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CSI: MATHEMATICS
Curriculum Support Information
A mathematics resource for parents, teachers, and students

GEORGIA DEPARTMENT OF EDUCATION
Kathy Cox, State Superintendent of Schools

Divine Decimals

Students will: **Fifth Grade 2 of 5**

- Understand place value from thousandths to one million
- Model and explain multiplication and division of decimal fractions
- Apply the rules for multiplication and division of decimal fractions
- Use formulas to represent the relationship between quantities
- Use variables for unknown quantities

Classroom Cases:

1. Use the digits 5, 9, and 2 to create the largest number you can that is less than 10 and the smallest number you can that is greater than 0.01.

Case Closed - Evidence:
9.52 and 2.59

2. Gum is on sale for $0.79 a pack. How much would it cost to purchase three packs of gum?

Case Closed - Evidence:
3 x 0.79 = $2.37

3. Lisa and her brother and sister bought a gift for $18.63. They shared the cost equally. How much did each person pay?

Case Closed - Evidence:
$18.63÷3=$6.21. Each person paid $6.21 for the gift.

4. Rope costs $1.75 per foot. It takes 6.2 feet to make a jumprope. How much will a new jumprope cost?

Case Closed - Evidence:
1.75 x 6.2 = $10.85

5. Look at the tables below. Complete the missing entries. What's the rule? Write the rule as an algebraic expression.

Table #1			Table #2	
Input	Output		Input	Output
	4.8		1.2	5.6
3.4			4	
2.1	0.9			10.3
	7.5		0.7	
9.8	8.6		3.3	7.7

Case Closed - Evidence:

Input	Output		Input	Output
6	4.8		1.2	5.6
3.4	2.2		4	8.4
2.1	0.9		5.9	10.3
8.7	7.5		0.7	5.1
9.8	8.6		3.3	7.7

Rule #1: n – 1.2 Rule #2: c + 4.4

Clues:

Place value uses the position of a digit in a number to indicate the value of the digit.

Book 'em:

What's Smaller than a Pygmy Shrew?
By Robert E. Wells

Related Files:

www.ceismc.gatech.edu/csi

Further investigations:

Try these with your child:

Play "decimal war". You will need a deck of cards and 2 decimal points (any small circular object – bottle caps, pennies, etc.). Tens and face cards have a value of zero. Deal each player three cards. Each player uses his three cards to create the largest number less than 10. The player with the largest number wins and gets to keep all the cards. After 10 minutes, the player with the most cards is the winner!

Roll a die 5 times (or draw 5 cards from a deck of cards without the tens and face cards. Ace = 1.). Create a number less than 100. Write a number sentence to show the value of each digit. Example: 362.15 = 3(100) + 6 (10) + 2(1) + 1(0.1) + 5(0.01)

Roll a die 3 times (or draw 3 cards from a deck of cards without the tens and face cards). Create a number less than 10. Repeat. Multiply your two decimal numbers. Divide your two decimal numbers

Terminology:

Place Value: The position of a digit in a number to indicate the value of the digit.
Commutative property of Multiplication: the product of a group of numbers is the same regardless of the order in which the numbers are arranged.
Example: 4 x 3 = 3 x 4
Decimal fraction: A fraction (whose denominator is a power of 10) written as a decimal
Dividend: A number that is divided by another number
Divisor: A number by which another number is to be divided
Factor: One of two or more whole numbers that are multiplied to give a product
Multiple: The product of a given whole number and an integer
Multiplicand: The number that is being multiplied
Multiplier: The number by which another number is multiplied.
Pattern: A sequence of numbers or objects that follows a specific rule
Product: A number that is the result of multiplication
Quotient: A number that is the result of division
Remainder: The number left over when a number cannot be divided "evenly."
Variable: A letter or symbol that represents an unknown quantity