

## Lesson Plan by Ashley Vice

**Lesson:** Expanded Form and Place Values

**Length:** 1½ hours

**Grade:** 4<sup>th</sup> Grade

### Academic Standards:

- 4.1.1 Read and write whole numbers up to 1,000,000.
- 4.1.2 Identify and write whole numbers up to 1,000,000, given a place-value model.

### Performance Objectives:

- When in groups, students will participate 3 out of 4 times.
- When given a number, students will show the expanded number 3 out of 4 times.
- When given a number orally, students will write the number in the journal 3 out of 4 times.

### Advanced Preparation:

- Print off Place Value tents from [http://www.uen.org/lessonplan/upload/11016-2-14774-place\\_value\\_tents.pdf](http://www.uen.org/lessonplan/upload/11016-2-14774-place_value_tents.pdf) and have them cut and placed into envelopes
- Print off Place Value Strips from [http://www.uen.org/lessonplan/upload/11016-2-14775-place\\_value\\_strips.pdf](http://www.uen.org/lessonplan/upload/11016-2-14775-place_value_strips.pdf) and have them cut into strips and placed into envelopes
- *Anno's Magic Seeds*, by Mitsumasa Anno
- Students' journals

### Procedure:

#### Introduction/Motivation:

Tell students that today students will become "doctors" of numbers. They are going to be able to operate on numbers and take them apart to better understand how they work. **(Logical/Mathematical)** Tell the student that they will be working in pairs. **(Interpersonal)** Assign the pairs. Then pass out envelopes of Place Value Tents. Have the students sit at two side by side desks.

### Step-by-Step Plan:

- Teacher will say a number (start in the hundreds) and students must write the number in their journal for example 372.
- Students will use the Place Value Tents to make the number.
- Pull the number apart and write the number in expanded form.
- Ask students what they notice about the numbers. **(Application)**
- Give students another number out loud (4,906). Students write the number and show the number with their place value tents. Take the number apart and write the expanded form.
- Ask the students to make their number ten more. They may check with their partner to see if they have the same number. Write it in expanded form.

- Make the number 100 less, each time writing the number in expanded form. Ask students what connections they can make by making their number 100 more or less? **(Synthesis)**
- Make their number 1,000 more, 1,000 less. Notice if students start over each time or if they work with the number they already have set up.

**Closure:** Have the students move the rug in the back of the room, read *Anno's Magic Seeds* by Mitsumasa Anno. **(Bodily Kinesthetic)** Have the students use their journal and Place Value Tents to make the numbers. **(Intrapersonal)** Ask the students to make predictions for the next page or number of seeds Jack grows. **(Analysis)** Have students show the number on their cards, write the expanded notation and prediction for the next number. Students will learn to double their number and subtract one. Ask how many seeds Jack will have in 30 years? **(Application)** 50 years? **(Application)** See if the students come up with a pattern.

**Adaptations/Enrichment:** The lesson has already been modified, but instead of just using wipe boards, students get the chance to already have the numbers in front of them. They will use the tents to expand the numbers rather than having to write the number all the way out. Students may also work with a partner on this activity to help stay organized since there are a great number of pieces of paper. Enrichments for this lesson could be that the students could use dice to write expanded numbers or they could give numbers to the class and have the class use their tents to show the number. The student could also use their tents to show the number. Then the student can check to make sure everyone has their number right and show the class his number and the class could compare.

**Self-Reflection:** After teaching the lesson, I would self-reflect whether I had an adequate amount of time to teach the students and whether or not I gave them enough time in between number to find the tents to construct the number. I would also check to see if my assessment ideas were valueable in assessing my students.