PRACTICE TASK: Place Value Breakdown

Approximately 1 Day

STANDARDS FOR MATHEMATICAL CONTENT

MCC2.NBT.1   Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:
   a.   100 can be thought of as a bundle of ten tens — called a "hundred."
   b.   The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).

MCC2.NBT.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

MCC2.NBT.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.

STANDARDS FOR MATHEMATICAL PRACTICE

   1. Make sense of problems and persevere in solving them.
   2. Reason abstractly and quantitatively.
   3. Construct viable arguments and critique the reasoning of others.
   4. Model with mathematics.
   5. Use appropriate tools strategically.
   6. Attend to precision.
   7. Look for and make use of structure.
   8. Look for and express regularity in repeated reasoning.

***Mathematical Practices 1 and 6 should be evident in EVERY lesson. ***

BACKGROUND KNOWLEDGE

This task follows the "High Roller" Game and includes expanded notation. Students will only be assessed on numbers within 1,000, refer back to page 82 for the background knowledge.

ESSENTIAL QUESTIONS

   •   How can place value help us tell which of two or more numbers is greater?
   •   Why should you understand place value?
   •   What are different ways we can show or make (represent) a number?
   •   What is the difference between place and value?

MATERIALS

- One die per pair of students
- (8- sided dice and/or 0-9 dice (10-sided) may be used)
- Recording sheet

GROUPING

Partners

TASK DESCRIPTION, DEVELOPMENT AND DISCUSSON

Students will order digits in an attempt to create the highest or lowest possible number. Students will use previous experiences with place value to predict the place a number should be written on the recording sheet in order to create the highest or lowest number.

Students should be given a recording sheet that is divided into columns and rows. The number of columns will determine how large the number should be. In this lesson, there should be four columns to represent thousands, hundreds, tens, and ones. The number of rows will determine how many rounds the students should play.

The goal is to create the highest or lowest number for each row. The student partners will decide before playing whether they are looking for the highest or lowest number per round. The first student rolls the die, decides where the digit should be written on their recording sheet and describes it to their partner. "I rolled a 4, I'm going to put it in the tens place to make 40." The second student does the same. The game continues in this way until both students have made a complete number. The person with the highest (or lowest) number will draw a star next to their number.

Example:

Thousands	Hundreds	Tens	Ones	Expanded Notation	Total
2	4	6	2	2000 + 400 + 60 + 2	2,462

FORMATIVE ASSESSMENT QUESTIONS

- What strategies did you use to create your number?
- Why did you put the number _____ in that location?
- How can you say the number you created in words?
- What is the value of _____ in the number _____?

DIFFERENTIATION

Extension
- Encourage students to skip count by 5's, 10's, and 100's from the number that is created.

Intervention
- Decrease numbers to three digit numbers. Students will not be formally assessed on 4-digit numbers greater than 1,000.
- Allow students to use stackable place value cards to create expanded form. (http://www.senteacher.org/Worksheet/47/PlaceValue.xhtml)

Name: _____

Place Value Breakdown

Thousands 1,000	Hundreds 100	Tens 10	Ones 1	Expanded Notation _ _ _ _ + _ _ _ + _ _ + _ _	Total

1. What is the value of 5 in 954? _____ How do you know?

    _____

    _____

2. What is the value of 6 in 672?_____ How do you know ?

    _____

    _____

3. If the number 954 was increased by 10, what would the new number be?

    _____

4. If the number 1,000 was decreased by 1, what would the new number be?

    _____