**Topic:** Introducing number sense **Grade Level:** 3rd grade

**MN Standards:** 3rd Grade/Number & Operation/Compare and represent whole numbers up to 100,000 with an emphasis on place value and equality.

3.1.1.1 Read, write and represent whole numbers up to 100,000. Representations may include numerals, expressions with operations, words, pictures, number lines, and manipulatives such as bundles of sticks and base 10 blocks.

**Objective:** The students will begin to demonstrate their knowledge of numbers by translating written words into numerals and by working within groups to represent both small and large numbers.

**Anticipatory Set:**

Read the poem "The Boy Who Counted Stars" by David L.

Harrison. Ask the children to pay close attention to the numbers represented in the poem.

**Concept development/Activity:**

1) Have the children get into groups of about four.

2) Start asking questions like, "What numbers were written in the poem?" and "Who can tell me some of the numbers that were heard?" Try to compile a list on the blackboard of all the numbers represented in the poem, either by having all the children come to the board and write a number that they remember, or by having the children call them out as you write. Ask the children what they notice about the range of numbers presented in the poem. Which ones do they think would be easy or difficult to work with.

3) Each group will be responsible for two numbers that were written on the board – – one small number (ranging from 7 to 101) and one large number (starting at 12,003). These numbers represent the boy’s age and the number of stars that he counted.

4) For each number, the students in the group should brainstorm whatever comes to mind when they hear that number. This should be a list of ideas that the kids generate based on their familiarity with the given number.

5) After the children have done this, they will try to find a way to represent their two numbers visually. They will be allowed to use anything in the classroom such as manipulatives, calculators, paper and pencil, random objects, measuring equipment, and any resource books.

6) After all the groups have finished, they will present their two numbers to the class. They should explain their list of ideas about each number and also present their visual model.

**Assessment:**

Conduct interviews while the groups are presenting their ideas by asking questions about their work. It should be very easy to determine if students grasp the concept when working with the smaller numbers. The larger numbers will be very hard for children to represent but will provide a challenge. Make sure to ask lots of questions to determine if the large number was difficult or even impossible for them to work with.

**Closure:**

Ask students to write a brief paragraph to someone in a different group explaining which of their ideas for a number they liked the best. Discuss with the students that this will be the beginning of their study on number sense.

**References:**

– Harrison, David. The Boy Who Counted Stars. Word song: Honesdale, PA, 1994.

– Howden Article (from T267 packet)

<http://lessonplanspage.com/mathintronumbersense23-htm/>

**THE BOY WHO COUNTED STARS**

Jimmy decided when he was seven, that he would count the stars in heaven. "Counting them all," he said, "will be fun, and I’ll never give up till I’m done."

"You cannot count them all," said his dad, "It’s too big a job for a little lad." But Jimmy said, "I’ve already begun. And I’ll never give up till I’m done."

"Come in!" called his mother. "It’s time for bed." But Jimmy counted stars instead, and, when it was morning and too light to see, He’d counted twelve thousand and three.

Night after night he was back in the yard. "Counting stars,” he said, "isn’t hard, I’m already up to one million and one, And I’ll never give up till I’m done."

A year rolled by, and Jimmy was eight. He slept all day and stayed up late. "Give up!" begged his father. "This simply won’t do!" But Jimmy said, "I’m not through."

By the time he was twenty he’d counted a billion. The day he turned forty he shouted, "One trillion. His dad said, "You’ll never get finished, my son, if you live to one hundred and one."

"The neighbors are talking," his mother sighed, But Jimmy just smiled with quiet pride, "I’m up to ten trillion, three billion and two, And you know I’ll not stop till I’m through."

When Jimmy was eighty, he said, with a grin, "I’ve counted three quadrillion billion and ten. My life counting stars has been wonderfully nice but I wish I could count them all twice!"

Jim was one hundred one when he died, and he wasn’t quite finished, but oh how he’d tri The neighbors were sad and felt sorry for Jim. They knew what finishing the job meant to him.

But suddenly they heard a voice in the sky. "I know I can count the last star if I try! Ninety – nine jillion zillion trillion and two! I’ve done it! I’m finally through!"

"At last he has finished his job!" people said; "Now he can rest his weary old head." But again they could hear Jimmy chuckle with "From up here the stars are much easier to see. I think I will count them again just for fun." And they all heard him shout, "That’s one!"