Really Good Stuff® **Activity Guide**

Demonstrating Decimals Poster

Congratulations on your purchase of this Really Good Stuff® **Demonstrating Decimals Poster**—a versatile teaching and learning tool designed to help students enrich their understanding of decimals.

This Really Good Stuff® product includes:
- **Demonstrating Decimals Poster,** Write Again® wipe-off laminate
- This Really Good Stuff® Activity Guide

Displaying the *Demonstrating Decimals Poster*

Before displaying the **Demonstrating Decimals Poster,** make copies of this Really Good Stuff® Activity Guide and file the pages for future use. Or, download another copy of it from our Web site at www.reallygoodstuff.com. Hang the *Poster* where students will be able to see and interact with it easily. Always use a dry erase marker on the *Poster* in order to preserve its Write Again® wipe-off laminate surface.

Introducing the *Demonstrating Decimals Poster*

Lead a discussion about how decimals are numbers used to represent a part of a whole, like a fraction. Explain that the large square on the *Poster* represents a whole, which is broken into fractions of a whole. Draw a number line on the board starting with 0 and ending with 1, with adequate space between the two numbers. Explain that sometimes there are amounts or other numerical expressions that are not quite a whole, such as 50¢ is an amount of money that is not quite a whole dollar. Indicate that decimals are used to identify quantities between any two whole numbers. Call students' attention to a decimal point on the *Poster* and explain that any digits to the right of a decimal point represent a fractional part of a whole—the part of the number that is less than one. Tell students that the numbers to the left represent whole numbers—the part of the number that is one or greater.

Activities Using the *Demonstrating Decimals Poster*

Every Digit Has Its Place (Value)!

Discuss with students how each digit in a decimal has a place value, just like whole numbers. Explain that the first two places to the right of the decimal point are tenths and hundredths. Direct students' attention to the first decimal from the *Poster* and use a dry erase marker to highlight *.01*. Tell students that since this decimal represents one decimal out of the 100 decimals on the board, it represents 1/100 of the numbers and is called a *hundredth*. Using a dry erase marker, highlight *.02* on the *Poster*. Explain that *.02* represents 2/100 and is called *two hundredths*. Call on several students to read aloud decimals .01 to .09, making sure that the students are including the *-ths* on the end of the word.

Have the entire class read aloud the decimals .01 to .09. Ask if anyone knows how to read the next decimal. If necessary, indicate that some people call it *ten hundredths* and others call it *one tenth*. Explain how both are correct by pointing to the one digit in .1 and explaining that this digit is in the tenth place, representing 1/10 of the decimals on the board. Use a dry erase marker to highlight each row on the *Poster*. Count the rows (*10*) and explain that one row on the *Poster* comprises one tenth of the grid.

Ask your class, "If .1 represents one tenth, how can the decimal also represent ten hundredths?" Write the decimal on the board and place a zero at the end (*.10*). Explain how zeros can be placed at end of any decimal and the value does not change. Therefore, .1 (*one tenth*) is the exact same amount as .10 (*ten hundredths*), *.100*, *.1000*, and so on. For additional practice, call on individual students to "read" decimals on the *Poster* and identify the place value of the decimals' digits. Using a copy of the *Demonstrating Decimals Poster Reproducible,* white out several of the numbers on the grid. Copy and distribute the modified reproducible, then challenge students to fill in the missing decimals.

Reinforcing Decimal Sense with Cents!

Hold up a one-dollar bill and have students name the amount of money you are holding. Discuss how the bill represents one whole dollar and is written as *$1.00*. Direct students to identify which square on the *Poster* shows the equivalent to one dollar (*1.0*) and remind students that zeros placed on the end do not change the value.

Ask students how the one-dollar bill is similar to the **Demonstrating Decimals Poster**. *(The dollar bill represents one whole dollar and the large number grid on the Poster represents the whole number one. The dollar bill can be broken down into 100 equal units [i.e., pennies] and so can the whole number one as shown on the Poster. The dollar bill can also be broken down into 10 equal units [i.e., dimes] just as the whole number one can as shown by the 10 rows on the grid.)*

Use the **Demonstrating Decimals Poster** for students to practice with decimals representing monetary amounts from $.01 to $1.00. Distribute penny and dime manipulatives for the students to practice making the amount of money represented by the digits in a decimal. For example, for the decimal .47, students might show four dimes (.4, 4/10, or four tenths) and seven pennies (.07, 7/100 or seven hundredths) or 47 pennies (.47, 47/100, or forty-seven hundredths).

Order in the Decimal Court!

Use the **Demonstrating Decimals Poster** for a lesson on ordering decimals from least to greatest and vice versa. Write *.58*, *.28*, and *.8* on the board. Call on individuals to read one of the decimals and identify it on the *Poster*. Then remove the *Poster* from students' view and ask them to put the three decimals in the correct order from least to greatest. Tell students that when trying to put decimals in order, a good tip to remember is to make sure they are working with decimals with the same number of digits. In this example, *.58* and *.28* both have two digits but *.8* only has one digit. Remind students that a zero can be added to *.8* to make it *.80*, which is an equivalent amount, and by doing this, all three decimals have two digits. If students are stuck, say, "Look at *.58* and *.28* on the *Poster*. Which is greater and why? (*.58 because 58/100 is greater than 28/100.*) Now compare *.8* or *.80* to *.58*. Which is greater and why?" If students are still having difficulty, ask, "Would you rather have *$0.58* or *$0.80*?"

Demonstrating Decimals Poster

(Students are likely to answer *$0.80* because it's the greater amount of money.) Copy and distribute the *Order in the Decimal Court Reproducible* for independent practice and/or to assess each student's skill level.

Answers:

1) .01, .19, .74
2) .02, .2, .22
3) .01, .19, 1.0
4) .09, .9, .99
5) .23, .32, .54
6) .03, .3, .33
7) .05, .15, .5
8) .04, .14, .4
9) .99, .8, .72
10) .88, .8, .08
11) .7, .5, .09
12) .64, .46, .04
13) .97, .87, .77
14) .21, .2, .02
15) 1.0, .92, .4
16) .33, .3, .03

Mystery Decimals

Make an overhead transparency of the *Mystery Decimal Cards Reproducible* and cut the cards apart. Copy and distribute the *Demonstrating Decimals Poster Reproducible* to each student. Display the overhead copy of Mystery Decimal #1 on the overhead, and model the activity by calling up volunteers to use a dry erase marker to eliminate decimals on the *Poster* that pertain to each clue. For the remaining nine Mystery Decimals, instruct students to use their copy of the *Demonstrating Decimals Poster Reproducible* to mark through a decimal or cover it up with a counter as it is eliminated. For early finishers, urge students to write clues for their own mystery decimal on the back of the reproducible.

Answers:

1) .14
2) .67
3) .83
4) .07
5) .4
6) .02
7) .55
8) .67
9) .71
10) 1.0

Tenths, Hundredths…What's Next?

Once students have a good understanding of two-digit decimal numbers and the place value for tenths and hundredths, introduce students to the place value of a third digit to the right of the decimal—the thousandths place: Explain that the thousandths place is used when a whole unit has 1,000 equal parts. Point to .54 and .55 on the **Demonstrating Decimals Poster** and ask students if they can identify the amount that falls between .54 and .55? Demonstrate how a third digit in the thousandths place would then be used: .541, .542, .543, .544, .545, .546, .547, .548, and .549 are decimals that would fall between .54 and .55. Write three-digit decimals on the board and have students name the value of each digit. For example, for the decimal of .784: the value of the 7 is 7/10; the value of the 8 is 8/100; and the value of the 4 is 4/1000. Have students point to the two decimals on the *Poster* that would come before and after each three-digit decimal. Continue in a similar way until students have a solid understanding of the thousandths place.

Demonstrating Decimals Poster Reproducible

Decimals

whole . tenth hundredth thousandth

.01	.02	.03	.04	.05	.06	.07	.08	.09	.1
.11	.12	.13	.14	.15	.16	.17	.18	.19	.2
.21	.22	.23	.24	.25	.26	.27	.28	.29	.3
.31	.32	.33	.34	.35	.36	.37	.38	.39	.4
.41	.42	.43	.44	.45	.46	.47	.48	.49	.5
.51	.52	.53	.54	.55	.56	.57	.58	.59	.6
.61	.62	.63	.64	.65	.66	.67	.68	.69	.7
.71	.72	.73	.74	.75	.76	.77	.78	.79	.8
.81	.82	.83	.84	.85	.86	.87	.88	.89	.9
.91	.92	.93	.94	.95	.96	.97	.98	.99	1.0

Name: _____

Directions: Write the decimals in order from least to greatest.

1) .01 .74 .19 _____ _____ _____

2) .22 .02 .2 _____ _____ _____

3) .01 1.0 .19 _____ _____ _____

4) .99 .9 .09 _____ _____ _____

5) .54 .23 .32 _____ _____ _____

6) .3 .03 .33 _____ _____ _____

7) .15 .05 .5 _____ _____ _____

8) .14 .41 .04 _____ _____ _____

Write the decimals below in order from greatest to least.

9) .72 .8 .99 _____ _____ _____

10) .88 .08 .8 _____ _____ _____

11) .09 .5 .7 _____ _____ _____

12) .46 .64 .04 _____ _____ _____

13) .77 .87 .97 _____ _____ _____

14) .2 .02 .21 _____ _____ _____

15) 1.0 .4 .92 _____ _____ _____

16) .3 .33 .03 _____ _____ _____

Mystery Decimal #1

The decimal is an even number.
The decimal is less than the sum of two dimes.
The sum of the two digits in this decimal is 5.
The decimal has a 4 in the hundredths place.
What is the mystery decimal?

Mystery Decimal #2

The decimal is an odd number.
The decimal is greater than the sum of two quarters.
The sum of the two digits in this decimal is 13.
The decimal has a 6 in the tenths place.
What is the mystery decimal?

Mystery Decimal #3

The decimal has one even digit and one odd digit.
The decimal is greater than the sum of three quarters.
The sum of the two digits in this decimal is 11.
The decimal has a 3 in the hundredths place.
What is the mystery decimal?

Mystery Decimal #4

The decimal is an odd number.
One of the digits in this decimal is 7.
The sum of the two digits is less than 10.
The decimal has a 0 in the tenths place.
What is the mystery decimal?

Mystery Decimal #5

The decimal is an even number.
The decimal can be shown with one digit or two digits.
The decimal is divisible by 4.
The value of the decimal is equal to four dimes.
What is the mystery decimal?

Mystery Decimal #6

The decimal is divisible by 2.
One of the digits in the decimal is 0.
The sum of the two digits is less than three nickels.
The decimal has a 2 in the hundredths place.
What is the mystery decimal?

Mystery Decimal #7

The decimal is a multiple of 5.
Both digits in the decimal are the same digit.
The value of the decimal is greater than two quarters.
The sum of the two digits in this decimal is 10.
What is the mystery decimal?

Mystery Decimal #8

The value of this decimal is more than two quarters but less than three quarters.
There is a 6 in the tenths place.
Without the decimal point, this would be a prime number.
There is not a 1 in the hundredths place.
What is the mystery decimal?

Mystery Decimal #9

Both digits in this decimal are odd numbers.
The sum of the two digits is less than 10.
The value of the decimal is less than 8 dimes.
The decimal is 1/100 more than .7.
What is the mystery decimal?

Mystery Decimal #10

Zeros at the end of this decimal will not change its value.
The sum of the decimal's digits is less than 3.
The decimal has a 0 in the tenths place.
The decimal is 1/100 more than .99.
What is the mystery decimal?