Comparing Ratios
Video Script

Scene		Full Transcript
1	**Erika:**	Hi; it's Erika. I'm here at the grocery store picking up a few odds and ends. I've got my list, and I'm ready to start; just some of the basics: root beer, cereal, ketchup. I'm shopping on a tight budget, so I want to find the best deals possible! Doesn't everybody? But what I've found is that a lot of my fellow consumers are not smart shoppers. The problem is that they forget about the importance of using proportional reasoning to look at unit costs, and they miss out on the best bargains. Grab a cart, and I'll help you stock up on proportional reasoning and get another *Problem Solved*!
2	**Erika:**	A ratio is a comparison of any two quantities. In a grocery store, you can express the relationship between the size of an item and the cost of an item as a ratio. Comparing these ratios helps determine the best buy.
3	**Voice-Over Erika:**	Here is the first item on my list, root beer. I quickly see that there are multiple quantities and different prices for each quantity. A 6-pack is $3.67, a 12-pack is $4.00, and a 24-pack is $5.99. Which do you think is the best deal? We can do this quickly. We don't need to know the price of one can. We can use the 12-pack as our unit. Start with the 12-pack, which is $4.00. Four dollars is easy to work with. If we divide the quantity, 12 cans, and the price, $4.00, in half, six cans would only be $2.00. The 12-pack is a better deal because the 6-pack is a lot more than $2.00, $3.67. And we know that the number of cans in two 12-packs equals the number of cans in one 24-pack. Two 12-packs would cost $8. That's more than the cost of a 24-pack, $5.99. So, the best deal is to buy the 24-pack at $5.99.
4	**Erika:**	Cross that one off the list. Now, on to the cereal.
	Voice-Over Erika:	Here is my cereal, but it comes in two different sizes, 14 ounces and 18 ounces. Can you tell which box is the better buy? These numbers are not as easy to work with as 6, 12 and 24, so let's find the price per ounce. The 14-ounce box of cereal is $2.78. The 18-ounce box is $3.06. Let's start with the 14-ounce box. It is difficult to work with $2.78, so let's round that up to $2.80. This is easier because 14 times 2 is 28, so 14 times 20 equals 280. To approximate the unit price, divide the $2.80 by 14. The actual cost is about 20 cents per ounce. So, if the 18-ounce box would cost 20 cents per ounce, it will cost 18 times $0.20 or $3.60. The actual cost of the 18-ounce box is $3.06, which is less than $3.60 so that's a better deal. You can also figure out the unit cost, or cost of one ounce of the 18-ounce box of cereal. Even though I love doing math mentally, this is a great example of when a calculator comes in handy. $3.06 divided by 18 equals 17 cents per ounce! In you go!
5	**Erika:**	You can compare all sorts of items using unit costs. I sometimes play a little game in the grocery store, trying to find the most expensive item per

		ounce. Can you guess what it is? Steak? Lobster? Nope, at this store it's a spice called saffron.
	Voice-Over Erika:	The total cost is $15.99 for three hundredths of an ounce! That means I would need approximately 33 of these little containers to make one ounce. Thirty-three times 16 is $528.00 an ounce! Wow.
6	**Erika:**	I think I'm gonna stick with ketchup!
	Voice-Over Erika:	Here is the ketchup. I could find the unit price, or price per ounce for each bottle, but there's a much easier way. Look at the three bottles, 24 ounces, 32 ounces, and 64 ounces. The number of ounces in each bottle is a multiple of eight. I can find the cost of 8 ounces in each size. Twenty-four ounces divided by 3 is 8 ounces. So, I just need to divide the $2.09 by 3 to find the 8 ounces. It is easier to use $2.10. Two dollars and ten cents divided by 3 is exactly $0.70 for 8 ounces. Now, let's look at the 32-ounce bottle. Thirty-two divided by 4 is 8 ounces. To find the cost of 8 ounces, I need to divide the price by four. $2.39 cents is close to $2.40 and $2.40 divided by 4 is $0.60. That's a better deal. Eight ounces of the 32-ounce bottle costs $0.60 and 8 ounces of the 24-ounce bottle costs $0.70. Our other option is the 64-ounce bottle of ketchup for $4.99. Thirty-two ounces is half of 64 ounces. Four dollars and ninety-nine cents is almost $5.00. Half of $5.00 is $2.50. The 32-ounce bottle of ketchup costs less than that. I don't even need to determine the cost of 8 ounces this time.
7	**Erika:**	I got everything! See, proportional reasoning not only helps you compare ratios, it can also save you money! It just makes good dollars and sense. *Problem Solved*!