“Counting On Frank” Lesson Plan

Objectives:
1. Students will be able to discover that measurement is a vast concept that encompasses more than we likely think about on a regular basis.
2. Students will be able to use addition, multiplication, and division to figure out the measurement of something unusual in their life.
3. Students will be able to describe the differences between estimation and fact.
4. Students will be able to demonstrate the answer to their math problem through illustrations.
5. Students will be able to describe their unusual measurement using creative writing.

Anticipatory Set:
Read Counting on Frank with your students.
Discuss:
● What kind of math does Frank use when he is measuring? Is he accurate?
● What parts of the story does Frank use estimation instead? Discuss the importance and roles of estimation and facts in our world.
● Is there a place for both? When? (Answers could include estimating how much gas you have left in your tank, estimating how far you need to travel when deciding whether to walk or ride a bike, etc. Or making sure you count exactly how many cookies you will need for your party, or exactly how much money you have in your wallet for the trip to the grocery store, etc.

Direct Instruction:
Tell the class that they will be helping you create a “gate” around the perimeter of the classroom. But it will not be made up of fence pickets. You are going to use shoes! How many shoes will it take to surround the perimeter of the classroom? Ask for your students’ input on how best to approach this problem. Continue brainstorming until all students have the opportunity to share. (One way would be to find out the average shoe length of all students. Then, use the average length of shoe to figure out the length of the perimeter.)

Guided Practice:
Place students into groups and ask them to decide which plan they will use to measure the perimeter of the room with the students’ shoes. As a group, students find the answer, illustrate the problem, and write up a wacky commentary, using Clemon’s book as inspiration. Student groups share with the rest of the class. Discuss the different ways the groups found the answer. Were the answers exactly the same? Why or why not?

Independent Practice:
Students now find their own unusual way of measuring something in their life. How long their hair will be at age 50 if they never cut it? How many garbage sacks full of empty soda cans will there be in 1 year if they keep up their soda habit of 3 a day? How many pencils will you go through by the end of the school year, if you use 1 a week? How many school desks would fill an entire room, top to bottom? How many pounds of spider silk could wrap around the equator? What about pizzas? Encourage your students to look up statistics and facts on wikipedia for kids or another kid-safe search engine to help them figure out the answer. (For instance, finding out that the average head of hair grows \( \frac{1}{2} \)” a month would be useful information in finding out how long their hair will be in 40 more years!).

After students find their answer, they get to illustrate their wacky measurement and then write a paragraph to accompany it.

**Closure:**
Hang it on the bulletin board to share with the class and with parents when they visit the classroom. Ask students to share what they learned. What kind of math did they use? Addition? Division? Fractions? Estimation?