

Core Content

Cluster Title: Understand place value.

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

MASTERY Patterns of Reasoning:

Conceptual:

Students will understand that there are multiple ways to express a given number (base ten, number name, expanded form).

Students will understand what expanded form is.

Students will understand how to compose and decompose numbers between standard and expanded form.

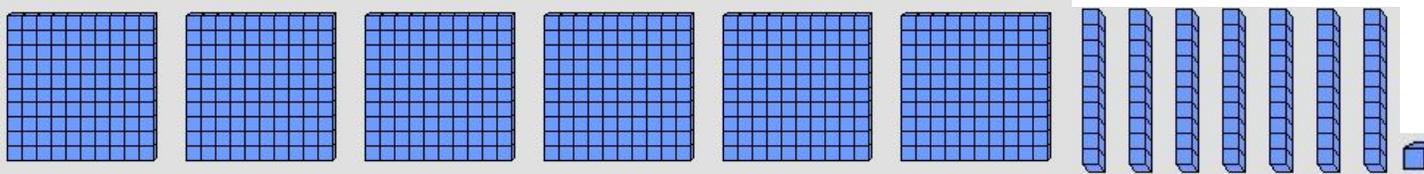
Procedural:

Students can express the same number in multiple ways:

- 671
- Six hundred seventy-one
- 6 hundreds, 7 tens, and 1 one
- $600 + 70 + 1$ (six hundred plus seventy plus one)

Representational:

In addition to the procedural process, students can show the number 671 pictorially with base 10 blocks or drawing:



Students will write the related expanded form problem for a given pictorial representation.

Supports for Teachers

Critical Background Knowledge	
<p>Conceptual: Students will understand that numbers can be represented as words. Students will understand that the two digits of a two-digit number represent amounts of tens and ones.</p> <p>Procedural: Students can represent one number in multiple ways.</p> <p>Representational: Students can use base ten blocks, straws, beans or virtual manipulatives to demonstrate the connection between the written form and the pictorial representation.</p>	
Academic Vocabulary and Notation	
<p>thousands, hundreds, tens, ones, standard form (e.g., 726), word form (e.g., seven hundred twenty-six), expanded form (e.g., $700 + 20 + 6$), base ten language (e.g., seven hundreds, two tens, and six ones), models (e.g., flat, bar, cube)</p>	
Instructional Strategies Used	Resources Used
<p>1. Teachers and students will create place value cards (five index cards per number with each of the five models shown):</p> <div style="display: flex; justify-content: space-around; align-items: flex-start; margin: 10px 0;"> <div style="border: 1px solid black; padding: 5px; width: 60px; text-align: center;">643</div> <div style="border: 1px solid black; padding: 5px; width: 100px; text-align: center;">$600 + 40 + 3$</div> <div style="border: 1px solid black; padding: 5px; width: 80px; text-align: center;">(picture of base 10 blocks)</div> <div style="border: 1px solid black; padding: 5px; width: 100px; text-align: center;">6 hundreds 4 tens 3 ones</div> </div> <div style="margin-left: 150px; margin-bottom: 10px;"> <div style="border: 1px solid black; padding: 5px; width: 100px; text-align: center;">Six hundred forty three</div> </div> <p>2. Students can then use the place value cards for multiple learning activities (differentiate as needed based on readiness and learning levels):</p> <ul style="list-style-type: none"> ▪ Memory game: Use two of the cards for each number and have students make matches (e.g., sets of standard and expanded form cards placed face up or down depending on challenge level). 	<p>Pinczes, Elinor J. <i>100 Hungry Ants</i>. Houghton Mifflin, 1993.</p> <p>place value dice</p> <p>Stack-A-Value Cards: http://coreacademy.usu.edu/Materials/2004/Handbooks/SecondGrade.pdf (see pages 162-165)</p>

- “I have.../Who has...?”—Distribute all of the cards to students and play “I have.../Who has...?” Students will find the rest of their number forms and get into groups together.
- “Scoot”—Each student has one card on his/her desk, and students “scoot” from desk to desk. Children have a recording sheet and write down the number at each desk, as well as one other way that the number can be represented.
- Use Stack-A-Value Cards from 2004 Core Academy web site.

Assessment Tasks Used

Skill-Based Task:
 Students will complete the following assessment on three given numbers of teacher’s choice (or teacher can use place value dice)

Number:
 Word form:
 Expanded form:
 ____ + ____ + ____ = ____

Place value:

hundreds	tens	ones

Pictorial Model:

Problem Task:
 Suzie went trick-or-treating and collected 238 pieces of candy. Show three different examples of how Suzie could represent how much candy she collected using examples of standard form, word form, or expanded form. Place value (hundreds, tens, and ones) and pictorial models can also be used.