

Core Content

Cluster Title: Understand place value.

Standard 2: Count within 1000; skip-count by fives, tens, and hundreds.

MASTERY Patterns of Reasoning:

Conceptual:

Students will understand that numbers increase through counting patterns.

Students will understand that counting patterns can start from any number of that pattern's multiple.

Students will understand that counting by fives is just half of counting by 10s.

Students will understand that when counting by tens within a hundred, only the digit in the tens place increases.

Students will understand that when counting by hundreds within a thousand, only the digit in the hundreds place increases.

Students will understand that skip-counting is the same as repeated addition.

Procedural:

In addition to standard skip-counting patterns starting at zero (such as 10, 20, 30, etc.) students need to be able to add 5, 10, or 100 to ANY starting number within the counting pattern and extend the counting pattern (e.g., 425 – count on by fives: 430, 435, 440, etc.).

Students will be able to demonstrate multiple skip-counting patterns from the same starting point (example: start at 200 – skip count by 5s, 10s, and 100s).

Representational:

Students can model skip-counting with objects.

Students can use a hundreds chart to skip-count by fives, tens, or hundreds and highlight each pattern (by coloring or using objects).

Students can use number line to skip-count.

Students can model the relationship between skip-counting and monetary units (nickel, dime, dollar).

Supports for Teachers

Critical Background Knowledge	
<p>Conceptual: Students should have a conceptual understanding of movement between rows and patterns on a hundreds chart.</p> <p>Procedural: Students can count to 100 by ones, starting at any number less than 100.</p> <p>Representational: Students can model skip-counting with base ten blocks to show the relationship between skip-counting and place value.</p>	
Academic Vocabulary and Notation	
<p>pattern, skip count, extend, repeated addition, inverse, repeated subtraction, multiples</p>	
Instructional Strategies Used	Resources Used
<p>Using a hundreds chart, students will model skip-counting patterns, starting at either zero or another given number, by coloring the multiples of five and ten using different colors.</p> <p>Teach students that counting backwards (inverse) is the same as repeated subtraction and follows a similar counting pattern (e.g., 50, 45, 40, 35, 30, etc.).</p> <p>Skip-count orally together while raising a hand in the air for each number. Stop on a given number, and skip-count backward together while moving a hand down for each number (e.g., 15—hand up each time, 25, 35, 45, 55, Stop, 45—hand down each time, 35, 25, etc).</p> <p>Have students complete the pattern 500, _____, _____, 800, _____, 1000.</p>	<p>Slater, Teddy. <i>Ready or Not, Here I Come</i>. Scholastic, 1999.</p> <p>Losi, Carol A. <i>512 Ants on Sullivan Street</i>. Cartwheel Books, 2006.</p> <p>Pallotta, Jerry. <i>100 Ways to get to 100</i>. Cartwheel Books, 1949.</p> <p>Princzes, Elinor J. <i>One Hundred Hungry Ants</i>. Sandpiper, 1999.</p> <p>Guettier, Benedicte. <i>The Father Who had 10 Children</i>. Dial, 1999.</p> <p>Hope, Jack A., Leutzinger, Larry, Reys, Barbara J., Reys, Robert E. <i>Mental Math in the Primary Grades</i>. Dale Seymour, 1988.</p>

<p>Pop game: Have students stand in a circle. Decide what number you are skip-counting by and what number you are stopping at (such as skip-counting by fives, and stopping at 35). Students take turns going around the circle counting by the pattern. When it gets to the student with the chosen stopping number, instead of saying 35, the student says “pop” and sits down. Play continues with the next student starting again at 5, (still using 35); each time a child gets to the number 35 he/she says “pop” and sits down. Keep playing until every child has sat down. After students understand how to play Pop, they can play in teams and race to be the first team with everyone sitting down.</p>	
Assessment Tasks Used	
<p>Skill-Based Task: Give students a blank hundreds chart and have them skip-count and write the numbers in starting at a given number (such as 415 and skip-count by fives, or 780 and skip-count by tens).</p> <p>This can be done multiple times as an ongoing assessment. Start at a different number each time and use different skip-counting patterns each time.</p>	<p>Problem Task: Chris skip-counts by fives. Ryan skip-counts by tens. If both boys start at zero and count 8 times, what number will they end at? Will it be the same number? If both boys continue their skip counting pattern 4 more times, what number will each boy reach? Show your thinking using words, pictures or numbers.</p>