

## 6<sup>th</sup> Grade Unit 3 Information

### Rate, Ratio, and Proportional Reasoning Using Equivalent Fractions

Milestones Domain & Weight: 12 %

*Flip Books for this unit are in the Content Map by Standards*

[Overview: Unit 3](#)

[Prerequisites: Unit 3](#)

Unit Length: Approximately **17 days**

[Checklist for Unit 3](#)

[Study Guide for Unit 3](#)

[Study Guide KEY for Unit 3](#)

**No Calculators Allowed on this Unit.**

Click on the links below for resources by Concept:

[Concept One: Ratios & Ratio Language](#)

[Concept Two: Ratios in Tables & Graphs](#)

[Concept Three: Rates & Ratio Reasoning](#)

[Concept Four: Percents](#)

# TCSS 6<sup>th</sup> Grade Unit 3 ~ Rate, Ratio, & Proportional Reasoning

## Concept One: Ratios & Ratio Language

Standard(s) & Essential Questions	Vocabulary	Resources	Assessment
<p><b>MGSE6.RP.1</b> Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. <i>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.”</i></p> <p><b>EQ:</b> What information can I get from comparing numbers using ratios?</p>	<ul style="list-style-type: none"> <li>• ratio</li> <li>• quantity</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Flip Book RP.1</a></li> <li>• <b>Activator:</b> Glencoe CCGPS Math (McGraw-Hill, 2013) p. 15 Inquiry Lab</li> <li>• Eureka Math (2014 Common Core) <a href="#">License</a> Concept One ~ <a href="#">SE</a>   <a href="#">TE</a></li> <li>• Glencoe CCGPS Math(McGraw-Hill, 2013) p. 19-26</li> <li>• MGSE Frameworks: Ratios &amp; Rates <a href="#">SE</a>   <a href="#">TE</a></li> <li>• <a href="#">Problem Solving Practice Ratios</a></li> <li>• <a href="#">Understanding Ratios</a></li> <li>• <b>Differentiation Opportunity:</b> <a href="#">Shell FAL: Proportional Reasoning</a></li> <li>• <b>Differentiated:</b> <ul style="list-style-type: none"> <li>○ Reteaching Ratios <a href="#">SE</a>   <a href="#">TE</a></li> </ul> </li> </ul>	<p><a href="#">CC.6.RP.1</a></p> <p><a href="#">[Back to Top]</a></p>

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## Concept Two: Ratios in Tables & Graphs

Standard(s) & Essential Questions	Vocabulary	Resources	Assessment
<p><b>MGSE6.RP.3a</b> 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.</p> <p><b>EQ:</b> How can a table or graph help you to understand the relationship between two things?</p>	<ul style="list-style-type: none"> <li>• x-axis</li> <li>• y-axis</li> <li>• ploRast</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Flip Book RP.3</a></li> <li>• Eureka Math (2014 Common Core) <a href="#">License</a> Concept Two ~ <a href="#">SE</a>   <a href="#">TE</a></li> <li>★ • MGSE Framework: <a href="#">Free Throw Warm Up</a></li> <li>★ • MGSE Framework: <a href="#">Free Throws</a></li> <li>• MGSE Framework: <a href="#">Comparing Rates</a></li> <li>• Glencoe CCGPS Math(McGraw-Hill, 2013) P. 39-66</li> <li>• <a href="#">Ratio Tables Problem Solving</a></li> <li>• <a href="#">Skills Practice Graphing Ratio Tables</a></li> <li>• <a href="#">Problem Solving Practice Graph Ratio Tables</a></li> <li>• <b>Differentiated:</b> <ul style="list-style-type: none"> <li>○ Reteaching Tables of Ratios <a href="#">SE</a>   <a href="#">TE</a></li> <li>○ Enrichment Tables of Ratios <a href="#">SE</a>   <a href="#">TE</a></li> <li>○ Reteaching Graphing Ratios <a href="#">SE</a>   <a href="#">TE</a></li> </ul> </li> <li>• <b>Differentiation Resources:</b> <ul style="list-style-type: none"> <li>○ Newmark Learning Common Core Math Book Pages 6 – 10</li> <li>○ <a href="#">Station Activities</a> <ul style="list-style-type: none"> <li>▪ Stations 2, 3, and 4</li> </ul> </li> </ul> </li> </ul>	<p><a href="#">CC.6.RP.3a</a></p> <p><a href="#">[Back to Top]</a></p>

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## Concept Three: Rates & Ratio Reasoning

Standard(s) & Essential Questions	Vocabulary	Resources	Assessment
<p><b>MGSE6.RP.3b</b> Solve unit rate problems including those involving unit pricing and constant speed. <i>For example, If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?</i></p> <p><b>MGSE6.RP.3</b> Use ratio and rate reasoning to solve real-world and mathematical problems utilizing strategies such as tables of equivalent ratios, tape diagrams (bar models), double number line diagrams, and/or equations.</p> <p><b>MGSE6.RP.3d</b> Given a conversion factor, use ratio reasoning to convert measurement units within one system of measurement and between two systems of measurements (customary and metric); manipulate and transform units appropriately when multiplying or dividing quantities. <i>For example, given 1 in. = 2.54 cm, how many centimeters are in 6 inches?</i></p> <p><b>EQ:</b> How are ratios and rates the same and how are they different?</p>	<ul style="list-style-type: none"> <li>• unit rate</li> <li>• unit ratio</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Do 2 Eureka Lessons on Ratios to Rates to Ratios</a></li> <li>• Eureka Math (2014 Common Core) <a href="#">License</a> Concept Three ~ <a href="#">SE</a>   <a href="#">TE</a></li> <li>• <a href="#">Powerpoint – Ratios and Rates</a></li> <li>★ <a href="#">Rope Jumper Spotlight Task</a></li> <li>• Glencoe CCGPS Math(McGraw-Hill, 2013) p. 27-38</li> <li>• Glencoe CCGPS Math(McGraw-Hill, 2013) P. 71-78</li> <li>• <a href="#">Problem Solving Practice Rates</a></li> <li>• <a href="#">Using Unit Prices</a></li> <li>• <b><u>Differentiated:</u></b> <ul style="list-style-type: none"> <li>○ <a href="#">COMPUTER LAB - Thinking Blocks ~ Solving Proportional Word Problems with Models – 4 levels</a></li> <li>○ Reteaching Rates <a href="#">SE</a>   <a href="#">TE</a></li> <li>○ Enrichment Rates <a href="#">SE</a>   <a href="#">TE</a></li> <li>○ Enrichment Investigation: Tables &amp; Unit Rates Investigation page 79-89</li> <li>○ Newmark Learning Common Core Math Book Page 11-15</li> </ul> </li> </ul>	<p><a href="#">Flip Book RP.2</a></p> <p><a href="#">Flip BookRP.3</a></p> <p><a href="#">CC.6.RP.2</a></p> <p><a href="#">[Back to Top]</a></p>

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Concept Four: Percents			
Standard(s) & Essential Questions	Vocabulary	Resources	Assessment
<p><b>MGSE6.RP.3c</b> Find a percent of a quantity as a rate per 100 (e.g. 30% of a quantity means 30/100 times the quantity); given a percent, solve problems involving finding the whole given a part and the part given the whole.</p> <p><b>EQ:</b> How are percentages, ratios, and fractions related?</p>	<ul style="list-style-type: none"> <li>percent</li> <li>percentages</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Flip Book RP.3</a></li> <li>Eureka Math (2014 Common Core) <a href="#">License</a> Concept One ~ <a href="#">SE</a>   <a href="#">TE</a></li> <li>Activator: Inquiry Lab – Model Percents, p. 97-100 Glencoe CCGPS Math(McGraw-Hill, 2013)</li> <li>Activator: Inquiry Lab - % of a Number, p. 145-146 Glencoe CCGPS Math(McGraw-Hill, 2013)</li> <li>★ MGSE Framework: <a href="#">Ice Cream Or Cake?</a></li> <li><a href="#">ActivInspire: Shopping for Sports Equipment</a></li> <li><a href="#">ActivInspire: Percent Problems</a></li> <li>Glencoe CCGPS Math(McGraw-Hill, 2013) P. 101-127</li> <li>Glencoe CCGPS Math(McGraw-Hill, 2013) P. 147-168</li> <li><a href="#">Problem Solving Practice Percent of a Number</a></li> <li><a href="#">Problem Solving Practice Solve Percent Problems</a></li> <li><b>Differentiated:</b> <ul style="list-style-type: none"> <li>Enrich: Eureka Math <a href="#">SE</a>   <a href="#">TE</a></li> <li><a href="#">Enrichment: Comparison Shopping</a></li> <li>Newmark Learning Common Core Math Book                             <ul style="list-style-type: none"> <li>Decimals, Fractions, Percents – p, 16-25</li> <li>Find Percent of a Number – p. 26-30</li> </ul> </li> </ul> </li> </ul>	<p><a href="#">CC.6.RP.3c</a></p> <p><a href="#">[Back to Top]</a></p>