

Lesson Description

This lesson takes students through the process of determining the best purchase price of an item by looking at incentives offered to the purchaser. The lesson uses the example of shopping for a plasma TV. Students compare buying at the sale price, using a coupon, and taking advantage of a rebate offer when purchasing the TV. They then analyze the results to determine the “best deal.” Next, students choose four problems to solve to find the lowest/best total price.

Texas Essential Knowledge and Skills (Target standards)

- **PFL Math 7.13F:** analyze and compare monetary incentives including sales, rebates and coupons

Texas Essential Knowledge and Skills (Prerequisite standards)

- **Math 7.1:** Mathematical Process Standards
- **Math 7.3A:** add, subtract, multiply, and divide rational numbers fluently
- **Math 7.3B:** apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers
- **Math 7.4D:** solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems

National Standards (Supporting standards)

- **CEE Buying Goods and Services 4.5** Informed decision making requires comparing the costs and benefits of spending alternatives. Costs are things that a decision maker gives up; benefits are things that a decision maker gains.

CEE - Council for Economic Education

CCSS - Common Core State Standards

- **CCSS Math:** Standards for Mathematical Practices
- **CCSS Math 7.NS:** Apply properties of operations as strategies to add and subtract rational numbers
- **CCSS Math 7.NS:** Apply properties of operations as strategies to multiply and divide rational numbers
- **CCSS Math 7.NS:** Solve real-world and mathematical problems involving the four operations with rational numbers

PFL Terms

- Sale
- Coupon
- Rebate
- Redeem

Time Required

One 45-minute class period

Materials Required

- A copy of **Activity 7.6-1** and **7.6-2** for each student
- Paper and pencil for each pair of students
- A white boards and a marker (optional) for each student
- Exit ticket for each student

Procedure

Engage

1. Set the stage for the lesson by giving students a scenario such as the following:

Last weekend I was so bummed out. I finished grading papers, did the yard work and other chores, and was all set to relax and watch the big game. I pushed the button on the TV remote and nothing. Nothing?!! Do it again. Still nothing. Oh man, I guess my old TV was done. Time to go shopping for a new one.

Now I consider myself a pretty smart shopper. In other words, I get the best deal I can find for my money. School teachers need to spend their money wisely to make it go as far as possible.

Explore/Explain

2. Distribute a white board and a marker (or paper) to each student. Lead a Think-Pair-Share (TPS) about smart shopping using the prompts below. Have each student first answer the questions on the white boards or on paper. Next, have two or three students discuss the answer with the class. Third, have several students share their answers while students add to their TPS list.
 - a. *What are some things that someone might do for you to consider them a smart shopper? (Sample Responses: compare prices, buy items on sale, buy non-name brand items, etc.)*
 - b. *What does it mean for an item to be on sale? (The cost of the item is temporarily less than the regular price. After a short period of time, the cost will return to the regular price.) An example of a sale might be that a particular pair of jeans regularly sells for \$39.95. For one week only, the local department store has them on sale for \$24.95. After the week is up, the price will return to \$39.95.*
 - c. *What else might a smart shopper do? (A smart shopper might use a coupon.) What does that mean? (When a shopper purchases the item with a coupon (same size, brand, and quantity), the value printed on the coupon is subtracted from the purchase price. The coupon is then sent to the manufacturer who reimburses the store the coupon value plus a handling fee.) For example, a \$1.00 coupon off the purchase price of a package of Oreo cookies would bring the price down from \$3.99 for a package to \$2.99 for the same package of Oreos.*
 - d. *Can you think of any other things a smart shopper might do? (A smart shopper might use a rebate.) Can you explain a rebate? (A rebate is money you get back for buying a specific item. When you get a rebate, you first purchase the item. Then, you have a definite period of time to send in the rebate certificate, your sales receipt, and a proof of purchase that you really did buy the item. In 6-8 weeks, you should receive your rebate.) There are many rebates offered; some of the most popular ones are for the purchase of a new car. These can be worth hundreds or even thousands of dollars.*
 - e. *Manufacturers and stores use sales, coupons, and rebates to attract business. These are incentives used to get consumers to purchase these items. They also work in favor of the consumer as they reduce the regular cost of the item. Can you think of any other ways that might help a consumer spend less on a purchase or an incentive offer*

to entice a consumer to purchase a specific item? (**Sample response: comparison shopping, free gifts given when a purchase is made, airline miles, etc.**) Accept reasonable responses. Have students explain their response so that all students have understanding.

3. Say: *Now that you know some of the things a smart shopper would consider. Let's go shopping!*

Before heading out to the store, I sat down with the sale ads in the newspaper and also got online to search out the best deal. This is what I found.

4. Distribute **Activity 7.6-1** to each student. Explain that each row shows a different incentive for customers to purchase the same 50-inch Panasonic Plasma TV. The Big Box Store has a sale on the TV, up to 25% off. Neighborhood Depot has a coupon and Electronic Warehouse is offering a rebate. Ask students to predict which one of the three is the best deal.
5. Tell students that we will work through each problem together to determine the best deal including tax. Assume the tax rate for this city is 8.25%. Work through each of the examples with the students. Ask students how they would calculate the cost of the TV in each situation. Students should work the steps on scratch paper or individual white boards. Check for understanding as students work through the steps. Be sure to model for the class so that all students remain on target.

Big Box Store - Sale

Identify discount for 50 inch TV: 15% off
 Calculate discount: $\$729.99 \times .15 = \109.50
 Calculate cost after discount: $\$729.99 - \$109.50 = \$620.49$
 Calculate tax : $\$620.49 \times .0825 = \51.19
 Calculate final price with tax: $\$620.49 + \$51.19 = \$671.68$
 Calculate total cost with delivery: $\$671.68$ (free delivery)

Neighborhood Depot - Coupon

Identify discount for 50 inch TV: \$100 off
 Calculate cost after discount: $\$699.99 - \$100 = \$599.99$
 Calculate tax : $\$599.99 \times 8.25\% (.0825) = \49.50
 Calculate discounted price with tax: $\$599.99 + \$49.50 = \$649.49$
 Calculate total cost with delivery: $\$649.49 + \$50 = \$699.49$

Electronic Warehouse - Rebate

Identify discount for 50 inch TV: \$150 rebate
 Calculate tax : $\$734.95 \times .0825 = \60.63
 Calculate price with tax: $\$734.95 + \$60.63 = \$795.58$
 Calculate total cost with delivery: $\$795.58 + \$35.00 = \$830.58$
 Calculate the total cost factoring in the rebate: $\$830.58 - \$150.00 = \$680.58$

6. Lead a class discussion about smart shopping using the prompts below.
 a. *Which is the best deal? (The first one: \$671.68 at the Big Box Store)*

- b. *If I had purchased the TV at regular price, I would have had to pay \$790.21 including the taxes. How much are my savings by buying at the sale price rather than the regular price? (\$118.53)*
- c. *Why are the savings more than the 15%? (When the purchase price is reduced, so are the taxes.)*
- d. *Why is the rebate subtracted after taxes and delivery charges but the coupon is subtracted before taxes and delivery charges? (Rebates are usually applied after buying the product and getting it home. Before you get the purchase to your home you must pay the taxes and delivery charge if applicable. Then you mail in a proof of purchase and receive the rebate weeks later in the mail. A coupon is used immediately at the time of purchase before taxes.)*
- e. *How do our findings compare to your prediction? Why do you think that happened?*

Elaborate

7. Distribute **Activity 7.6-2** to each student. Say: *Now that you are becoming smart shoppers, you will use what you now know to find the best deals and prices on some everyday purchases. Activity 7.6-2 has 6 different situations. Some use coupons, rebates, sales, or a combination of those. Show your work and be sure to explain your reasoning when asked.*

Evaluate/End

8. Distribute exit tickets for students to complete before leaving the classroom. As students exit the classroom, they hand the teacher completed exit tickets.

EXTENSIONS

1. Provide students with grocery ads and a box of coupons. Students find coupons that match with the grocery ad. They determine the amount of money that a consumer will save using the coupon.
2. Students choose an electronic item they would like to have, i.e., computer, game system, digital camera, etc. Using a variety of available resources, they research the cost of buying this item for the best deal. Encourage students to look for purchase incentives such as coupons, sales, and/or rebates. Students calculate the percentage saved. Recognize the students who saved the greatest percentages and got the "Best Deals."

Activity 7.6-1

Name _____

Class Period _____



Directions: Compare the prices of the 50-inch Panasonic Plasma TV to determine the best deal. Be sure to consider taxes and delivery charges, if applicable.

Big TV Sale at the Big Box Store

22-30 inch TVs	25% off
32-42 inch TVs	20% off
44-48 inch TVs	18% off
50-55 inch TVs	15% off
60-inch or larger TVs	10% off

up to 25% off
&
free delivery

Brands include: Samsung, Vizio, Panasonic, LG, RCA, and Insignia.

50-inch Panasonic Plasma TV

\$729.99

Sale price:

8.25% tax:

Delivery charge:

Total:

NEIGHBORHOOD DEPOT VALUABLE COUPON

Coupon good for **\$75 off** all TVs smaller than 48 inches
or

\$100 off all TVs 48 inches or larger. Coupon subject to
TVs in stock.

Delivery Charge: \$50.00

Expiration Date: June 30

50-inch Panasonic Plasma TV

\$699.99

Less coupon:

8.25% tax:

Delivery charge:

Total:

Electronic Warehouse

Purchase any plasma TV in stock this month and receive rebate when you submit UPC proof of purchase and original sales receipt. Rebate certificate must be received by June 15th.

Allow 6 weeks to process rebate.

22-36 inch TV	\$100 rebate
37-48 inch TV	\$125 rebate
50-65 inch TV	\$150 rebate
66 inch and larger TV	\$175 rebate

Delivery Charge: \$35

50-inch Panasonic Plasma TV

\$734.95

8.25% tax:

Delivery charge:

Rebate:

Total:



Key 7.6-1

Name _____

Class Period _____



Directions: Compare the prices of the 50-inch Panasonic Plasma TV to determine the best deal. Be sure to consider taxes and delivery charges, if applicable.

Big TV Sale at the Big Box Store

22-30 inch TVs	25% off
32-42 inch TVs	20% off
44-48 inch TVs	18% off
50-55 inch TVs	15% off
60-inch or larger TVs	10% off

up to 25% off
&
free delivery

Brands include: Samsung, Vizio, Panasonic, LG, RCA, and Insignia.

50-inch Panasonic Plasma TV

\$729.99

Sale price: \$620.49

8.25% tax: \$51.19

Delivery charge: 0

Total: \$671.68

NEIGHBORHOOD DEPOT VALUABLE COUPON

Coupon good for **\$75 off** all TVs less than 48 inches or **\$100 off** all TVs 48 inches or larger. Coupon subject to TVs in stock.

Delivery Charge: \$50.00

Expiration Date: June 30

50-inch Panasonic Plasma TV

\$699.99

Less coupon: \$599.99

8.25% tax: \$49.50

Delivery charge: \$50.00

Total: \$699.49

Electronic Warehouse

Purchase any plasma TV in stock this month and receive rebate when you submit UPC proof of purchase and original sales receipt. Rebate certificate must be received by June 15th. Allow 6 weeks to process rebate.

22-36 inch TV	\$100 rebate
37-48 inch TV	\$125 rebate
50-65 inch TV	\$150 rebate
66 inch and larger TV	\$175 rebate

Delivery Charge: \$35

50-inch Panasonic Plasma TV

\$734.95

8.25% tax: \$60.63

Delivery charge: \$35.00

Less Rebate: \$150.00

Total: \$680.58

Activity 7.6-2

Name _____

Class Period _____

Directions: Select the “best deal” for purchasing the item(s) described. Show your work and explain your reasoning on a separate sheet of paper. Then calculate the final cost with a tax rate of re 8.25%.



1. Shiny Shampoo cost \$6.98 for a 14 oz. bottle. A 28 oz. bottle of Shiny Shampoo cost \$12.99. You have a \$2.00 coupon good on any size bottle of Shiny Shampoo. Which bottle is the better buy if you use the coupon?

Best choice per oz:

Total cost:

2. Aunt Ginny’s triplets are playing basketball this season and need shoes. The regular price of basketball shoes is \$39 per pair. She found a store that offered a rebate of \$10 per pair (limit 2 per family). Uncle Ben found a store that sells the same shoes at the same price advertising Buy One Pair, Get Second Pair Half Off. Which is the better offer before taxes? After taxes?



Best Choice for 3 pairs:

Total cost for 3 pairs:

3. Your birthday is coming up, and your parents said you could invite four friends to a concert by your favorite band. Ticket prices include tax and cost \$35.00 for one, \$65.00 for two, and \$125 for a group of four. If purchased before the 15th, you receive a 5% discount. Today is the 10th. What will be the price for 5 tickets purchased today?

Total cost for 5 tickets:



4. Charlie needs 6 pairs of socks. He can buy 2 pairs of socks for \$4.99, 3 pairs for \$8.49, or 6 pairs for \$15.95. Which packages should he buy and what will be the total cost before tax?

Best Choice:

Total cost for socks:

5. Carly plans to buy exactly 3 cans of Soupy Soup. Evaluate the three ads and choose the deal that provides the greatest saving. Then give a reason for your choice.

Soupy Soup 20% off Regular price: \$1.50	Soupy Soup Buy 2 Get 1 Free Regular price: \$1.50	 Soupy Soup Regular price: \$1.50 Coupon: Save 50¢ on one can
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Best Choice:

Total cost for 3 cans:



6. The Smoothie Store is having a sale: 2 Fruit Smoothies for \$3.89. I really want a strawberry smoothie. My BFF wants to get a Banana Smoothie. If we both get a smoothie, what is the total cost for each smoothie?

Total cost for each:

Key 7.6-2

Name _____

Class Period _____

Directions: Select the “best deal” for purchasing the item(s) described. Be sure to show your work and explain your reasoning when asked on another sheet of paper. Taxes are 8.25% (.0825).



1. Shiny Shampoo cost \$6.98 for a 14 oz. bottle. A 28 oz. bottle of Shiny Shampoo cost \$12.99. You have a \$2.00 coupon good on any size bottle of Shiny Shampoo. Which bottle is the better buy if you use the coupon?

$$\begin{aligned}
 &14 \text{ oz. bottle} && \$6.98 - \$2.00 = \$4.98 \text{ for a 14 oz. bottle} \\
 & && \$4.98 \div 14 \text{ oz.} = .356 \text{ per oz.} \\
 & && \$4.98 \times .0825 = \$0.41 \text{ tax} \\
 & && \$4.98 + \$0.41 = \$5.39 \\
 &28 \text{ oz. bottle} && \$12.99 - \$2.00 = \$10.99 \\
 & && \$10.99 \div 28 \text{ oz.} = \$3.95 \text{ per oz.}
 \end{aligned}$$

Best choice per oz: 14 oz.**Total cost: \$5.39**

2. Aunt Ginny's triplets are playing basketball this season and need shoes. The regular price of basketball shoes is \$39 per pair. She found a store that offered a rebate offer of \$10 per pair (limit 2 per family). Uncle Ben found a store that sells the same shoes at the same price advertising Buy One Pair, Get Second Pair Half Off. Which is the better offer before taxes? After taxes?



Before taxes:

Rebate offer: $\$39 \times 3 \text{ pairs of shoes} = \117.00
 $\$117.00 - 2(\$10) \text{ rebate} = \$97.00$

Buy One Pair, Get Second Pair Half Off $\$39 + \$39(.5) + \$39 = \97.50
 $\$97.00 < \97.50 (rebate is better offer)

After taxes:

Rebate offer: $\$39 \times 3 \text{ pairs of shoes} = \117.00
 $\$117.00 \times .0825 = \9.65 tax
 $\$117 + \$9.65 = \$126.65 \text{ Total}$
 $\$126.65 - 2(\$10) \text{ rebate} = \$106.65 \text{ Final Cost}$

Buy One Pair, Get Second Pair Half Off $\$39 + \$39(.5) + \$39 = \97.50
 $\$97.50 \times .0825 \text{ tax} = \8.04
 $\$97.50 + \$8.04 \text{ tax} = \$105.54 \text{ Total/Final Cost}$

Before taxes:
Best Choice for 3 pairs:
Rebate offer (\$97.00)

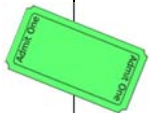
After taxes:
Store Special Buy One Pair, Get Second Pair Half Off



Total cost for 3 pairs:
\$105.54

3. Your birthday is coming up, and your parents said you could invite four friends to a concert by your favorite band. Ticket prices include tax and cost \$35.00 for one, \$65.00 for two, and \$125.00 for a group of four. If purchased before the 15th, you receive a 5% discount. Today is the 10th. What will be the price for 5 tickets purchased today?

$$\begin{aligned}
 &5 \text{ tickets:} && \$125.00 + \$35.00 = \$160.00 \\
 &5\% \text{ discount} && \$160.00 \times .05 = \$8.00 \\
 &\text{Discounted cost of tickets} && \$160.00 - \$8.00 = \$152.00
 \end{aligned}$$

Total cost for 5 tickets:
\$152.00



<p>4. Charlie needs 6 pairs of socks. He can buy 2 pairs of socks for \$4.99, 3 pairs for \$8.49, or 6 pairs for \$15.95. Which packages should he buy and what will be the total cost before tax?</p> <p><i>Package of 2:</i> $\\$4.99 \times .0825 = .41$ $\\$4.99 + .41 = \\5.40 <i>price per pair</i> $\\$5.40 \div 2 = \\2.70 3 packages of 2 = 6 pairs $\\$5.40 \times 3 = \\16.20</p> <p><i>Package of 3:</i> $\\$8.49 \times .0825 = .70$ $\\$8.49 + .70 = \\9.19 <i>price per pair</i> $\\$9.19 \div 3 = \\3.06 2 packages of 3 = 6 pairs $\\$9.19 \times 2 = \\18.38</p> <p><i>Package of 6:</i> $\\$15.95 \times .0825 = 1.32$ $\\$15.95 + \\$1.32 = \\$17.27$ <i>price per pair</i> $\\$17.27 \div 6 = \\2.88</p>	<p>Best Choice: <u>3 packages with 2 pair in each</u></p> <p>Total cost for socks: <u>\$16.20</u></p>
<p>5. Carly plans to buy exactly 3 cans of Soupy Soup. Evaluate the three ads and choose the deal that provides the greatest saving. Then give a reason for your choice.</p> <div style="display: flex; justify-content: space-around; border: 1px dashed gray; padding: 10px;"> <div style="border: 1px dashed gray; padding: 5px; text-align: center;"> <p>Soupy Soup</p> <p>20% off</p> <p>Regular price: \$1.50</p> </div> <div style="border: 1px dashed gray; padding: 5px; text-align: center;"> <p>Soupy Soup</p> <p>Buy 2 Get 1 Free</p> <p>Regular price: \$1.50</p> </div> <div style="border: 1px dashed gray; padding: 5px; text-align: center;"> <p>Soupy Soup</p> <p>Regular price: \$1.50</p> <p>Coupon: Save 50¢ on one can</p> </div> </div>  <p><i>Sale</i> $\\$1.50 \times .20 = .30$ $\\$1.50 - .30 = \\1.20 per can $\\$1.20 \times 3$ cans = \$3.60</p> <p><i>Buy 2 Get 1 Free</i> $\\$1.50 + \\$1.50 + 0 = \\$3.00$ (tax) $\\$3.00 \times .0825 = .25$ (with tax) $\\$3.00 + .25 = \\3.25</p> <p><i>Coupon</i> $\\$1.50 \times 3 = \\4.50 $\\$4.50 - .50$ (coupon) = \$4.00</p> <p><i>If 3 separate Coupons</i> $\\$1.50 - .50 = \\1.00 per can $\\$1.00 \times 3 = \\3.00 three cans with three coupons</p>	<p>Best Choice: <u>Buy 2 Get 1 Free</u></p> <p>Total cost for 3 cans: <u>\$3.25</u></p>
<p>6. The Smoothie Store is having a sale: 2 Fruit Smoothies for \$3.89. I really want a strawberry smoothie. My BFF wants to get a Banana Smoothie. If we both get a smoothie, what is the total cost for each smoothie?</p>  <p><i>Tax</i> $\\$3.89 \times .0825 = .32$ <i>Cost for smoothies with tax</i> $\\$3.89 + .32 = \\4.21 <i>Split cost with BFF</i> $\\$4.21 \div 2 = \\2.105</p>	<p>Total cost for each: <u>One will pay \$2.10 and one will pay \$2.11.</u></p>

Exit Ticket

The most important thing I learned from today's lesson is

Three possible ways to save money when purchasing an item are:

- 1.
- 2.
- 3.

Name:

Teacher:

Exit Ticket

The most important thing I learned from today's lesson is

Three possible ways to save money when purchasing an item are:

- 1.
- 2.
- 3.

Name:

Teacher:

Exit Ticket

The most important thing I learned from today's lesson is

Three possible ways to save money when purchasing an item are:

- 1.
- 2.
- 3.

Name:

Teacher:

Exit Ticket

The most important thing I learned from today's lesson is

Three possible ways to save money when purchasing an item are:

- 1.
- 2.
- 3.

Name:

Teacher: