

## Core Content

<b>Cluster Title: Understand ratio concepts and use ratio reasoning to solve problems.</b>
<b>Standard 1:</b> Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, “The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.” “For every vote candidate A received, candidate C received nearly three votes.”
<b>MASTERY Patterns of Reasoning:</b>
<b>Conceptual:</b> Understand the concept of a ratio as a way of expressing relationships between quantities. Distinguish when a ratio is describing part to part or part to whole comparison.
<b>Procedural:</b> Describe ratio relationships between two quantities. Translate relationships between two quantities using the notation of ratio language (1:3, 1 to 3, 1/3).
<b>Representational:</b> Communicate relationships between two quantities using ratio notation and language.

## Supports for Teachers

<b>Critical Background Knowledge</b>
<b>Conceptual:</b> Understand the relationship between parts and wholes.
<b>Procedural:</b> Translate “for every” and other meanings of multiplication into terms.
<b>Representational:</b> Experience working with set and measurement models.

<b>Academic Vocabulary and Notation</b>	
:, /, ratio, terms of ratio (i.e., the numbers used in a ratio are called its terms)	
<b>Instructional Strategies Used</b>	<b>Resources Used</b>
<p>Using a variety of situations, describe relationships using ratio, for example:</p> <ol style="list-style-type: none"> <li>1. Part to part: Compare the number of girls to boys in the classroom using the different symbols for ratio (girls: boys, girls to boys, <math>\frac{girls}{boys}</math>, girls out of boys). Then compare the number of boys to girls in the same way.</li> <li>2. Part to whole: Compare the number of girls to the whole class. Do the same thing for the boys in the class.</li> </ol>	<p>Ratio coloring activity:  <a href="http://www.softschools.com/math/ratios/ratio_coloring_game/">http://www.softschools.com/math/ratios/ratio_coloring_game/</a></p>
<b>Assessment Tasks Used</b>	
<p><b>Skill-based Task:</b>                      There are four dogs and three cats. What is the ratio of dogs to cats and cats to dogs?</p>	<p><b>Problem Task:</b>                      The newspaper reported, "For every vote candidate A received, candidate B received three votes." Describe possible election results using at least three different ratios. Explain your answer.</p>