

Teacher(s)	Hawkins, Gravely, Campbell	Subject group and discipline	7 th Grade Math		
Unit title	Ratio and Proportional Relationships	MYP year	2	Unit duration (hrs)	32

Inquiry: Establishing the purpose of the unit

Key concept	Related concept(s)	Global context
Relationships	Measurement, Quantity	Globalization and Sustainability

Statement of inquiry

Decision-making can be improved by using a model to represent relationships, measurements, and quantity to improve sustainability.

Inquiry questions

Factual— How many quarts are in a gallon?

Conceptual— How do you compare ratios and proportions?

Debatable— Are all ratios equal proportions?

Objectives	Summative assessment	
C. Communicating i. use appropriate mathematical language (notation, symbols, and terminology) on both oral and written explanations ii. use appropriate forms of mathematical representation to present information iii. move between different forms of mathematical presentation iv. organize information using a logical structure	Christmas Shopping Spree! This Is Your Lucky Day! You have found a lost dog and returned it to its' owner. They have rewarded you with \$1500.00, but the reward comes with a catch. You must spend the money on Christmas presents for other people. You must spend the money on 12 different gifts for 12 different people. Any money left over goes back to the owner of the dog.	Relationship between summative assessment task(s) and statement of inquiry: Assessment will require students to use what they have learned about percentages and proportions to calculate the amount of a discount, sale price, tax amount and total amount paid. They may need to modify their purchases in order to get as close to \$1500 without going over.

	<p>You can only shop for items that are school appropriate.</p> <p>You may shop on any of the following websites: www.amazon.com, www.walmart.com, www.lowes.com www.toysrus.com, www.bestbuy.com.</p> <p>For each item you decide to buy, you must apply the corresponding discount rate in order to calculate the dollar amount of the discount and the sale price. You then must calculate the dollar amount of the tax and the total price. All items purchased will be charged 12% tax.</p> <p>Your goal is to spend as much of the \$1500 as possible but you can NOT go over \$1500.</p>	
--	--	--

Approaches to learning (ATL)

Communication Skills- Students will need to communicate their findings in an organized and logical format.
Thinking Skills- Use prioritization and order of precedence in problem solving.

Action: Teaching and learning through inquiry

Content	Learning process
<p>(M) 7.RP.01 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or</p>	<p>Learning experiences and teaching strategies</p> <p>Students will work with and convert ratios, ratios of fractions, lengths, areas, and other measurements. Students will determine if ratios have a proportional relationship by testing using a table or graphing and</p>

<p>different units. For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{\frac{1}{2}}{\frac{1}{4}}$ miles per hour, equivalently 2 miles per hour.</p> <p>(M) 7.RP.02a 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>(M) 7.RP.02b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.</p> <p>(M) 7.RP.02c Represent proportional relationships by equations. <i>For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t = pn$.</i></p> <p>(M) 7.RP.02d Explain what a point (x, y) on the graph of a proportional relationship means in</p>	<p>determine the unit rate. Student will solve word problems using real world situations relating to ratios and proportional relationships.</p> <p>Classroom activities, direct instruction, group work, homework, and student led discussions.</p> <hr/> <p>Formative assessment</p> <p>Daily handouts used to assess students understanding and mastery of new content; Classroom games used to reinforce new skills; Questioning of students throughout the lesson; Unit Lesson Checks and Quizzes.</p> <hr/> <p>Differentiation</p> <p>Group Activities; Peer buddies;</p> <p>Quizzes- Students with accommodations will be given multiple choice questions with one answer eliminated and for short answer problem be given a sentence starter. When appropriate, students will be given the equations to use to solve the problem.</p> <p>Summative Assessment - Lower level students will be provided with the formulas. Higher level students will not be given the formula and will have to convert numbers accordingly.</p>
---	---

<p>terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.</p> <p>(M) 7.RP.03 Use proportional relationships to solve multistep ratio and percent problems. <i>Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.</i></p>	
<p>Resources</p>	
<p>Web links, TNReady workbooks, Teacher created worksheets</p>	

Reflection: Considering the planning, process and impact of the inquiry

Prior to teaching the unit	During teaching	After teaching the unit