**Core Content**

**Cluster Title:** Understand the place value system.

<table>
<thead>
<tr>
<th>Standard 3: Read, write, and compare decimals to thousandths.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form (e.g., 347.392 = 3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) + 2 x (1/1000)).</td>
</tr>
<tr>
<td>b. Compare two decimals to thousandths based on meanings of the digits in each place, using &lt;, =, and &gt; symbols to record the results of comparisons.</td>
</tr>
</tbody>
</table>

**MASTERY Patterns of Reasoning:**

**Conceptual:**
- Students will understand expanded form represents a digit multiplied by its place value (347.392 = 3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) + 2 x (1/1000)).
- Students will expand understanding of place value to include the thousandths place.

**Procedural:**
- Students will read and write decimals to the thousandths place using base ten numerals, number word names and expanded form.
- Students will compare two decimal numbers to the thousandths place based on the meaning of the digits in each place by using <, =, and > to record the results of the comparisons.
- Students will compare tenths to tenths, hundredths to hundredths, thousandths to thousandths.

**Representational:**
- Students will model comparisons of decimals to thousandths using place value charts, grids, manipulatives and technology.
## Supports for Teachers

### Critical Background Knowledge

<table>
<thead>
<tr>
<th>Conceptual:</th>
<th>Students will understand the value of decimal numbers as compared to benchmark numbers such as 0, 0.5 and 1. Students will understand the value of digits to the hundredths place.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedural:</td>
<td>Students can compare decimal numbers to the hundredths place. Students can write numbers in expanded form to the hundredths place.</td>
</tr>
<tr>
<td>Representational:</td>
<td>Students can represent multi-digit numbers in expanded form (such as 435 as 400 + 30 + 5).</td>
</tr>
</tbody>
</table>

### Academic Vocabulary and Notation

- $<$, $=$, $>$, greater than, less than, equal to, equality, expanded notation, benchmark

### Instructional Strategies Used

- Match the standard form to the expanded form using activities such as those found on the website for “Expanded notation games.” (See resources for “Expanded notation games.”)
- Use 0, 0.5, and 1 as benchmarks when comparing decimals.
- Have students create numbers and then arrange them in order from least to greatest, etc.

### Resources Used


### Assessment Tasks Used

#### Skill-Based Task:
- Write 562.376 in expanded form.
- Given 1.02, 1.2 and 1.002, place the numbers in order from least to greatest.

#### Problem Task:
- Find four numbers that are between 0.11 and 0.12 and put all six numbers in order from least to greatest.