



Marietta City Schools

District Unit Planner

Everything on the unit planner must be included on the unit curriculum approval statement.

Grade 7 Mathematics

Unit title	Unit 3: Ratios & Proportional Relationships	MYP year	2	Unit duration (hrs)	20 Hours
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Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): *What will students learn?*

GSE Standards

Standards

Analyze proportional relationships and use them to solve real-world and mathematical problems.

MGSE7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction (1/2)/(1/4) miles per hour, equivalently 2 miles per hour.*

MGSE7.RP.2 Recognize and represent proportional relationships between quantities.

MGSE7.RP.2a Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.

MGSE7.RP.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

MGSE7.RP.2c Represent proportional relationships by equations.

MGSE7.RP.2d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.

MGSE7.RP.3 Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, and fees.

Draw, construct, and describe geometrical figures and describe the relationships between them.

MGSE7.G.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

Concepts/Skills to be Mastered by Students

- Fractions, decimals, and percents can be used interchangeably.
- Ratios and rates use multiplication/division to represent relationships between two quantities.
- The constant of proportionality is also considered to be the unit rate.

Key concept	Related concept(s)	Global context
Relationships	Equivalence and Simplification	Globalization and Sustainability

Statement of inquiry		
Identifying proportional relationships can help simplify decision-making.		
Inquiry questions		
<p>Factual— What strategies can be used to compare ratios? What information do I get when I compare two numbers using a ratio? What conditions help to recognize and represent proportional relationships between quantities?</p> <p>Conceptual— How do I interpret a unit rate (using words and mathematically)? What kinds of problems can I solve by using ratios? How is the unit rate represented in tables, graphs, equations, and diagrams? How is unit rate computed in real world problems? How are ratios and their relationships used to solve real world problems? How are proportional relationships used to solve multi-step ratio and percent problems? How do equations represent proportional relationships?</p> <p>Debatable— What is the best way to represent a quantity in the real world?</p>		
MYP Objectives	Assessment Tasks	
<i>What specific MYP objectives will be addressed during this unit?</i>	<i>Relationship between summative assessment task(s) and statement of inquiry:</i>	<i>List of common formative and summative assessments.</i>
<p>Criterion A: Knowing and Understanding</p> <p>Criterion D: Applying Mathematics in Real Life Contexts</p>	<p>Students will be expected to develop proportional relationships through the analysis of graphs, tables, equations, and diagrams. Students will be expected to develop to gain a deeper understanding of scale drawing</p>	<p>Formative Assessment(s):</p> <p>Unit 3 CFA</p> <p>Summative Assessment(s):</p> <p>Unit 3: Ratios & Proportional Relationships MYP: Mary Diner</p>
Approaches to learning (ATL)		
<p>Give and receive meaningful feedback.</p> <p>Draw reasonable conclusions and generalizations.</p>		

Category: Social
Cluster: Collaboration Skills
Skill Indicator: Give and receive meaningful feedback.

Category: Thinking
Cluster: Critical Thinking, Creative Thinking & Transfer
Skill Indicator: Draw reasonable conclusions and generalizations

Learning Experiences

Add additional rows below as needed.

Objective or Content	Learning Experiences	Personalized Learning and Differentiation
<p>MGSE7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute</p> <p>MGSE7.RP.3 Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, and fees.</p>	<p>Sales Tax/ Mark-Up and Mark Down Class Project</p>	<p>This activity can be completed individually or in a group. Teachers can start the activity together and gradually release students.</p>
<p>MGSE7.RP.2 Recognize and represent proportional relationships between quantities.</p> <p>MGSE7.RP.2a Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.</p> <p>MGSE7.RP.2b Identify the constant of proportionality (unit rate) in tables, graphs,</p>	<p>What's Your Rate?</p>	<p>This activity should be implemented in groups with assigned roles.</p>

equations, diagrams, and verbal descriptions of proportional relationships.		
Content Resources		
NCTM Illuminations Savvas- Topic 2 and Topic 8		