

CPI Market Basket

Lesson Author

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Standards and Benchmarks (see page 20)

Lesson Description

In this lesson, students will explore a market basket of goods and services and determine what is in each category in the market basket. Students learn that the consumer price index is made up of market basket goods and services for which the prices are compared each month to determine if the price of any of the items has changed and if there has been inflation. Students will engage in role-play scenarios to understand the effects of inflation.

Grade Level

3-5

Economic Concepts

Aggregate
Consumer
Consumer price index (CPI)
Index
Inflation
Market basket
Price
Purchasing power

Essential Question

Why do we care about inflation?

Objectives

Students will

- define aggregate, consumer, CPI, index, inflation, market basket, price, and purchasing power;
 - analyze CPI market basket contents;
 - identify CPI as a measure of inflation;
 - compare the market baskets from different years to determine if there has been inflation; and
 - evaluate the impact of inflation on purchasing power.
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Time Required

50 minutes

Materials

- Toy shopping cart or a large box, with the letters CPI on it
 - Eight small boxes that fit into the shopping cart or large box
 - Handout 1, labels for each of the eight boxes
 - Handout 2, cutouts to go into each of the eight boxes
 - Handout 3, one copy for each student
 - Handout 4, one for each student to be copied on the back of Handout 3
 - Handout 5, eight copies, one for each student group
 - Handout 6, 10 copies, one for each student in the role-play scenarios
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Preparation

Put the letters CPI on the shopping cart/large box. Cut out labels from *Handout 1: CPI Market Basket* and attach one label to each of the eight boxes. Cut out the pictures from *Handout 2: CPI Items* and place the items for each category in the correct box (as defined in the Handout 4 Answer Key on p. 7).

Procedure

1. Bring out the shopping cart and the eight boxes filled with cutouts. Discuss the following:
 - Who likes to go shopping?
 - Would anyone like to have a job shopping?
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2. Tell the students that each month, Bureau of Labor Statistics (BLS) data collectors visit and call stores and doctors' offices to collect prices on thousands of items. They check the prices of the same items each month and record the prices.
3. Distribute a copy of *Handout 3: CPI Vocabulary* to each student. Then instruct the students to look at the shopping cart. Ask them what letters are on the cart. (*CPI*) Explain that CPI is an acronym for **consumer price index**. Instruct the students to find consumer price index in the word cloud on their handout, and then discuss the following:
 - What does it mean to be a **consumer**? (*It means you are a person who buys goods and services to satisfy wants.*)
 - Look at the definition list on your handout and find the definition for consumer. Draw a line from the word to the definition.
 - What does **price** mean? (*The amount of money a buyer must pay to buy a good or service*)
 - Draw a line on your handout to match the word price and its definition.
 - **Index** has more than one definition. We often think of an index as the place in the back of a book where we look to find a page. There's another definition for index. An index is a measure of something. Find the word index in the word cloud on your handout.
 - What definition do you think best matches the word index? (*A measure of change in the value of items over time on a given date*)
 - Draw a line between the word index and its definition.
 - Look at the definitions on the list. What definition do you think best matches the name consumer price index? (*A measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services*)
 - Look at the word cloud on your handout and find the word **aggregate**.
 - What does aggregate mean? (*A collection of many parts*)
 - Look at the definition list and draw a line from the word aggregate to the matching definition.
4. Tell the students that today they are going to explore some of the thousands of items for which BLS shoppers check prices each month. Explain that just like we often use a shopping basket for gathering all the goods we want to purchase when we go to a store, the BLS shoppers gather prices of goods and services. The aggregate or sum of all the shopping is called the **market basket**.
5. Instruct the students to look at the definitions on Handout 3. Ask them which definition best fits the name market basket. (*A selected group of consumer goods and services whose prices are tracked for calculating a consumer price index*) Have them draw a line to the best definition.

6. Explain that the boxes in our market basket represent each of the eight categories used by the BLS. Tell the students to turn over their definition sheet to *Handout 4: Bureau of Labor Statistics (BLS) Shopper Checklist*. Use the following link to review the eight categories with the students: <https://www.bls.gov/cpi/factsheets/available-cpi-data.htm>.
7. Explain to the students that they will work in groups to explore the contents of these boxes. Divide the class into eight groups. Distribute a box to each group. Instruct the students in each group to do the following:
 - Find the name on your box. Look for the name on your handout and circle it.
 - Open your box and identify the contents, and then record the contents and price of each item on Handout 4.
8. Circulate around the room and see if any students have questions about the contents of their boxes. Then instruct each group to report out about their box and its contents.
9. Return all the items to each box and to the market basket. Discuss the following:
 - What does it mean to purchase something? (*It means you buy it.*)
 - Look at the items in your box. Do they represent things and actions? (Yes)
 - What is the term for things that satisfy people's wants? (*Goods*)
 - What is the term for actions that satisfy people's wants? (*Services*)
 - Turn your handout over and match the words goods and services to their definitions.
10. Explain to the students that the BLS special shoppers are not satisfying their personal wants when they do their job. They are not buying the items. Instead, they do what the students just did—record the prices of the items. Discuss the following:
 - What does it mean if something changes? (*It is different than it was before.*)
 - What change are the BLS shoppers recording each month? (*A change in prices*)
 - Look at your definitions and find one about change in prices.
 - Why do people care if the price of something changes? (*Answers will vary but may include that when prices are high we can't buy a lot and that when prices are low we sometimes buy more.*)
11. Tell the students the following: "I want to tell you about a kind of power—not a superpower but a super important kind of power. It is **purchasing power!**" Instruct the students to look at the word cloud. Ask them what definition they think matches purchasing power. (*The amount of goods and services a unit of currency can buy*) Discuss the following:
 - What will happen to your purchasing power if the price of a good or service goes up? (*Purchasing power goes down.*)

- What will happen to your purchasing power if the price of a good or service goes down? (*Purchasing power goes up.*)
12. Explain to the students that they are going to make some comparisons. Distribute a copy of *Handout 5: Previous Prices for Comparison* to each group. Provide the following instructions:
- Find the recorded past prices for your group of items on your handout.
 - Beside each item on your list, write a plus or minus sign and the amount of change. (Example: A previous year's price was \$10, and its current price is \$12, so it is + \$2.)
 - Discuss and decide if overall the prices for the goods in your part of the market basket went up, went down, or stayed the same.
 - If your group thinks prices for your box have gone up, you should stand. If you think prices for your box stayed the same, you should remain seated. If you think prices for your box went down, you should kneel down or sit on the floor.
13. Instruct the students to look around the room, and then discuss the following:
- Combining all the boxes in the room, do you think the overall price level went up, stayed the same, or went down? (*Given the data used for this lesson, the overall price level went up.*)
14. Explain that the term we use to describe a general, sustained upward movement of prices for goods and services in an economy is **inflation**. Instruct the students to find the word inflation in the word cloud on Handout 3 and to draw a line from the definition to the word. Discuss the following:
- If we have inflation, what goes up? (*The overall price level or prices of most items*)
 - And when we have inflation, what power goes down? (*Purchasing power*)
 - Why do we care about purchasing power? (*It measures how much stuff we can buy.*)
15. Explain to the students that some of them will participate in role-play scenarios. Ask for 10 student volunteers and distribute a copy of *Handout 6: Role-Play Scenarios* to each volunteer. Allow time for the students to act out the scenarios. At the end of each scenario, discuss the following:
- Scenario 1: Gas Prices
 - What happened to gas prices? (*They went up.*)
 - An increase in prices is a sign of what? (*Inflation*)
 - How did the change in price affect the behavior of the friends? (*They rushed to fill up before another price increase, changed vacation plans, and wondered about having a car that takes so much gas and about possibly carpooling.*)
 - Scenario 2: Movie Theater
 - What happened to the price of tickets? (*It went up.*)

- Did that make a difference in the customers' purchasing power? (Yes)
- How did the increase in ticket price affect their purchases? (*They could not afford to buy as much, so they didn't have popcorn and drinks.*)
- Scenario 3: Grocery Store
 - What happened to the price of blueberries? (*It increased.*)
 - What did the customer buy? (*The customer substituted strawberries for blueberries.*)
 - Substitution for a less-expensive option is common when prices rise.
- Scenario 4: Restaurant
 - Why did the sandwich shop owner raise the prices on the menu? (*The labor and supply costs went up, so the owner raised prices to stay in business.*)
 - What does "There's no such thing as a free lunch" mean? (*Someone somewhere has to pay for it.*)

Closure

16. Discuss the following to debrief the important content of the lesson:

- What is a consumer? (*A person who buys goods and services to satisfy wants*)
- What is an index as we used it today? (*A measure of change in the value of items over time on a given date*)
- What is inflation? (*A general, sustained upward movement of prices for goods and services in an economy*)
- What is purchasing power? (*The amount of goods and services a unit of currency can buy*)
- What is the measure of the average change over time in prices paid by consumers called? (*Consumer price index [CPI]*)
- What government agency collects information each month about the change in prices of thousands of items? (*Bureau of Labor Statistics [BLS]*)
- Why are the BLS shoppers checking to see if there has been a change in price for items? (*They want to see if there has been inflation.*)
- What is the connection between inflation and purchasing power? (*Inflation reduces the amount of stuff you can buy with the same amount of money.*)
- What happens to purchasing power when there is inflation? (*Purchasing power goes down.*)
- Was there evidence of inflation in your sample box? If so, share an example. (*Answers will vary.*)
- Give an example of the relationship between inflation and purchasing power. (*Answers will vary.*)

Handout 4—Answer Key

NOTE: The prices used for this lesson are drawn from prices available January 2018 in St. Louis and do not reflect the exact prices from the BLS, and previous prices are from January 2016. Numbers have been rounded for simplicity.

Food		
Item	Price January 2018	Price January 2016
<i>1 dozen large eggs</i>	\$3.00	\$1.50
<i>1 pound 85% lean ground beef</i>	\$4.00	\$3.50
<i>24 pack of 12-oz. Coke®</i>	\$8.50	\$6.50

Housing		
Item	Price January 2018	Price January 2016
<i>Average rent per month— 2 bedroom/2 bath</i>	\$1,200	\$1,100
<i>Bed, dresser, and desk</i>	\$1,000	\$900
<i>Large dog bed</i>	\$30	\$30

Apparel (Clothing)		
Item	Price January 2018	Price January 2016
<i>Levi's® jeans</i>	\$40	\$35
<i>Chuck Taylor Converse All Stars®</i>	\$50	\$45
<i>Gap® denim jacket</i>	\$50	\$50

Transportation		
Item	Price January 2018	Price January 2016
<i>Regular gasoline</i>	\$2.40	\$2.50
<i>New Ford Escape S®</i>	\$23,000	\$21,000
<i>Round trip St. Louis to Orlando</i>	\$300	\$310
<i>20-in. BMX® bike</i>	\$80	\$75

Medical Care		
Item	Price January 2018	Price January 2016
<i>Children's eye glasses—Lens Crafters®</i>	\$159	\$149
<i>Coppertone® Sport 7 oz. SPF 20</i>	\$7.00	\$6.00
<i>Band-Aid® variety pack 30</i>	\$2.79	\$2.69

Recreation		
Item	Price January 2018	Price January 2016
<i>32-in. LG® Smart TV</i>	\$180	\$230
<i>Razor® scooter</i>	\$45	\$40
<i>Nike® training soccer ball</i>	\$16	\$15

Education and Communication		
Item	Price January 2018	Price January 2016
<i>Postage stamp</i>	\$0.50	\$0.49
<i>Crayola® crayons 64-count box</i>	\$6.00	\$4.50
<i>Fiskars® 5-in. kids scissors</i>	\$2.00	\$1.80

Other Goods and Services		
Item	Price January 2018	Price January 2016
<i>Haircut—Great Clips®</i>	\$15	\$12
<i>One month basic cable</i>	\$40	\$35
<i>Small-sized dog grooming</i>	\$30	\$25

Handout 1: CPI Market Basket

The CPI market basket represents the consumer goods and services purchased by urban households. The Bureau of Labor Statistics (BLS) then groups these goods and services into eight categories. The groups will serve as labels for each of the boxes that will contain examples of items in each category.

Food

Housing

Apparel (Clothing)

Transportation

Medical Care

Recreation

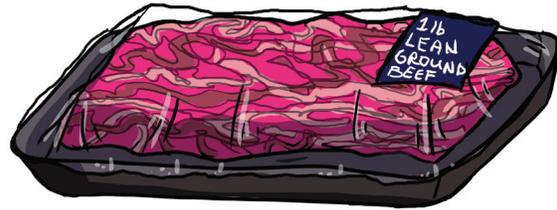
Education and Communication

Other Goods and Services

Handout 2: CPI Items (page 1 of 5)



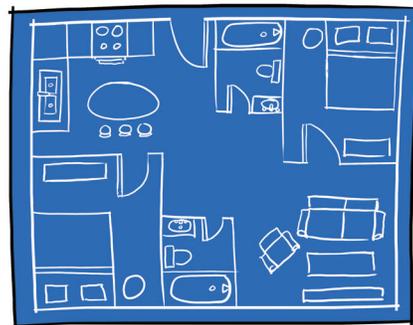
1 dozen large eggs
\$3.00



1 pound 85% lean ground beef
\$4.00



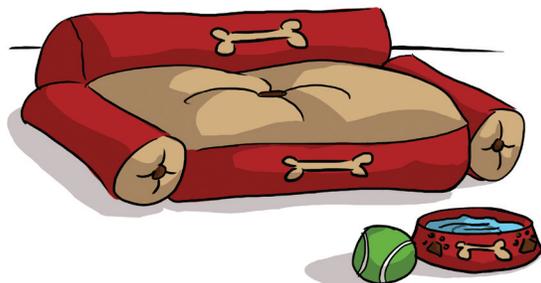
24 pack of 12-oz. Coke®
\$8.50



Average rent—2 bedroom/2 bath
\$1,200



Bed, dresser, and desk
\$1,000



Large dog bed
\$30

Handout 2: CPI Items (page 2 of 5)



Levi's® jeans
\$40



Chuck Taylor Converse All Stars®
\$50



Gap® denim jacket
\$50



Regular gasoline
\$2.40



New Ford Escape S®
\$23,000



Round trip St. Louis to Orlando
\$300

Handout 2: CPI Items (page 3 of 5)



20-in. BMX® bike
\$80



Children's eye glasses—Lens Crafters®
\$159



Coppertone® Sport 7 oz. SPF 20
\$7.00



Band-Aid® variety pack 30
\$2.79



32-in. LG® Smart TV
\$180



Razor® scooter
\$45

Handout 2: CPI Items (page 4 of 5)



Nike® training soccer ball
\$16



Postage stamp
\$0.50



Crayola® crayons 64-count box
\$6.00



Fiskars® 5-in. kids scissors
\$2.00

Handout 2: CPI Items (page 5 of 5)



Haircut—Great Clips®
\$15



One month basic cable
\$40



Small-sized dog grooming
\$30

Handout 3: CPI Vocabulary

Match word cloud items to definitions by drawing a line between the best definition for each word cloud item.

1. A measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services

2. A person who buys goods and services to satisfy wants

3. The amount of money a buyer must pay to buy a good or service

4. A measure of change in the value of items over time on a given date

5. A collection of many parts

6. A general, sustained upward movement of prices for goods and services in an economy

7. The amount of goods and services a unit of currency can buy

8. Things that satisfy people's wants

9. Actions that satisfy people's wants

10. A selected group of consumer goods and services whose prices are tracked for calculating a consumer price index

Word cloud items

Purchasing power

Market basket

Services

Goods

Inflation

Aggregate

Consumer price index (CPI)

Index

Price

Consumer

Handout 4: Bureau of Labor Statistics (BLS) Shopper Checklist

Circle the name on your box from the list below:

Food

Housing

Apparel (Clothing)

Transportation

Medical Care

Recreation

Education and Communication

Other Goods and Services

Write down the items in your box and record the price of each item.

Item	Price January 2018	Price January 2016	Price difference +/-

Handout 5: Previous Prices for Comparison

Food	
Item	Price January 2016
1 dozen large eggs	\$1.50
1 pound 85% lean ground beef	\$3.50
24 pack of 12-oz. Coke®	\$6.50

Medical Care	
Item	Price January 2016
Children's eye glasses— Lens Crafters®	\$149
Coppertone® Sport 7 oz. SPF 20	\$6.00
Band-Aid® variety pack 30	\$2.69

Housing	
Item	Price January 2016
Average rent per month— 2 bedroom/2 bath	\$1,100
Bed, dresser, and desk	\$900
Large dog bed	\$30

Recreation	
Item	Price January 2016
32-in. LG® Smart TV	\$230
Razor® scooter	\$40
Nike® training soccer ball	\$15

Apparel (Clothing)	
Item	Price January 2016
Levi's® jeans	\$35
Chuck Taylor Converse All Stars®	\$45
Gap® denim jacket	\$50

Education and Communication	
Item	Price January 2016
Postage stamp	\$0.49
Crayola® crayons 64-count box	\$4.50
Fiskars® 5-in. kids scissors	\$1.80

Transportation	
Item	Price January 2016
Regular gasoline	\$2.50
New Ford Escape S®	\$21,000
Round trip St. Louis to Orlando	\$310
20-in. BMX® bike	\$75

Other Goods and Services	
Item	Price January 2016
Haircut—Great Clips®	\$12
One month basic cable	\$35
Small-sized dog grooming	\$25

Handout 6: Role-Play Scenarios (page 1 of 2)

Scenario 1

Gas Prices

FRIEND 1: Wow! It cost me \$40 to fill up my tank just now instead of the \$30 it would have cost me this morning.

FRIEND 2: Really? I had better fill up on my way home today before it goes up even more!

FRIEND 3: Oh no, I'm going to change my vacation plans and have a "stay-cation" next week instead of driving out of town.

FRIEND 1: Maybe we should think about carpooling or getting cars with better gas mileage.

Scenario 2

Movie Theater

TICKET SALES PERSON, *to Customer*: That will be \$12.50 each, so \$25 please.

Customer pretends to hand money to the ticket sales person. Ticket sales person pretends to hand over tickets.

TICKET SALES PERSON: Thank you and enjoy the show.

CUSTOMER, *to Friend*: OK, the price of tickets has gone up, and I just spent all my money. If you want popcorn you will have to buy.

FRIEND: I don't think we need popcorn and drinks. Let's go find our seats.

Scenario 3

Grocery Store

CUSTOMER: Oh good, I see blueberries!

PRODUCE WORKER: Yes, we just got a new shipment.

CUSTOMER: Wow! They're \$9.99 a box. That's twice as much as I paid the last time I bought them.

PRODUCE WORKER: Blueberries are no longer in season, so the price is higher.

CUSTOMER: The strawberries look good, and the price is much less and within my budget. I'll buy strawberries instead.

Handout 6: Role-Play Scenarios (page 2 of 2)

Scenario 4

Restaurant

SANDWICH SHOP OWNER: Oh boy, we're going to have to print new menus.

SANDWICH MAKER: Why's that, boss?

SANDWICH SHOP OWNER: I have to raise the price of sandwiches by 50 cents each to cover my increased costs. The new minimum wage means I must pay you sandwich makers more, and the prices for bread and some meats have also gone up. With the current menu prices, I won't earn enough to pay the bills. I'll have a bill for printing the new menus, too. I did the math, and if we keep selling the same number of sandwiches, I should be able to cover costs with the 50-cent increase.

SANDWICH MAKER: I'm excited to get a pay raise, but I didn't think about having to raise the price of sandwiches.

SANDWICH SHOP OWNER: There's no such thing as a free lunch! Somebody somewhere has to pay for it. Good thing you make great sandwiches!

Standards and Benchmarks

Voluntary National Standards in Economics

Standard 11: Money and Inflation

- **Benchmark: Grade 4**
 5. Inflation is an increase in most prices; deflation is a decrease in most prices.
- **Benchmark: Grade 8**
 4. Inflation reduces the value of money.