

Topics: Multiplication & Addition of Decimals

Materials List

- ✓ Blank die, 1
- ✓ Blank playing cards
- ✓ Recording Sheet, see page 2
- ✓ Permanent Marker
- ✓ Optional:
Calculator

This activity can be used to teach:

- Place Value of decimal numbers (Common Core Math Standards: Grade 5, Number & Operations - Base Ten, 1, 3, & 4)
- Operations with decimals (Common Core Math Standards: Grade 6, Number System, 3)

Dizzy Decimals & More!

Combine decimals through addition and multiplication!



This exciting game reinforces addition and multiplication of decimal numbers! It can be customized to include subtraction, division, conversion of decimals to fractions, and rounding answers to a fixed number of decimal places!

Assembly

1. Use permanent marker to write decimals or other numbers on faces of blank die. (Suggested numbers: 1, 0.25, 0.33, 0.50, 0.67, 0.75, or others to fit the lesson)
2. Write a number on each card. Use decimals and other numbers that fit the lesson.

Playing the Game (for 2 to 4 players)

1. Shuffle and stack cards face down on table
2. Provide a copy of the Recording Sheet for each player.
3. Choose who goes first (e.g., highest roll on the die)
4. Deal each player 12 cards. Players place cards on table - decimal side up.
5. On player's turn, roll the die and multiply the number rolled by the number shown on any one card on the player's side of the table. Round the answer to two decimal places. Turn the card over on the table, and fill in the Recording Sheet.
6. Players take turns repeating step 5 above.
7. Once all the cards are turned over, find the sum of each player's products.
8. Players check opponent's answers (Optional: use a calculator)
9. The player with the largest sum is the winner!

The Math Behind the Activity

Decimals may make you dizzy, but all decimals are just representations of a fraction or other real number using the base ten and consisting of any of the digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, with a decimal point. This game gives students plenty of valuable practice multiplying decimals and other numbers, rounding answers to two decimal places, and adding decimals. Games are an excellent way to reinforce skills and develop students' confidence and abilities!

Taking it Further

- Have the player with the smallest sum of products be the winner.
- Round answers to a different number of decimal places
- Include fractions and percents on the cards
- Mark a second blank die with positive and negative symbols, and roll at same time as other die. Play as before, with positive and negative numbers.
- Mark each face on a blank standard die with math operations (Suggested: (+) add, (-) subtract, (x) multiply, and (÷) divide, and a repeat of two of these operations on the remaining two faces of the die), and roll at same time as other die. (i.e., roll (x) on one die, 2.5 on other die, and 3.56 on a card means to multiply 2.5 by 3.56).

Web Resources (Visit www.raft.net/raft-idea?isid=592 for more resources!)

- Decimal games - <http://www.coolmath.com/prealgebra/02-decimals>
- Teaching decimals - www.decimalsquares.com/NCTMstands.html
- Operations with decimals - <http://www.aaamath.com/dec.html>
- Khan Academy resources - www.khanacademy.org/math/arithmetic/decimals
- Teacher designed math courses - <https://njctl.org/courses/math>

Dizzy Decimals & More - Recording Sheet

Turn	Number on Die	Card Value	Product	Rounded value	Running Total
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Dizzy Decimals & More - Recording Sheet

Turn	Number on Die	Card Value	Product	Rounded value	Running Total
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					