

How Much Is a Million

Candace Collins
4th Grade Level
Math- Place Value

Competency:

Standard 2.1a – Number Sense, Place Value: Apply the concept of place value through 6 digits (e.g., write numbers in expanded form, play a trading game involving place value).

Standard 2.1b – Number Sense, Place Value: Read, write, and rename whole numbers through 6 digits and decimal numbers to the hundredths (e.g., money, numerals to words).

Objective:

Students will be able to read, write, and add numbers through million in standard form, expanded notation form, and written form.

Materials:

How Much Is a Million? David M. Schartz, New York: Lothrop, Lee & Shepard Book, 1985

Bulls Eye

Paperclips

Markers

Card stock paper

Math-a-Roni

Instruction:

- a. **Introduction:** Before reading the book, ask the students if they know how much a million is. Give examples of a million. For example, 1 million is 2,000 thousands; 1 million is 10 hundred thousand. Then ask them about a billion and a trillion.

Instructional process: Have students brainstorm times and places they might encounter large numbers. For example, one interesting fact is that scientist now estimates that the brain contains 100 trillion synapses. Have children discuss why it may be important to be accurate about large numbers. Why can't we say that the stars are really far away? Read the book How Much Is a Million? After reading the book, give each student a piece of card stock so that they can make their own

place value chart. Explain procedure of how to make a place value chart and also model. Pass out Math-a-Roni bags to each student or groups of two. Have each student take out a small hand full of Math-a-Roni. Display the Pasta Code and have each student put the shapes above the correct place on the place value chart. Now explain to them how to write the number in standard form, expanded notation, and written form. Model these steps while explaining the process. When the students understand the concept, then ask some of the following questions: Write out numerically one million, two hundred fifty three thousand, six hundred ninety one and six million, one hundred twenty two thousand, eight hundred four.

b. Now add them together and write the answer in expanded notation.

c. **Assessment:** Have each student take out a small hand full of Math-a-Roni. Display the Pasta Code and have them write their amounts in expanded notation form, standard form, and written form. If they are working individually have them take out another hand full and do the same thing. Then have them add the two together. If they are working in groups, have them copy their partners and then add them together. Have them check each other to see if they are correct.

d. **Closure:** Have students play the bull's-eye game for an assessment.

1. Divide the students into pairs to play this game.

2. Draw a large bull's-eye on a piece of cardboard or paper. Label as follows: 1. Inside circle, millions; 2. Next circle, hundred thousand; 3. Next circle, ten thousand; 4. Next circle, thousand; 5. Next circle, hundred; 6. Next circle, ten; 7. Last circle, one.

3. Let students pitch 20 paperclips at the bull's-eye and then figure out their score by adding up the numbers. Have them use expanded notation first, and then write the number and write it with words. For example,

$$2,000,000 + 300,000 + 50,000 + 2,000 + 400 + 30 + 1 = 2,352,431$$

4. Who ever has the largest number wins.

e. **Modifications/Accommodations:**

1. Lower Level Students: They will be able to use their place value charts when adding their numbers. They will also be able to use their word charts when spelling the words when written out.

2. Gifted: Have them predict the number they think they will end up with before they begin.

f. **Reflection:**

The students really have a hard time with place value so this was a fun way to work on place value. We had only practiced place value through 100 before this, so a million was a little overwhelming at first.

The students really had to rely on their place value charts at first. I took this a little further and would ask them to tell what number was in the tens place, hundreds place, ones place, millions place, etc. The students really have a hard time trying to remember which way to start so I always tell them to say the number out loud and listen to what the numbers are. The students really enjoyed this lesson. Any time they are able to get out of their seats our use Math-a-Roni, they are happy!!!

Pasta Code

Scooby (Orange) Millions
Hippy Van (Turquoise)Hundred Thousands
Flower (Pink)Ten Thousands
Shaggy (Green)Thousands
Dog Bone (Yellow)Hundreds
Dog Tag (Blue)Tens
Evil eyes (Grey)Ones

Place value chart

1,000,000	100,000	10,000	1,000	100	10	1
Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	ones