Title: Is Bigger Always Better?

Brief Overview:

This unit reviews the conversions between fractions, decimals, and percents and teaches the concept of unit pricing through real-world application. Not only do students learn the mathematics behind the concept, but they become more educated consumers as well.

NCTM Content Standard/National Science Education Standard:

- Work flexibly with fractions, decimals, and percents to solve problems;
- Compare and order fractions, decimals, and percents efficiently
- Understand and use ratios and proportions to represent quantitative relationships
- Select appropriate methods and tools for computing with fractions and decimals from among mental computation, estimation, calculators or computers, and paper and pencil, depending on the situation, and apply the selected methods
- Organize and consolidate their mathematical thinking through communication
- Communicate their mathematical thinking coherently and clearly to peers, teachers, and others
- Analyze and evaluate the mathematical thinking and strategies of others
- Use the language of mathematics to express mathematical ideas precisely
- Make and investigate mathematical conjectures

Grade/Level:

Grades 6-8/Pre-Algebra

Duration/Length:

Four 45 minute class periods

Student Outcomes:

Students will:

- Write and compare ratios from real world situations.
- Calculate the unit price in order to determine the best buy.
- Justify best buy choices using mathematical calculations.
- Reflect upon previous knowledge of purchasing.

Materials and Resources:

- Ten sided number cube, cards labeled 0-9, or a spinner numbered 0-9
- Play money

- Scissors
- Circular ads to a variety of stores from a Sunday newspaper.
- Calculators
- Five different packages labeled with price and units (example: a can of tennis balls with 3 in the can)
- Access to internet for student research of grocery stores

- Copies of worksheets
    - Is Bigger Always Better?
    - Comparing Rationals Game
    - Fraction, Decimal, Percent Conversions Organizer
    - Re-teach: Conversions
    - Enrichment: Ordering Rationals (cut in half)
    - Exit Pass A (cut into fourths)
    - Unit Pricing Exploration
    - Re-teach: Unit Pricing
    - Exit Pass B (cut into fourths)
    - What's the Best Buy? (cut into fourths)
    - Shopping at the Market
    - Re-teach: Unit Pricing 2
    - Is Bigger Always Better? Reflections

Development/Procedures:

Day 1

- Pre-assessment:
  Assess prior knowledge on unit rates and comparison of decimals with the worksheet "Is Bigger Always Better" Keep responses for re-evaluation on day 3. (Students should already understand how to convert fractions to decimals to percents as well as why we use the algorithms that we do.)

- Exploration:
  Distribute the "Comparing Rationals Game" worksheet. Roll a number cube and have the students put that number in one of the available squares for that particular problem. Roll the number cube until all boxes are filled in, and have the students place <, >, or = in the circle to complete the statement. Invite students to share their answers with the class and explain why they chose <, >, or =. Modify the number of questions in this game as necessary based on the prior knowledge of the students you are teaching and time constraints.

- Explanation:
  Copy the two page organizer "Fraction, Decimal, Percent Conversion Organizer" back-to-back so that the dotted lines match up. Guide the students through the steps of conversions between fractions, decimals, and percents. Complete the organizer by calling on students to determine steps

for each flap of the organizer. Write them on the board for students to copy.

- Application:
  Have the students apply their knowledge by completing the examples on the organizer. Review student responses as a class.

- Differentiation
  - Re-teach:
    Create a small group of students who may need re-teaching and pass out the "Re-teach: Conversions" worksheet. Work through the examples as a group to ensure student understanding.

  - Enrich:
    Pass out the "Enrichment: Ordering Rationals" worksheet and allow students to order the fractions, decimals, and percents from least to greatest.

- Assessment:
  Distribute the "Exit Pass A" and have the students turn it in as the students leave the room. Review how students did and group students according to strengths and weaknesses for the next activity.

Day 2 (90 minutes or two 45 minute classes)

- Exploration:
  Display a pack of three notebooks at the front of the room. Ask the students, "How much did I pay for one notebook if the pack of three cost $2.25?" Solicit responses from the students and have them explain their thinking. Show the students four play one-dollar bills and four play quarters. Invite a student to the overhead and ask them to separate out the amount of money needed to purchase the notebooks. Ask the student to set up a one-to-one correspondence with the notebooks and the money. Lead the student to the idea of trading in the dollars for eight quarters, and further lead the student into setting up three quarters for each notebook.

  -Set up five stations with a different packaging at each station. Refer to the worksheet "Unit Pricing" for station ideas and modify as necessary based on what items are available. Two different versions of this activity are available based on the materials that the teacher uses. Set up each station with fake money, providing more money than is needed for the item. Place, for example, four one dollar bills and four quarters at the tennis ball station where the tennis ball can costs $3.75. Divide the class into five groups. Explain to the students that they will move to each station and separate the money and the items into a one-to-one correspondence to discover the unit rate of each item.

- Explanation:
  -Bring the students back together as a whole group. Invite one person from each group up to the board and ask them to show the work and final answer for one item in the stations.

  Ask the students to individually answer the reflection question on the worksheet. Provide the opportunity for students to record their answers where other students may read them. (Transparency paper, document camera, white board, etc.) Ask a few students to share their response with the class. Assess student responses and clarify any mistakes or misconceptions. Allow all students to modify their answers as necessary.

- Application:
  Have the students work individually to answer the application question on the worksheet using what they have learned about unit pricing. Allow the students to share their answers with a partner and then discuss as a whole group.

- Differentiation: (Approximate time: 15 minutes)
  - Re-teach:
    Create a small group of students who may need re-teaching and pass out the "Re-teach: Unit Pricing" worksheet. Work through the examples as a group to ensure student understanding.

  - Enrich:
    Pass out a circular ad to students who have mastered the concept and may need extension. Ask them to choose items they would want to buy (for example, a 42" television from an electronics store) and determine the unit price. Require the students to write ratios and find unit price, and some students may discover how to determine the best buy for similar items. Have students write their answers on a separate sheet of paper along with an explanation of why they think the item is expensive, reasonably priced, or inexpensive based on the unit price.

- Assessment:
  Distribute "Exit Pass B" for the students to complete independently and turn in as they leave the room. Review how students did to determine who may need re-teaching the following day.

Day 3

- Exploration:
  Hand the students one of four different questions from "What's the Best Buy?" as they enter the room. Have the students answer the question they are handed, which will require them to determine the best buy.

- Explanation:
  Have the students find another student who has the same question from "What's the Best Buy?" as they do. Tell the pairs of students to compare their answers and correct any mistakes. Incorporate the comparison of decimals from day 1 into the discussion if necessary.

- Application:
  Students will complete three of six activities on the "Shopping at the Market" worksheet. Choose one or two students to share their answers to each activity and have the class briefly discuss each answer.

- Differentiation
  - Re-teach:
    Assign "Re-teach: Unit Pricing 2" for students who are in need of more guidance and instruction. Work through the examples as a group to ensure student understanding.

  - Enrich:
    Have students write their own best buy questions using circular ads as a resource. Encourage the students can create multi–part questions. Require that they switch their questions with a partner and solve each other's question.

Summative Assessment:

The summative assessment will be the second version of the "Is Bigger Always Better?" worksheet. Have students complete it for homework and review answers the next day. Students will need their original responses in order to complete the reflection questions.

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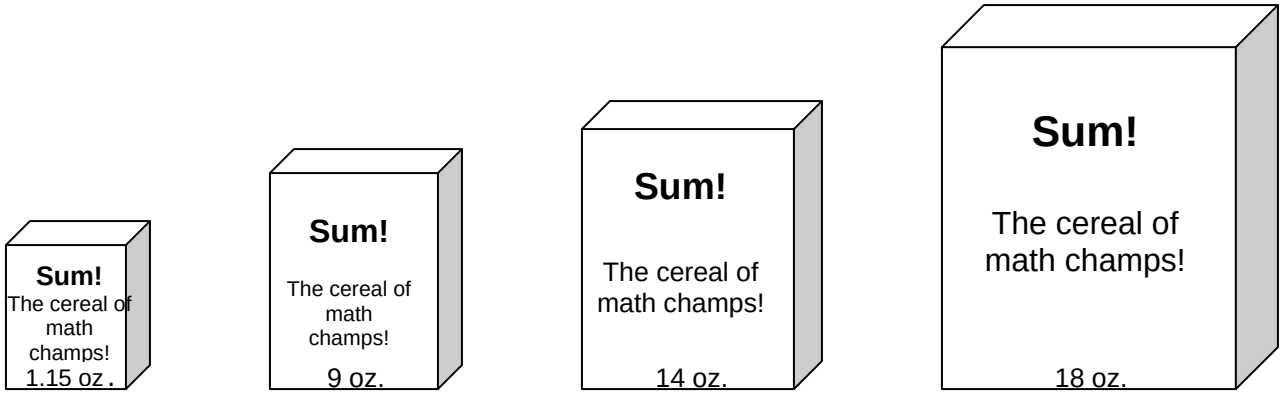
Is Bigger Always Better?



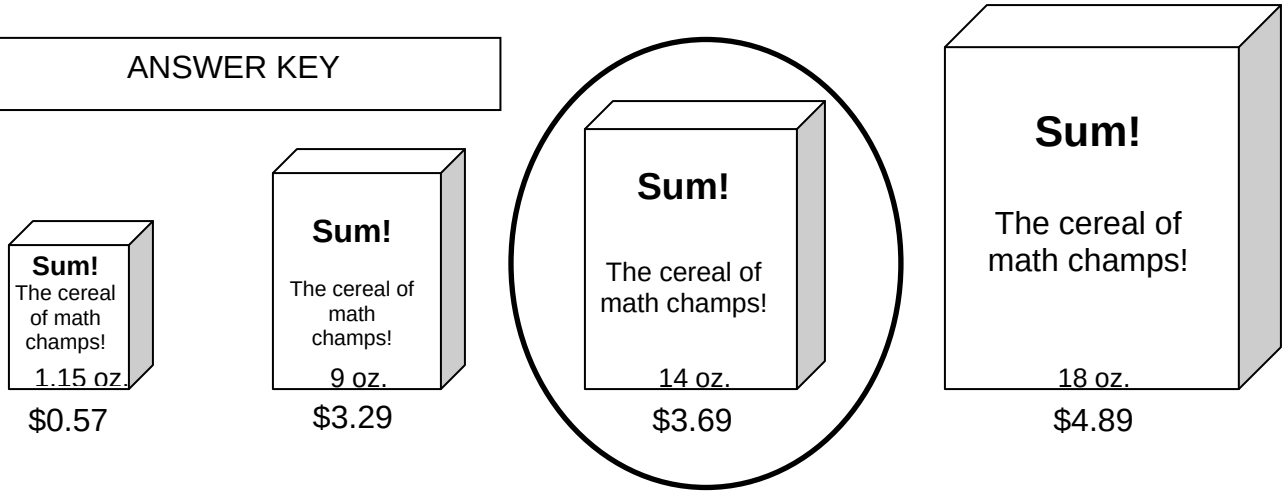
$0.57 $3.29 $3.69 $4.89

Consider the above boxes of Sum! cereal. Which box provides the best buy? Circle your answer and then in the box below, explain your answer using complete sentences and math calculations. Be sure to include the following points in your answer:

- A clear answer choice
- A definition or explanation of what is meant by the phrase “the best buy”
- Mathematics to justify your choice

Is Bigger Always Better?

ANSWER KEY



Consider the above boxes of Sum! cereal. Which box provides the best buy? Circle your answer and then in the box below, explain your answer using complete sentences and math calculations. Be sure to include the following points in your answer:

- A clear answer choice
- A definition or explanation of what is meant by the phrase "the best buy"
- Mathematics to justify your choice

(Student justifications will vary.)

The best buy is the 14 ounce box of Sum! Cereal. Best buy refers to choosing the item with the lowest unit price.

$0.57 / 1.15 oz. = $0.50/oz.

$3.29 / 9 oz = $0.37/oz.

$3.69 / 14 oz. = $0.26/oz.

$4.89 / 18 oz. = $0.27/oz.

Name: _____

Comparing Rationals Game

Fill in each of the boxes with the numbers rolled in the order in which they are rolled. Fill the circle with either <, >, or =.

Example: 8 3 > 6 1

A ☐☐ ○ ☐☐

B ☐☐ ○ ☐☐

C ☐.☐☐ ○ ☐.☐☐

D ☐.☐☐ ○ ☐.☐☐

E ☐.☐☐ ○ ☐.☐

F ☐.☐☐ ○ ☐.☐

G ☐.☐ ○ ☐

H ☐.☐ ○ ☐

I .☐☐ ○ ☐☐%

J .☐☐ ○ ☐☐%

K ☐/☐ ○ ☐☐%

L ☐/☐ ○ ☐☐%

M ☐/☐ ○ .☐☐

N ☐/☐ ○ .☐☐

Steps for converting a **FRACTION into a DECIMAL**

(STEP 3: write the steps here)

(STEP 2: cut along these dotted lines to form three flaps)

Steps for converting a **DECIMAL into a PERCENT**

(STEP 3: write the steps here)

(STEP 2: cut along these dotted lines to form three flaps)

Steps for converting a **PERCENT into a FRACTION**

(STEP 3: write the steps here)

(STEP 1: fold along this line – this is the inside of your organizer)

(STEP 4: solve the following example)

2/5 to a decimal

(STEP 4: solve the following example)

0.43 to a percent

(STEP 4: solve the following example)

60% to a fraction

Is Bigger Always Better?

This is the back of your organizer.

(STEP 1: fold along this line – this is the outside of your organizer)

Steps for converting a **FRACTION into a DECIMAL**

(STEP 2: cut along these dotted lines to form three flaps)

Steps for converting a **DECIMAL into a PERCENT**

(STEP 2: cut along these dotted lines to form three flaps)

Steps for converting a **PERCENT into a FRACTION**

Is Bigger Always Better?

Steps for converting a **FRACTION into a DECIMAL**

(STEP 3: write the steps here)

Divide the numerator by the denominator

_____

denominator) numerator

(STEP 2: cut along these dotted lines to form three flaps)

Steps for converting a **DECIMAL into a PERCENT**

(STEP 3: write the steps here)

Move the decimal two places to the right and add a percent symbol (add zero's as necessary)

(STEP 2: cut along these dotted lines to form three flaps)

Steps for converting a **PERCENT into a FRACTION**

(STEP 3: write the steps here)

Place the percent over 100 and remove the percent sign then simplify

(STEP 1: fold along this line – this is the inside of your organizer)

(STEP 4: solve the following example)

2/5 to a decimal

```
     .4
5 )2.0
   -2 0
     0
```

(STEP 4: solve the following example)

0.43 to a percent

.43 → 43%

(STEP 4: solve the following example)

60% to a fraction

$$\frac{60}{100}\ (\div 20) = \frac{3}{5}$$

Is Bigger Always Better?

This is the back of your organizer.

(STEP 1: fold along this line – this is the outside of your organizer)

Steps for converting a **FRACTION into a DECIMAL**

(STEP 2: cut along these dotted lines to form three flaps)

Steps for converting a **DECIMAL into a PERCENT**

(STEP 2: cut along these dotted lines to form three flaps)

Steps for converting a **PERCENT into a FRACTION**

Is Bigger Always Better?

Name: _____

Re-teach: Conversions

Example One: In order to change a fraction to a decimal, divide the numerator by the denominator.

$$\frac{1}{2} \qquad \begin{array}{r} .50 \\ 2\overline{)1.00} \end{array} \qquad \textbf{So} \qquad \frac{1}{2} = 0.5$$

Example Two: In order to change a decimal into a fraction, recall place value.

Place Value Chart

1000	100	10	1	0.1	0.01	0.001	0.0001
Thousand	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths	Ten-thousandths
0	0	0	0	6	0	0	0

Translate 0.6 into words. _____

Write the fraction that means the same as the words you wrote above.

Simplify the fraction.

Example Three: To change a decimal to a percent, move the decimal point two place values to the right.

$$0.45 = 0.45 = 45.0\ \%$$

1. Which of the following sets are in order from least to greatest?

a) 0.58 , 0.7, 3/4 , 21/25 b) 3/4, 0.58 , 21/25 , 0.7

c) 0.7 , 0.58 , 3/4 , 21/25 d) 0.7 , 3/4 , 0.58 , 21/25

2. Which set contains 3 equivalent forms of the same number?

a) 9/10, 0.09, 90% b) 1/4, 0.40, 40%

c) 1/5, 0.20, 20% d) 19/20, 0.19, 19%

3. Write 7 / 8 as a decimal.

4. Change 0.95 as a fraction.

5. Write 2 / 5 as a percent.

Re-teach: Conversions – Answer Key

1. Which of the following sets are in order from least to greatest?

a) 0.58 , 0.7, 3/4 , 21/25 b) 3/4, 0.58 , 21/25 , 0.7

c) 0.7 , 0.58 , 3/4 , 21/25 d) 0.7 , 3/4 , 0.58 , 21/25

2. Which set contains 3 equivalent forms of the same number?

a) 9/10, 0.09, 90% b) 1/4, 0.40, 40%

c) 1/5, 0.20, 20% d) 19/20, 0.19, 19%

3. Write 7 / 8 as a decimal. **0.875**

4. Change 0.95 as a fraction. **19/20**

5. Write 2 / 5 as a percent. **40%**

Name: _____

Enrichment: Ordering Rationals

Directions: Place the following sets of rational numbers in order from least to greatest.

[1]

0.24 $\frac{1}{5}$ 28 % $\frac{1}{4}$ 0.26

[2]

$\frac{2}{3}$ 0.60 $\frac{5}{9}$ 68 % $\frac{3}{6}$

[3]

38 % 0.43 $\frac{4}{7}$ $\frac{3}{5}$ $\frac{3}{8}$

Enrichment: Ordering Rationals
(Answer Key)

Place the following sets of rational numbers in order from least to greatest.

[1]

0.24 1 / 5 28 % 1 / 4 0.26

Ans: 1 / 5 0.24 1 / 4 0.26 28 %

[2]

2 / 3 0.60 5 / 9 68 % 3 / 6

Ans: 3 / 6 5 / 9 0.60 2 / 3 68 %

[3]

38 % 0.43 4 / 7 3 / 5 3 / 8

Ans: 3 / 8 38 % 0.43 4 / 7 3 / 5

Name: _____

Exit Pass A

.08 ◯ 88%

45% ◯ $\frac{2}{5}$

.37 ◯ $\frac{3}{8}$

Name: _____

Exit Pass A

.08 ◯ 88%

45% ◯ $\frac{2}{5}$

.37 ◯ $\frac{3}{8}$

Name: _____

Exit Pass A

.08 ◯ 88%

45% ◯ $\frac{2}{5}$

.37 ◯ $\frac{3}{8}$

Name: _____

Exit Pass A

.08 ◯ 88%

45% ◯ $\frac{2}{5}$

.37 ◯ $\frac{3}{8}$

ANSWER KEY

Exit Pass A

$.08 < 88\%$

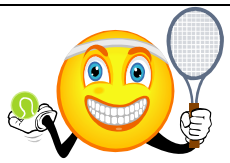
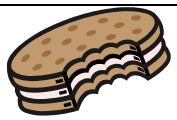
$45\% < \frac{2}{5}$

$.37 < \frac{3}{8}$

Name: _____ **Group Number:** _____

Exploration: Unit Pricing: What is it? How is it done?

Each group will travel to 5 stations. At each station you will find a packaged item and money. Separate the item and money into single units to find the cost per item or serving as listed on the worksheet. Each person in the group is responsible for filling in their own worksheet**.** Use your time wisely and work together. Your group is responsible to clean up your station. Your teacher will tell you when your time is up and it is time to move to the next station.

Station Number	Item	Total Cost of Item	Number of Items in Package	Cost for a Single Item or Serving
1.	 A cylinder of tennis balls			Cost per tennis ball
2.	 A box of ice cream sandwiches			Cost per ice cream sandwich
3.	A bag of rice			Cost per ounce
4.	A bag of oranges			Cost per orange
5.	A pack of toilet paper			Cost per one roll of toilet paper

Reflection: How did your group find the cost per item? Use math words and symbols to explain your answer.

DO NOT MOVE ON TO THE LAST QUESTION

Application: When you go shopping in a grocery store, each item on the shelf has a “unit pricing label”. This label states the cost of the item, the size of the item, and the unit cost of the item. However, not all “unit pricing labels” are created equal, because manufacturers vary the units for the unit pricing. Paper products are an example of this practice. Rolls of toilet paper vary in the number of sheets and the unit pricing may be based upon the number of rolls in the package or by the number of sheets per roll. On the worksheet, you found the unit price of a roll of toilet paper. If the roll of toilet paper has 400 sheets, find the price per 100 sheets. Use math words and symbols to explain how you determined your answer.

ANSWER SHEET

Exploration: Unit Pricing: What is it? How is it done?

Each group will travel to 5 stations. At each station you will find an item and money. Separate the item into single units and the money to find the cost per item or serving as listed on the worksheet. Each person in the group is responsible for filling in their own worksheet**.** Use your time wisely and work together. Your group is responsible to clean up your station. The teacher will tell you when your time is up and it is time to move to the next station.

Station Number	Item	Total Cost of Item	Number of Items in Package	Cost for a Single Item or Serving
1.	A cylinder of tennis balls	$3.75	3 tennis balls	Cost per tennis ball $1.25
2.	A box of ice cream sandwiches	$6.50	5 ice cream sandwiches	Cost per ice cream sandwich $1.30
3.	A bag of rice	$0.96	16 ounces	Cost per ounce $.06
4.	A bag of oranges	$5.95	15 oranges	Cost per orange $0.40 or $0.396
5.	A pack of toilet paper	$3.92	4 rolls	Cost per roll of toilet paper $0.98

Reflection: How did your group find the cost per item? Use math words and symbols to explain your answer.

DO NOT MOVE ON TO THE LAST QUESTION

Application Question: When you go shopping in a grocery store, each item on the shelf has a "unit pricing label". This label states the cost of the item, the size of the item, and the unit cost of the item. However, not all "unit pricing labels" are created equal, because manufacturers vary the units for the unit pricing. Paper products are an example of this practice. Rolls of toilet paper vary in the number of sheets and the unit pricing may be based upon the number of rolls in the package or by the number of sheets per roll. On the worksheet, you found the unit price of a roll of toilet paper. If the roll of toilet paper has 400 sheets, find the price per 100 sheets. Use math words and symbols to explain how you determined your answer.

Possible Responses:

1.) The unit price for the roll of toilet paper was $0.98 per roll. If there are 400 sheets, I would divide 400 by 100 to get 4. I would then do $0.98 by 4 to get $0.245 per 100 sheets.

2.) 400 ÷ 100 = 4. Then $0.98 ÷ 4 = $0.245 or $0.25 per 100 sheets.

Name: _____ Group Number: _____

Exploration: Unit Pricing: What is it? How is it done?

Each group will travel to 5 stations. At each station you will find an item and money. Separate the item into single units and the money to find the cost per item or serving as listed on the worksheet. Each person in the group is responsible for filling in their own worksheet**.** Use your time wisely and work together. Your group is responsible to clean up your station. The teacher will tell you when your time is up and it is time to move to the next station.

Station Number	Item	Total Cost of Item	Number of Items in Package	Cost for a Single Item or Serving
1.				
2.				
3.				
4.				
5.				

Reflection: How did your group find the cost per item? Use math words and symbols to explain your answer.

DO NOT MOVE ON TO THE LAST QUESTION

Application Question: When you go shopping in a grocery store, each item on the shelf has a “unit pricing label”. This label states the cost of the item, the size of the item, and the unit cost of the item. However, not all “unit pricing labels” are created equal, because manufacturers vary the units for the unit pricing. Paper products are an example of this practice. Rolls of toilet paper vary in the number of sheets and the unit pricing may be based upon the number of rolls in the package or by the number of sheets per roll. On the worksheet, you found the unit price of a roll of toilet paper. If the roll of toilet paper has 400 sheets, find the price per 100 sheets. Use math words and symbols to explain how you determined your answer.

Re-teach: Unit Pricing

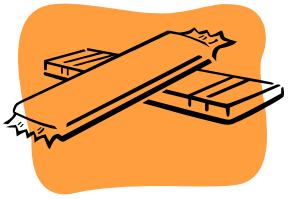
Unit pricing means to find the cost of a single unit. Examples of units are:

- ✓ per item
- ✓ per ounce
- ✓ per pound
- ✓ per 100 sheets

To find the unit price, divide the cost of the item by the number of units.

Example: A package of 10 candy bars costs $1.30. What is the cost per bar?

Cost ÷ Number of bars
1.30÷ 10 = ?
1.30÷ 10 = .13



Now you try:

A package of 12 granola bars costs $3.24. What is the cost per bar?

Try these. Write your answer on the line provided.

_____ 1.) A box of macaroni and cheese costs $2.76 and makes 6 servings. What is the unit price per serving?

_____ 2.) A 24 ounce jar of strawberry jam costs $4.74. What is the unit price per ounce?

_____ 3.) A package of American cheese costs $5.44 and has 32 slices. What is the unit price per slice of cheese?

_____ 4.) A box contains a dozen donuts and costs $7.80. What is the unit price per donut?

_____ 5.) A bag of rice weighs 32 ounces and costs $1.60. What is the unit price per ounce?

Re-teach: Unit Pricing

Unit pricing means to find the cost of a single unit. Examples of units are:

- ✓ per item
- ✓ per ounce
- ✓ per pound
- ✓ per 100 sheets

To find the unit price, divide the cost of the item, by the number of units.

Example: A package of 10 candy bars costs $1.30. What is the cost per bar?

Cost ÷ Number of bars
1.31÷ 10 = ?
1.31÷ 10 = .13

Now you try:

A package of 12 granola bars costs $3.24. What is the cost per bar?
$0.27 per bar

Try these. Write your answer on the line provided.

$0.46 per serving 1.) A box of macaroni and cheese costs $2.76 and makes 6 servings. What is the unit price per serving?

$0.20 or $0.198 per oz **2**.) A 24 ounce jar of strawberry jam costs $4.74. What is the unit price per ounce?

$0.17 per slice 3.) A package of American cheese costs $5.44 and has 32 slices. What is the unit price per slice of cheese?

$0.65 per donut 4.) A box contains a dozen donuts and costs $7.80. What is the unit price per donut?

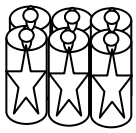
$0.06 per oz. 5.) A bag of rice weighs 32 ounces and costs $1.60. What is the unit price per ounce?

Name: _____

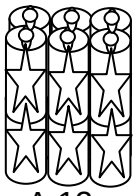
Exit Pass B

Determine the best buy.
Show all your work and circle your answer.

A can of soda for $0.79



A 6-pack of soda for $3.59



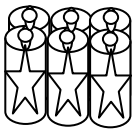
A 12-pack of soda for $6.99

Name: _____

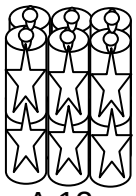
Exit Pass B

Determine the best buy.
Show all your work and circle your answer.

A can of soda for $0.79



A 6-pack of soda for $3.59



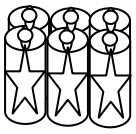
A 12-pack of soda for $6.99

Name: _____

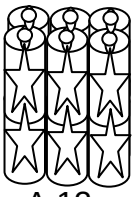
Exit Pass B

Determine the best buy.
Show all your work and circle your answer.

A can of soda for $0.79



A 6-pack of soda for $3.59



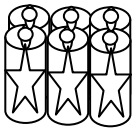
A 12-pack of soda for $6.99

Name: _____

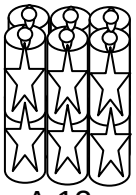
Exit Pass B

Determine the best buy.
Show all your work and circle your answer.

A can of soda for $0.79



A 6-pack of soda for $3.59



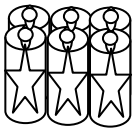
A 12-pack of soda for $6.99

ANSWER KEY

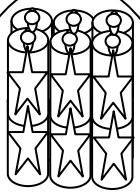
Exit Pass B

Determine the best buy. Show all your work and circle your answer.

A can of soda for $0.79



A 6-pack of soda for $3.59



A 12-pack of soda for $6.99

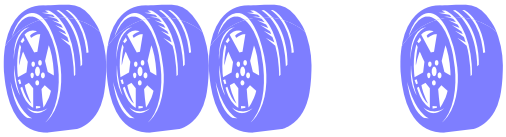
$3.59 *= $0.60/can*
6 cans

$6.99 *= $0.58/can*
12 cans

Warm Up - Day 3

Which automobile tire is the best buy?

Ridgerock Tire Sale!! Buy three get the fourth one free. Three tires for $318.



Macaroni Tires: 4 for $312

Fresh Strawberries

Enormous Market: $3.85 a pound

Walt's Family Market:
Two pounds for $6.80

Chips, chips, & more chips!!

Stacy's Sunny Chips
12 oz. bag for $3.57

Laredo Chip Company
20 oz. for $6.00

Chocolate is a health food.

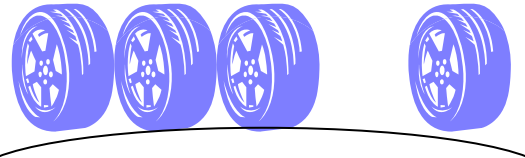
Billy Bob's Peanut Butter Chocolate Bar
Six bar package for $7.18.

Klepto's Ultimate Chocolate Bar
$1.25 EACH

Warm Up - Day 3 Answer Key

Which automobile tire is the best buy?

Ridgerock Tire Sale!! Buy three get the fourth one free. Three tires for $318.



Macaroni Tires: 4 for $312

Fresh Strawberries

Enormous Market: $3.40 a pound

Walt's Family Market:
Two pounds for $7.70

Chips, chips, & more chips!

Stacy's Sunny Chips
12 oz. bag for $3.57

Laredo Chip Company
20 oz. for $6.00

Chocolate is a health food.

Billy Bob's Peanut Butter Chocolate Bar
Six bar package for $7.18.

Klepto's Ultimate Chocolate Bar
$1.25 EACH

NAME:_____ DATE:_____

Shopping at the Market

Pick one activity from each box. Use mathematics and complete sentences in your answers.

Knowledge: List five (5) of the most popular foods/drinks that young teens would want to purchase at your local food market.	**Comprehension:** Give examples of foods/drinks that **you** are most likely to spend your money on when shopping at the market (at least five items). Estimate the prices for each of these items.
Application: Plan a shopping trip to your local food store. Determine what you could or would buy there for $50.00. Estimate the unit costs per item and then check the actual cost by using the flyers available or by visiting the store's website.	**Analysis:** Using the store circulars provided determine which store offers the best unit prices for a list of five (5) items you would buy. Support your choices with specific facts and figures that compare prices at different stores.
Synthesis: Design a new teen-food store that specializes in food/drink for teenagers. Think of a clever name for this store and create a mini-catalog with at least five (5) typical items sold at the store with current unit prices.	**Evaluation:** Complete this statement: "My idea of a best buy at the food market is . . . "

Your responses may be handwritten or created using the computer.

Scoring Rubric for Shopping At The Mall

Scored Area	8 – 10 points	5 - 7 points	2 - 4 points	1 point
Activity 1				
Activity 2				
Activity 3				

8 - 10 points: Fully complete, no major errors or omissions
5 - 7 points: Generally complete, some errors or omissions
2 - 4 points: Partially complete, many errors or omissions
1 point: Not done

Shopping at the Market
(Answer Key)

Pick one activity from each box. Use mathematics and complete sentences in your answers. Your responses may be handwritten or created using the computer.

Knowledge: List the most popular foods/drinks that young teens would want to purchase at your local food market. **Student responses will vary but must least at least five items.**	**Comprehension:** Give examples of foods/drinks that **<u>you</u>** are most likely to spend your money on when shopping at the market (at least five items). Estimate the prices for each of these items. **Student responses will vary but must include five items and an estimate of price for each.**
Application: Plan a shopping trip to your local food store. Determine what you could or would buy there for $50.00. Estimate the unit costs per item and then check the actual cost with a visit to the store's website. **Student responses will vary but must include list of items, estimated cost, and actual cost.**	**Analysis:** Using the store circulars provided determine which store offers the best unit prices for a list of five (5) items you would buy. Support your choices with specific facts and figures that compare prices at different stores. **Student responses will vary but must include list of items, unit cost at each store.**
Synthesis: Design a new teen-food store that specializes in food/drink for teenagers. Think of a clever name for this store and create a mini-catalog with at least five (5) typical items sold at the store with current unit prices. **Student responses will vary but must include catalog with five items and unit cost.**	**Evaluation:** Complete this statement: "My idea of a best buy at the food market is . . . " **Student responses will vary but must include an acceptable explanation of best buy.**

Name: _____

Re-teach Day 3: Unit Pricing

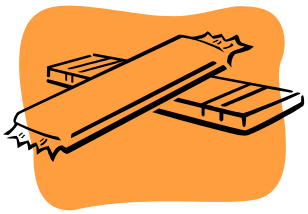
Unit pricing means to find the cost of a single unit. Examples of units are:

- ✓ per item
- ✓ per ounce
- ✓ per pound
- ✓ per 100 sheets

To find the unit price, divide the cost of the item, by the number of units.

Example: A package of 12 candy bars costs $3.00. What is the cost per bar?

Cost ÷ Number of bars
3.00 ÷ 12 = ?
3.00 ÷ 12 = .25 So the answer is $0.25 per bar



Now you try:

A package of 6 granola bars costs $3.24. What is the cost per bar?

Try these. Write your answer on the line provided.

_____ 1.) A box of macaroni and cheese costs $1.92 and makes 3 servings. What is the unit price per serving?

_____ 2.) A 12 ounce jar of strawberry jam costs $2.40. What is the unit price per ounce?

_____ 3.) A package of American cheese costs $3.20 and has 16 slices. What is the unit price per slice of cheese?

_____ 4.) A box contains twelve donuts and costs $6.24. What is the unit price per donut?

_____ 5.) A bag of rice weighs 16 ounces and costs $1.06. What is the unit price per ounce?

Re-teach Day 3: Unit Pricing

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- ✓ per item
- ✓ per ounce
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- ✓ per 100 sheets

To find the unit price, divide the cost of the item, by the number of units.

Example: A package of 12 candy bars costs $3.00. What is the cost per bar?

Cost ÷ Number of bars
3.00 ÷ 12 = ?
3.00 ÷ 12 = .25 So the answer is $0.25 per bar

Now you try:

A package of 6 granola bars costs $3.24. What is the cost per bar?

$0.54 per bar

Try these. Write your answer on the line provided.

$0.64 per serving 1.) A box of macaroni and cheese costs $1.92 and makes 3 servings. What is the unit price per serving?

$0.20 per oz 2.) A 12 ounce jar of strawberry jam costs $2.40. What is the unit price per ounce?

$0.20 per slice 3.) A package of American cheese costs $3.20 and has 16 slices.
What is the unit price per slice of cheese?

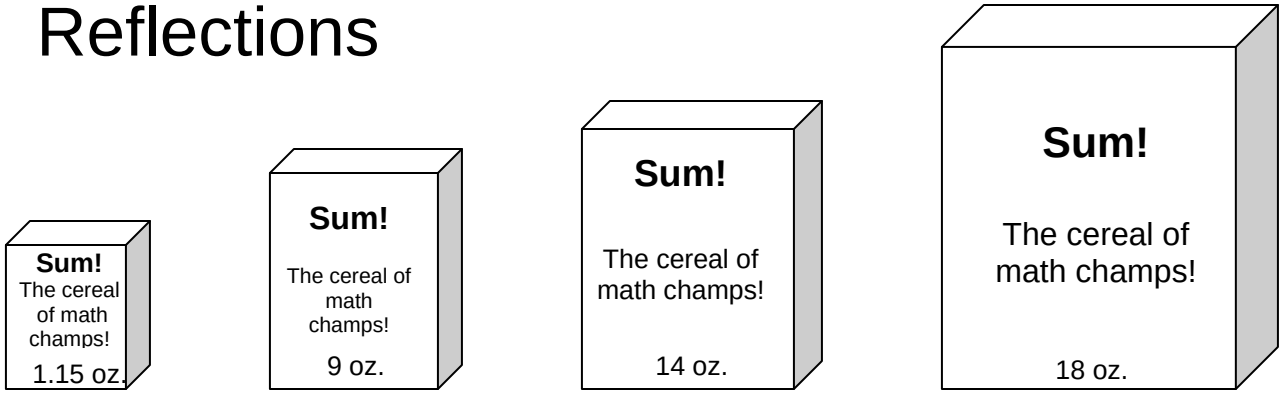
$0.52 per donut 4.) A box contains twelve donuts and costs $6.24. What is the unit price per donut?

$0.07 or $0.066 per oz 5.) A bag of rice weighs 16 ounces and costs $1.06. What is the unit price per ounce?

Name: _____

Is Bigger Always Better?

Reflections



$0.57 $3.29 $3.69 $4.89

Consider the above boxes of Sum! cereal. Which box provides the best buy? Circle your answer and then in the box below, explain your answer using complete sentences and math calculations. Be sure to include the following points in your answer:

- A clear answer choice
- A definition or explanation of what is meant by the phrase “the best buy”
- Mathematics to justify your choice

Ask your teacher for your original “Is Bigger Always Better” worksheet. Compare your answers. Has anything changed? Has your definition of the “best buy” changed? Reflect on what you have learned in the past three days. Your answer should be written in at least four complete sentences.

Assume the 18 ounce box of Sum! cereal is on sale for $4.49. What is the new unit price?

[a] $0.27 [b] $0.24 [c] $0.26 [d] $0.25

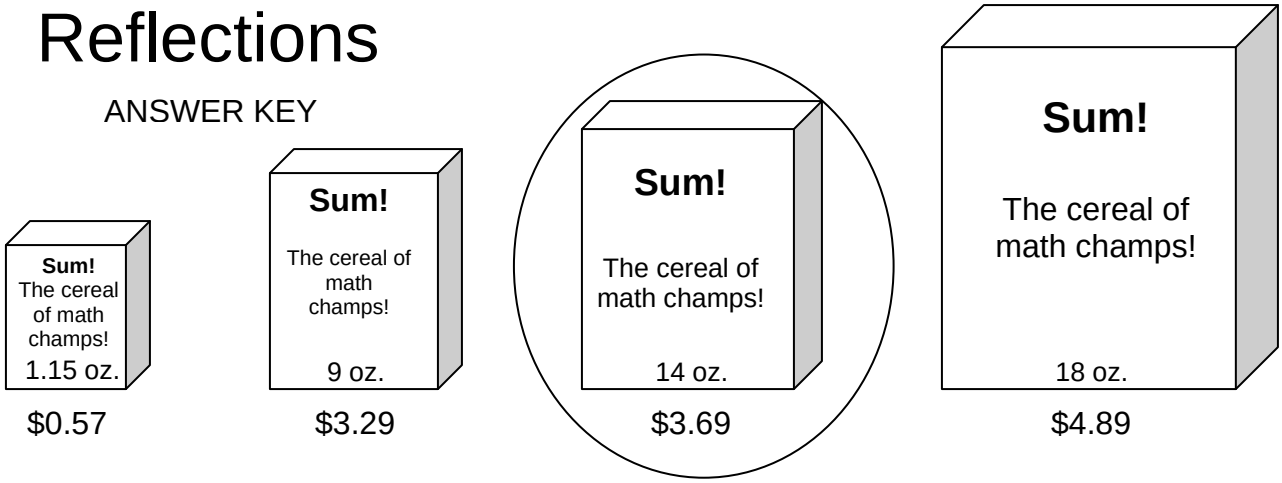
Which of the following sales would save you the most money on the 14 ounce box of Sum! cereal?

[a] 20% off [b] $\frac{1}{4}^{th}$ off [c] 28% off [d] $0.10 off

Is Bigger Always Better?

Reflections

ANSWER KEY



Consider the above boxes of Sum! cereal. Which box provides the best buy? Circle your answer and then in the box below, explain your answer using complete sentences and math calculations. Be sure to include the following points in your answer:

- A clear answer choice
- A definition or explanation of what is meant by the phrase "the best buy"
- Mathematics to justify your choice

(Student justifications will vary.)

The best buy is the 14 ounce box of Sum! Cereal. Best buy refers to choosing the item with the lowest unit price.

$\frac{\$0.57}{1.15 \text{ oz.}} = \$0.50/\text{oz.}$

$\frac{\$3.29}{9 \text{ oz}} = \$0.37/\text{oz.}$

$\frac{\$3.69}{14 \text{ oz.}} = \$0.26/\text{oz.}$

$\frac{\$4.89}{18 \text{ oz.}} = \$0.27/\text{oz.}$

Ask your teacher for your original “Is Bigger Always Better” worksheet. Compare your answers. Has anything changed? Has your definition of the “best buy” changed? Reflect on what you have learned in the past three days. Your answer should be written in at least four complete sentences.

(Student reflections will vary.)

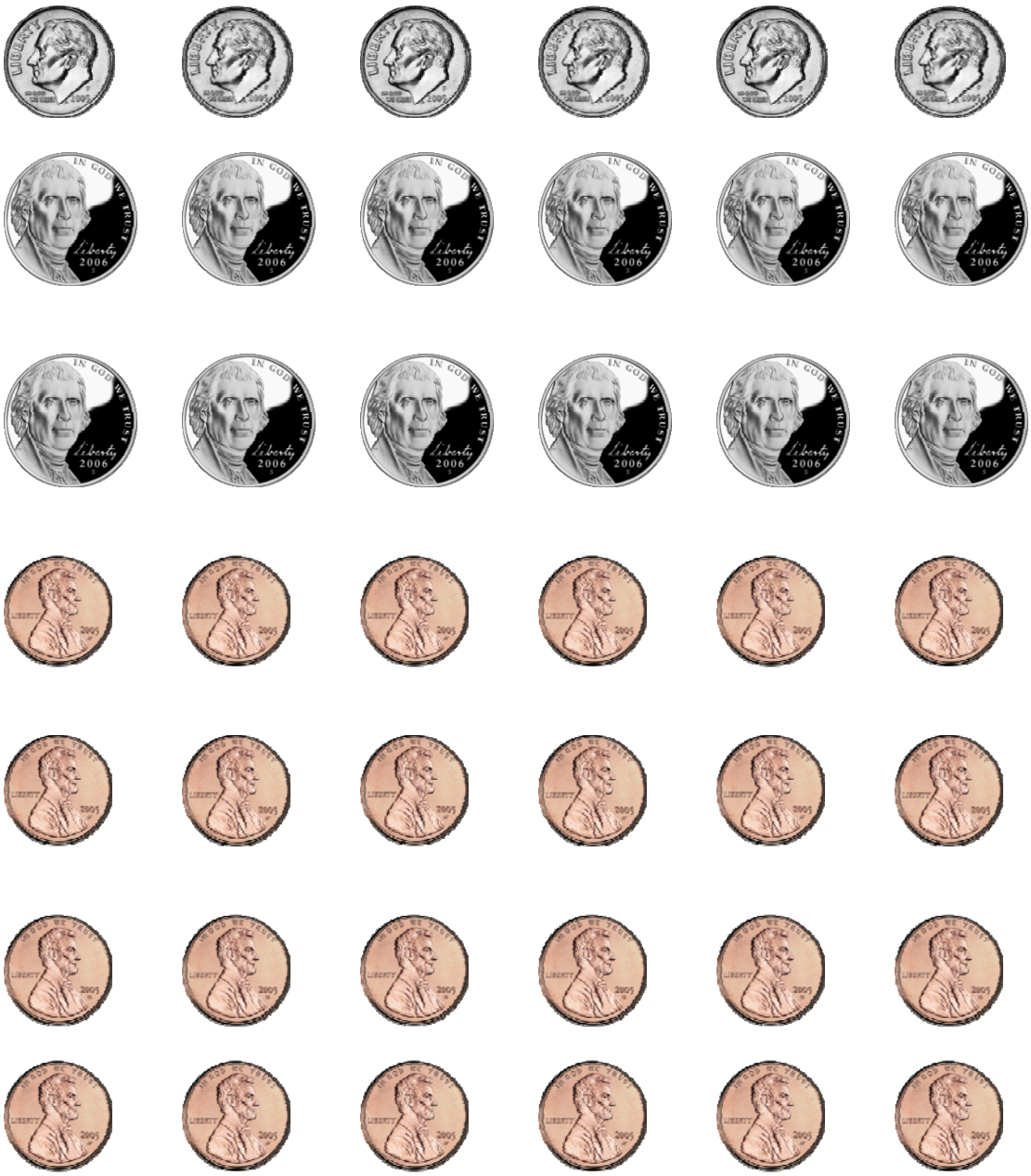
Assume the 18 ounce box of Sum! cereal is on sale for $4.49. What is the new unit price?

[a] $0.27 [b] $0.24 [c] $0.26 [d] $0.25

Which of the following sales would save you the most money on the 14 ounce box of Sum! cereal?

[a] 20% off [b] ¼th off [c] 28% off [d] $0.10 off

Money for Unit Pricing Worksheet



Additional Teacher Resources:

Websites:

1.) Information on unit pricing and shopping in a grocery stores

http://couponing.about.com/cs/aboutcouponing/a/unitpricing.htm

2.) Watch that unit price!

http://www.countingmypennies.com/2009/06/08/watch-that-unit-price/

Websites for local grocery stores:

www.**giantfood**.com/

www.**gianteagle**.com/

www.**weis**markets.com/

www.**safeway**.com/

www.**superfresh**food.com/

www.**foodlion**.com/