

Core Content

Cluster Title: Understand ratio concepts and use ratio reasoning to solve problems.

Standard 3: Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

a. Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.

MASTERY Patterns of Reasoning:**Conceptual:**

Understand how to make, complete, and read a table of equivalent ratios.

Understand that tools such as tables of equivalent ratios support the development of ratio and rate reasoning.

Understand that pairs of values from a table can be plotted on the coordinate plane.

Understand that establishing connections between tables and plotted points on the coordinate plane allow for extended reasoning and synthesis of the concept of ratios and rates.

Procedural:

Use a table to compare ratios.

Determine missing values using ratio reasoning.

Identify relationships in ratio tables.

Representational:

Plot pairs of values from a table to a coordinate plane.

Supports for Teachers

Critical Background Knowledge**Conceptual:**

Understand that coordinate graphs are two-dimensional and rely on two coordinate points to identify a specific location on a plane.

Understand equivalent fractions.

Understand equivalent ratio (from 6.RP.2).

<p>Procedural: Experience with coordinate plane graphing in quadrant 1. Read equations</p> <p>Representational: Plotting a point on a coordinate plane when given the coordinates.</p>																				
<p>Academic Vocabulary and Notation coordinate plane, tables of equivalent ratios (value table)</p>																				
<p>Instructional Strategies Used</p> <p>1. Have students make a table given a ratio situation. They should plot those points on a coordinate plane and draw conclusions about what's happening in the ratio situation. 2. Give students a table with missing values and have them identify the missing values. 3. Have students study ratio relationships in a table.</p>				<p>Resources Used</p> <p>http://www.youtube.com/watch?v=d625kdtsUlw</p> <p>UEN: Price-Earnings ratio http://www.uen.org/Lessonplan/preview.cgi?LPid=25290</p>																
<p>Assessment Tasks Used</p>																				
<p>Skill-based Task: Analyze the table below to determine the missing values. Fill in the missing values on the table below.</p> <table border="1"> <tr> <td>Swimmers</td> <td>20</td> <td>30</td> <td>40</td> <td>60</td> <td>90</td> <td>100</td> </tr> <tr> <td>Life Guards</td> <td>2</td> <td>3</td> <td>4</td> <td>6</td> <td></td> <td></td> </tr> </table>				Swimmers	20	30	40	60	90	100	Life Guards	2	3	4	6			<p>Problem Task: Graph the information from the table on the coordinate plane and explain the relationship of swimmers to life guards.</p>		
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