan 4th grade)

Note: therefore $\frac{2}{6}$ would be 2 watermelons, $\frac{9}{12}$ would be 9 squash etc.

Playing the game: 3-4 players per board, 1 die for each board, and 1 token per player. Each player takes 1 black basket piece. Each game board requires 1 set of fraction pieces (vegetables) that include about 10 to 15 pieces that represent each vegetable. Player 1 rolls a die and collects the vegetable named on the space where player lands. Other players roll, move, and collect in order. The goal/end of a round occurs when a player exactly fills/covers his/her basket. If a player lands on a space and collects a piece that when placed with other pieces already collected exceeds 1 basket, the player places that piece in the produce stand before the next player takes a turn (or keeps that piece and discards a piece already in the basket. That can potentially produce a full basket and a win if the basket is exactly filled). If a player lands on a produce stand square, that player may select any one of the pieces that have been discarded there.

