

## Part 2: For students that need reinforcement of 7.RP.1—Unit rates

### OBJECTIVE: SWBA to

Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units (7.RP.1)

### INTRODUCTION + Vocabulary:

As discussed last week, a **rate** is a **ratio** that compares quantities in different units. **Rates** are commonly found in everyday life. The prices in grocery stores and department stores are rates. Rates are also used in pricing gasoline, tickets to a movie or sporting event, in paying hourly wages and monthly fees.

A **unit rate** is a **rate** where the second quantity is *one unit*, such as \$34 per pound, 25 miles per hour, 0.74€ per dollar. Last week we mentioned that a **unit price** or **unit cost** is a type of unit rate which is used to determine “best buys”. Best buys is equivalent the idiom “you get more bang for the buck.” Or more value for one’s money.

### Mini-Lesson (I Do):

The "Unit Price" (or "unit cost") tells you the cost per liter, per kilogram, per pound, etc., of what you want to buy. To determine the unit price you just divide the cost by the quantity:

**For Example:** 2 liters for \$3.80 is  $\$3.80/2$  liters = \$1.90 per liter

Or  $\$3.80 \div 2 = \$1.90$  per liter of milk.

Now, comparing Unit Prices can be a good way of finding which the “best buy” is.



For instance, what is best?

- 2 liters of milk at \$3.80, or 1.5 liters of milk at \$2.70?

In this case the “Unit” is liter of milk, and the unit prices are:

$\$3.80 \div 2$  liters = \$1.90 per liter

$\$2.70 \div 1.5$  liters = \$1.80 per liter

So, it is evident, based on the unit price, that 1.5 liters of milk for \$2.70 is a “better buy” than 2 liters of milk for \$3.80. Why do you get a better buy? Well, you get more milk for your money!

**Summarize** what you have taught them—Assess for understanding by show of thumbs up/down.

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

### Guided Practice (We do):

Containers of cashews sit on a shelf at a Walmart store in New York City. An 18-ounce container of Great Value Whole Cashews sells for \$7.68, while an 8-ounce container of Planters Cashews Halves & Pieces sells for \$3.98. What is the unit price per ounce of each brand of cashews? Which brand is the “best buy”?



**\$7.68**

Great Value Whole Cashews, 18.25 Oz



**\$3.98**

Planters Cashews Halves & Pieces, 8 Oz

### **Solution:**

To determine the best buy, first we must determine the unit price or unit cost. In this situation, the unit is ounce (oz).

**Great Value:**  $\$7.68 \div 18.25\text{oz} = \$0.42$  per Oz or 42 cents per ounce.

**PLANTERS:**  $\$3.98 \div 8\text{oz} = \$0.497$  per Oz or about 50 cents per ounce.

The **Great Value** brand not only is definitely the best buy! You pay 42 cents per ounce, and you get whole cashews!

Why are you paying more for less and for pieces, in the Planters brand? **Hint:** Have ever seen the Great Value brand advertise on TV? Have you seen Planters ads on TV?

**Again, summarize** what you have taught them—Assess for understanding by show of thumbs up/down

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

### Independent Practice (You Do):

#### Problem 1:

On August 16, 2012, “prices on the store-brand nuts, Great Value, at Walmart, in the greater Milwaukee area, were likely mislabeled and in violation of the state's weights-and-measures statute, a state official said Wednesday in response to a Journal Sentinel price check.” According Jerad Albrecht, a spokesman for the Wisconsin Department of Agriculture, Trade and Consumer Protection Agency, Walmart was overcharging customer. Based on a tip from a Walmart customer, the Journal Sentinel conducted a price check Tuesday and Wednesday in seven Walmarts in Milwaukee stores and found that the unit prices on the shelf was different from the real unit price of the container.

What is the true unit price of a container of Great Value Cashew Halves and Pieces?

Do you agree with the Journal Sentinel that Walmart was overcharging its customers? By how much were customers being overcharged?



Show your work:

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

2. A ShopRite store sign shows the unit price and the container price of two cans of meatballs.



<i>Campbell's</i>			<b>Spaghetti</b>		
6.6 ¢	14.75 OZ	98¢ per can	6.6 ¢	14.75 OZ	98¢ per can

Which brand of meatball is the best buy?

**Show your work.**

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

**3. Which cereal is a best buy?**

Cheerios - 2 box pk. - 40.7 oz.

**\$5.78**



Kellogg's® Frosted Flakes® Cereal - 61.9 oz.

**\$6.81**



**Show your work:**

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

4. The local library raised money by having a used book sale. Rebecca volunteered to help. Her task was to stick price labels on each of the 198 books on a bookshelf. In 5 minutes, Rebecca had labeled 18 books. At this rate, what was the total number of minutes Rebecca needed to label all 198 books?

**Show your work.**

**Answer** \_\_\_\_\_ minutes

All 198 books Rebecca labeled were priced at \$1.75 per book. By 4:00 p.m., all but 80 of those books had been sold. What was the total amount of money collected from the sale of these books?

**Show your work.**

**Answer** \$ \_\_\_\_\_

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

## **Final Summary**

In a U-Shape:

1. Re-state the objective to assess if students learn it
2. Elicit from students what they have learned and what they want to learn more about.
3. Tie what they learn to the lesson, and upcoming lessons (Next Saturday, they will learn about proportion, a comparison of two ratios!)