

## Just in Time Quick Check

### Standard of Learning 3.NS.1

#### **Strand:** Number and Number Sense

#### **Standard of Learning 3.NS.1**

**The student will use place value understanding to read, write, and determine the place and value of each digit in a whole number, up to six digits, with and without models.**

*Students will demonstrate the following Knowledge and Skills:*

- a) Read and write six-digit whole numbers in standard form, expanded form, and word form.
- b) Apply patterns within the base 10 system to determine and communicate, orally and in written form, the place and value of each digit in a six-digit whole number (e.g., in 165,724, the 5 represents 5 thousands and its value is 5,000).
- c) Compose, decompose, and represent numbers up to 9,999 in multiple ways, according to place value (e.g., 256 can be 1 hundred, 14 tens, 16 ones, but also 25 tens, 6 ones), with and without models.

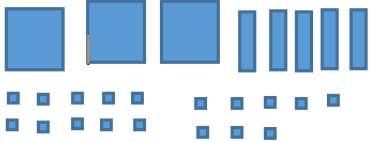

#### Just in Time Quick Check

#### Just in Time Quick Check Teacher Notes

**Supporting and Prerequisite SOL:** 2.NS.1, 3.NS.2, 3.CE.1

Just in Time Quick Check 3.NS.1

1. Select all the correct ways to represent 358.

<p><b>Three hundred fifty-eight</b></p>	<p><b>3 hundreds 5 tens 8 ones</b></p>	
	<p><b><math>300 + 50 + 8</math></b></p>	<p><b>2 hundreds 15 tens 8 ones</b></p>

2. Guess My Number:

I am thinking of a number with 5 digits.

The tens place has a value of 70.

There are 9 ten thousands in this number.

The ones place has 3 ones.

It would take 80 tens to model the value in the hundreds place.

The value of the digit in the thousands place is four thousand.

**What is my number?**

3. My city has a population of two hundred seven thousand, four hundred thirty-five. Write this number in standard form and expanded form.

a) Standard form: \_\_\_\_\_

b) Expanded form: \_\_\_\_\_

4. Look at this number: 1,028

a) What is the value of the digit in the hundreds place?

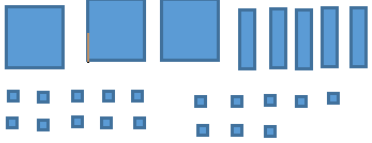
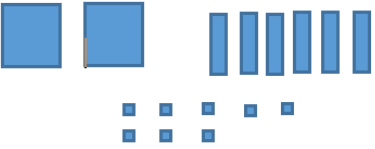
b) Use base-10 blocks to make two different models for 1,028. Draw both of your models in the workspace below.

Model 1	Model 2

### 3.NS.1 Just in Time Quick Check Teacher Notes

#### Common Errors/Misconceptions and their Possible Indications

1. Select all the correct ways to represent 358.

<p><b>Three hundred fifty-eight</b></p>	<p><b>3 hundreds 5 tens 8 ones</b></p>	
	<p><b><math>300 + 50 + 8</math></b></p>	<p><b>2 hundreds 15 tens 8 ones</b></p>

*Students who select the pictorial representation of 2 hundreds, 6 tens, and 8 ones may think that taking a hundred away and moving it to the tens is all that is needed to represent 358 in a different way. This may indicate a lack of understanding that the hundred flat has the same value as 10 tens and that this picture would require 15 ten rods (instead of the 6 shown) to be correct. In other words, while eight base-10 pieces are used in this picture to represent the 3 hundreds and 5 tens, those eight base-10 pieces cannot be used to correctly represent the tens and hundreds in the number 358.*

*Students who do not select 2 hundreds, 15 tens, and 8 ones may believe this is incorrect because more than 9 tens are used in the representation. These students would benefit from additional experience engaging in trading activities using base-10 blocks or other manipulatives (e.g., linking cubes) that provide opportunities to represent the same number in more than one way. It may be helpful to scaffold this support, beginning with 2-digit numbers and then extending to 3-digit and 4-digit numbers. These activities help students develop flexibility in representing numbers as they develop the concepts of place value (i.e., that ten ones are the same as one ten (unitizing) and that 10 tens are the same as one hundred). These activities also help students generalize an understanding of the ten-to-one relationship between adjacent place value positions that is the foundation of our base-10 number system.*

2. Guess My Number:

I am thinking of a number with 5 digits.

The tens place has a value of 70.

There are 9 ten thousands in this number.

The ones place has 3 ones.

It would take 80 tens to model the value in the hundreds place.

The value of the digit in the thousands place is four thousand.

**What is my number?**

*Students may have difficulty representing a number when given a verbal description for each digit. Students who have difficulty with 5-digit numbers would benefit from experience translating verbal descriptions of 2- or 3-digit numbers into standard form before transitioning to 4-digit, 5-digit, and 6-digit numbers. Anchor charts showing multiple representations for a number that include verbal descriptions are helpful models for using place value descriptions. Additionally, in this example, students may be confused with 80 tens representing 800. These students would benefit from opportunities to construct multiple representations for 3-digit numbers using base-10 manipulatives.*

3. My city has a population of two hundred seven thousand, four hundred thirty-five. Write this number in standard form and expanded form.

a) Standard form: \_\_\_\_\_

b) Expanded form: \_\_\_\_\_

*Students often have difficulty translating a number from word form to standard form when zero is in one or more place value positions in the number, and this may be even more difficult when numbers are presented orally without written/visual support. It may be helpful to provide explicit instruction connecting the conventions used in word form (i.e., commas separating the periods) to the attributes of a number in standard form (e.g., three digits in each period, commas separating the periods, the ones-tens-hundreds pattern within each period). Students who understand these connections can use them to break the word form of a number into meaningful “chunks” when translating to standard form.*

*Students may have difficulty translating a number from word form into expanded form. It may be helpful for students to first translate the number into standard form and then translate the number into expanded form. Writing larger numbers (e.g., 5- and 6-digits) may also be difficult*

for some students. For example, when writing “two hundred seven thousand, four hundred thirty-five,” students may incorrectly write two hundred thousand as 20,000, or seven thousand as 70,000. Students may also try to combine place values, such as combining the tens and ones place, resulting in  $200,000 + 7,000 + 400 + 35$ . It may be helpful to have students line up each place value when writing in expanded form, as shown below.

$$\begin{array}{r}
 207,435 \\
 200,000 \\
 7,000 \\
 400 \\
 30 \\
 + 5 \\
 \hline
 \end{array}
 \quad \longrightarrow \quad
 200,000 + 7,000 + 400 + 30 + 5$$

4. Look at this number: 1,028

a) What is the value of the digit in the hundreds place?

*Students may not consider the digit in the hundreds place as having a value of zero. They may say the value is 1,000 or 100. To develop their place value understanding, it is important for students to have opportunities to describe the value of each digit in multi-digit numbers, especially those that have a zero in one or more place value positions.*

b) Use base-10 blocks to make two different models for 1,028. Draw both of your models in the workspace below.

Model 1	Model 2

*Students who are unable to make more than one model to represent a number would benefit from additional opportunities to represent the same number in more than one way, beginning with 2-digit numbers and then extending to 3-digit and 4-digit numbers. Provide trading*

*activities using base-10 blocks or other manipulatives (e.g., linking cubes) in which students build a model for a number and then reconstruct the model using different combinations. In this problem, students are likely to represent “28” from 1,028 as 2 tens and 8 ones and as 28 ones, but they may be less likely to represent 28 as 1 ten and 18 ones. Encourage students to consider a variety of representations and continue these conversations as students develop computation strategies for problem solving.*