(Miss Slick, 4th grade Math, 9/22/16)

NUMBER CRUNCHERS

Alligator Theme

**Math Topic:** Place-value

**PA Common Core Math Standard:** CC.2.1.4.B.1 (Numbers and Operations in Base 10) Apply place-value concepts to show an understanding of multi-digit whole numbers.

**Behavioral Objective:**

 Given a whiteboard and a worksheet with six digit numbers written in standard, expanded, and written form, TSWBAT compare the numbers on the worksheet to the number 359,241 stating if it is greater than, less than, or equal to, to teacher’s satisfaction.

**Materials:**

* Worksheet
* Individual whiteboards
* Whiteboard erasers
* Dry erase markers
* Interactive Whiteboard
* Less than, greater than, and equal to papers to stick on interactive whiteboard

**Adaptations:**

 Students are allowed to bring their whiteboard with their answer written on it up to the interactive whiteboard when writing their answer for the class to see. This helps students who have difficulty remember their answer and may need the visual reminder of their answer. Also the teacher will stick paper cut outs of the greater than, equal to, and less than signs on the interactive whiteboard to remind students of the symbols they should be using when comparing numbers. Finally, the worksheet will have some easier numbers on it and some more difficult numbers on it. The teacher will pick and choose the numbers the students have to compare based on their skill level. This way struggling students are able to build strong foundational skills and more advanced students get a challenge.

**Procedures:**

1. The teacher will start by passing out an individual whiteboard, a dry-erase marker, an eraser, and a worksheet to each student sitting at their desk. On the interactive whiteboard, the teacher will stick three pieces of paper. One is the greater than sign, one is the less than sign, and the last one is the equal to sign. Underneath each symbol is the number 359, 241 written in standard form.
2. Next the teacher will explain to the students that they will be practicing writing the numbers on the worksheet in standard form. The teacher will ask students what other forms the numbers on the worksheet are written in? Student should respond with expanded form and written form.
3. Then the teacher will direct students’ attention to the interactive whiteboard. The teacher will point out the three different symbols to the students and ask them what they are? Students should respond with the greater than, less than, and equal to signs. The teacher will then read the number 359,241 out loud to the class. She will then explain that in addition to writing the numbers on the worksheet on their whiteboards, they will be comparing the numbers on the worksheet to the number 359,241.
4. After this, the teacher will have all the students place their pointer finger on the first box on the worksheet. It will say 30,000 + 6,000 + 100 + 20 + 8. The teacher will direct students to write this number in standard form on their whiteboards.
5. The teacher will check student answers, before moving on. She will then have students write the number 359, 241 on their white board next to the number 36,128. In between each number students will draw a circle and in the circle they will write either >, <, or =. After students have written their answer, the teacher will have one student share their answer on the board. The teacher will hold up the students’ whiteboard so that they can copy it onto the interactive whiteboard.
6. The teacher will then explain that 359,241 is greater than 36,128 because 359,241 has a 3 in the hundred-thousand place, while 36, 128 has nothing in the hundred-thousand place.
7. After explaining this, the teacher will pick three other boxes for students to attempt to do. Depending on their grasp of this concept, the teacher will pick easier or harder boxes.
8. As students complete these, they will draw two lines with a circle in the middle three times (\_\_\_\_\_\_\_\_\_\_\_O\_\_\_\_\_\_\_\_\_\_\_). On one line they will write the number requested on the worksheet. On the other they will write 359, 241. In the circle they will write <, >, =.
9. As students work, the teacher will circulate and assist when needed by students. Once all the students have finished, the teacher will go over the answers with the class. For example if the students did the last box on the left hand side of the worksheet (300,000 + 20,000 + 9,000 + 800 + 20 + 1), on their boards should say 329,821 < 359,241. The teacher will explain that this is correct because although both numbers have the same value in the hundred thousand place, 359,241has a greater value in the ten thousand place. 50,000 is greater than 20,000.
10. Depending on time, the teacher can have students complete other problems on the worksheet or have students neatly place all their materials away in their proper places around the classroom.

**Student Reflection:** How do I know that the behavioral objective was met?

 I know that the behavioral objective was met because students demonstrated understanding of place-value by comparing multi-digit numbers to other multi-digit numbers. Based on student answers on their whiteboards, it was evident that this group of students appeared to grasp this concept. Although one or two students got tricked on numbers like 208 and instead wrote 280, they quickly realized upon rereading the problem why this was incorrect. They were also able to give in-depth explanations when explaining their thought process in solving the problems, which demonstrated an even deeper grasp of place-value.

**Teacher Reflection:** How did I demonstrate preparedness, classroom management, and engagement of learners? How did I demonstrate professionalism?

I demonstrated preparedness by making sure that all the materials needed for the activity were out in a timely manner and that I had enough for all the students in the small group to participate. I demonstrated classroom management by circulating throughout the students as they solved the problems on their whiteboards. I helped redirect students who got distracted and helped students who were struggling by giving them helpful hints. Ms. Hare mentioned that I was “eager to learn and help out with students.” By having each student solve all the problems and explain their reasoning, all students were actively engaged in the learned. They all had the opportunity to explain and discuss their reasoning for their answers and when two students disagreed they were able to help each other come to the correct conclusion in a mature and constructive way.

I, myself, demonstrated professionalism by dressing appropriately for the classroom setting and by having all the materials ready for the lesson. Ms. Hare said I was “well dressed and professional.” I also was knowledgeable about what I was teaching so that I could most clearly explain the lesson being taught and help students gain understanding. I also used professional language and spoke respectfully to students and other teachers in the classroom.

|  |  |
| --- | --- |
| 30,000 + 6,000 + 100 + 20 + 8 | Fifty-six thousand two hundred fourteen.  |
| Eight hundred fifty-one thousand one hundred five.  | 395,142 |
| 241,593 | 300,000 + 50,000 + 9,000 + 200 + 40 + 1 |
| 69,467 | Three hundred fifty-nine thousand two hundred forty-one.  |
| 300,000 + 20,000 + 9,000 + 800 + 20 + 1 | Two hundred one thousand two hundred forty.  |

