

## Unit 4: Percent and Proportional Relationships

Final Project (90-Minute Block Period)

Date:

**Essential Question:** How can we use proportional relationships to solve percent problems?

<b>Learning Target</b> 7.RP.A.1, 7.RP.A.2, 7.RP.A.3, 7.EE.B.3	I can calculate the subtotal, discount, discount price, tip, and grand total of my birthday dinner by applying my knowledge of percentages.	
<b>Brain Starter</b> 10 minutes	(Per. 1) Students will answer the following in their Cornell Notes: Describe how the following terms will affect a restaurant bill: <ul style="list-style-type: none"><li>- Discount</li><li>- Tip</li></ul> (Per. 2) Students will answer the following in their Cornell Notes: <i>Catherine and her family went out to eat at the local Italian restaurant. The subtotal for their meal was \$95.25. Being that the server did an excellent job, Catherine wants to leave a 22% tip. What is the total that Catherine will pay for the meal, including tip?</i>	
<b>Mini-Lesson</b> Expectations 20 minutes	(Per. 1 and 2) The teacher and students will review the brain starter. It will be made clear that there is a variety of ways to answer the provided question.  (Per. 1 – 15 min) Students will then be provided with the following <u>expectations for the Unit 4 Final Project</u> . <b><i>Today, you will be calculating the total cost of your imaginary birthday dinner and writing about the process. You will select items from a menu, calculate the subtotal, discount, discount price, and tip before ultimately determining the total cost.</i></b> <ul style="list-style-type: none"><li>- Students will be provided a directions sheet laying out the steps needed to complete the assignment. Students will be cold called to provide reasonable answers for the guided notes as we review the steps as a class.</li></ul> (Per. 2 – 5 min) Students will be provided reminders while working on their Unit 4 Final Projects.	<b>Check for Understanding</b> A student will be cold called to read the Learning Target and to <b>paraphrase</b> what they will be aiming to accomplish during the Work Time.
<b>Work Time</b> 65 minutes	(Per. 1) Students will be provided 5 minutes to complete the following in their mixed ability groups: <ul style="list-style-type: none"><li>- Choose a menu where you would like to eat for your birthday.</li><li>- Name the restaurant.</li><li>- Choose and write (on front of booklet) 10 different items that you would like to eat from the selected menu</li></ul>	<b>Check for Understanding</b> Teacher will circulate the class and document the comprehension of the L.T. by using tallies on a seating chart.

	<p>Students will then be provided 3 minutes to complete the following:</p> <ul style="list-style-type: none"> <li>- Calculate your subtotal.</li> <li>- Begin to calculate your discount and discount price.</li> </ul> <p>(Per. 2) Students will use this time to complete their Unit 4 final projects. Students will be provided the following statement on the smartboard:</p> <ul style="list-style-type: none"> <li>- <i>Suggestion: Once your finish calculating your grand total for your birthday dinner, exchange your booklet with one partner and check that the calculated totals (subtotal, discount, discount price, tip, and grand total) are correct and that correct work is shown. Be sure to show your work (Part, %, W)</i></li> </ul>	<p>After 5-10 minutes has passed, teacher will provide time checks and will have students share their progress on the assignment thus far.</p>
<p><b>Closing</b> Final CFU 10 minutes</p>	<p>(Per. 1) U4 Final Project Progress (Through Plickers) <i>You will have one more period to complete the Unit 4 Final Project. Think about what you will need to do to complete the assignment on time next class.</i></p> <p>(Per. 2) <u>Unit 4 Step 2 Assignment Summary</u>: On the bottom of the provided handout, summarize the procedures that you followed to complete your Unit 4 Step 2 Assignment. Questions to consider:</p> <ul style="list-style-type: none"> <li>- <b><i>What groups were you in?</i></b></li> <li>- <b><i>What resources did you utilize?</i></b></li> <li>- <b><i>How did you complete each task?</i></b></li> <li>- <b><i>How do you know that you mastered the Learning Target?</i></b></li> </ul>	
<p><b>703 Co-Teaching: Team Teaching</b></p> <ul style="list-style-type: none"> <li>- <i>Teachers will deliver planned portions of the lesson to the whole class of students.</i></li> <li>- <i>During work time, in readiness groups, teachers are assigned to the following groups for the facilitation of the RWDW protocol as students are working.</i></li> </ul> <p><i>Mr – Groups 1, 2, 3</i> <i>Ms. – Groups 3, 4, 5</i> <i>Ms. – Groups 6, 7</i></p>		
<p><b>Reaching a Variety of Different Learners</b></p>	<p><u>Lowest 1/3</u>- These students will be provided with scaffolds in the form of key words underlined and a key set up for them in the U4 Final Project.</p> <p><u>Higher Performing</u>- These students will be asked higher level questions. They will also be asked to explain how the price may change if tax was included.</p> <p><u>Students with IEPs</u>- Modifications specific to student needs will be provided; specifically, verbal prompts, the repetition of directions, and preferential seating.</p> <p><u>ELLs</u>- The teacher will be using interactive reading strategies to break down a text. Try and include a detailed explanation of strengths and limitations Ryshub (703)/Max (704). Use the 'Questions' column for key words and/or points of confusion.</p>	

## Percent Task Directions

**Task:** Today you will be calculating the total cost of your imaginary birthday dinner and writing about the process. You will select items from a menu, calculate the subtotal, discount, discount price, and tip before ultimately determining the total cost.

**Step 1: Choose a menu:** Of the 3 choices, you will choose ONE menu and only select items from that menu. Some menus do not have a name on them so you may create a name (perhaps your favorite restaurant to eat at?).

**Step 2: Select 10 DIFFERENT items from the menu:** You must select 10 items from the menu of your choice, without repeating an item. Record the name, as well as the price on the front page of the booklet.

**Step 3: Calculate the subtotal of the items:**

- In order to find the subtotal you must \_\_\_\_\_ all of the items up.

**Step 4: Calculate the discount:** Because it's your birthday dinner, the restaurant you chose gave you a coupon for 15% off the entire meal.

- The discount is another word for a \_\_\_\_\_.

**Step 5: Calculate the discount price:** this is how much you pay after they apply the discount.

- So, you need to \_\_\_\_\_ the discount from the original price.

**Step 6: Calculate the tip:** Your waitress did an excellent job so you decided to leave her an 18% tip.

- The tip is another word for a \_\_\_\_\_.

**Step 7: Calculate the grand total:** This is when you figure out exactly how much your birthday dinner cost.

➤ So, you must \_\_\_\_\_ the discount price and the \_\_\_\_\_.

**Step 8:** This is the most important step because now you must explain how you arrived at your grand total. You are required to use important vocabulary to describe the process that you went through. You may find it useful to follow this directions sheet to help narrate the progression you made throughout the project.

➤ Include:

- when you multiplied, added or subtracted and what you found by doing so (discount, discount price, tip, grand total etc.)
- what was being multiplied, added or subtracted (tax rate, discount rate, tip rate, subtotal, sale price etc.)
- any and all times you had to round your answer to make it a dollar amount (to the nearest hundredth of a cent Ex: 4.56781 → \$4.57)

**\*\*Use the lines below to plan your response, before putting final answer in booklet\*\***

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Name: \_\_\_\_\_

Class: \_\_\_\_\_

CATEGORY	4	3	2	1	Teacher Assessment
<b>Calculating the Grand Total</b> <i>(4 points possible)</i>	All parts of the task (subtotal, discount, discount price, tip, and grand total) are complete with correct work shown and no conceptual or computational errors.	All parts of the task (subtotal, discount, discount price, tip, and grand total) are complete with correct work shown with one computational error.	Most parts of the task (subtotal, discount, discount price, tip, and grand total) are complete with correct work shown and a few conceptual or computational errors.	Some parts of the task (subtotal, discount, discount price, tip, and grand total) are complete with some work shown and both conceptual and computational errors.	
<b>Explanation of Process</b> <i>(4 points possible)</i>	Explanation is detailed and clear. Correct terminology is always used, making it easy to understand what was done.	Explanation is clear. Correct terminology is usually used, making it fairly easy to understand what was done.	Explanation is a little difficult to understand, but includes critical components. Correct terminology is used, but it is sometimes not easy to understand what was done.	Explanation is difficult to understand and is missing several components OR was not included. There is little use, or a lot of inappropriate use, of terminology and notation.	
<b>Final Score -</b>					
<b>Student Reflection -</b>					