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# The PNC Christmas Price Index®

## Suggested Grade & Mastery Level

Middle School and High School – All Levels

## Suggested Time

One to two class period(s)

## Teacher Background

The PNC Christmas Price Index was started 29 years ago as a way to engage clients and has since become one of PNC's most popular and anticipated economic reports. PNC is a highly diversified and growing financial services organization spanning the retail, business and corporate markets. The PNC Christmas Price Index is available at:  
<http://www.pncchristmaspriceindex.com>

A price index measures price changes through a representative group of individual items. The PNC Christmas Price Index is an index of the current costs of the goods and services listed in the classic holiday song *The Twelve Days of Christmas*. Calculated by PNC Wealth Management, the PNC Christmas Price Index reflects changes in the economy in the same way the Consumer Price Index issued by the US Department of Labor's Bureau of Labor Statistics does.

The Consumer Price Index measures the change in the prices of goods and services reflecting the spending habits of the "average" American. It includes goods and services such as food, housing clothing, and utilities. Its percent change is widely used as a measure of inflation. If inflation is higher than expected it may cause the stock market to become bearish.

The purpose of these activities is to use the PNC Christmas Price Index as an investor tool by examining the impact of the cost for goods and services on the performance of securities in The Stock Market Game portfolio.

## Vocabulary

**Consumer Price Index (CPI):** Is a gauge of inflation that measures changes in the prices of basic goods and services. It is compiled monthly by the U.S. Bureau of Labor Statistics. It tracks housing, food, clothing, transportation, medical care, and education. The CPI is used as a benchmark for making adjustments in Social Security payments, wages, pensions, and tax brackets to keep them in tune with the buying power of the dollar.

**Deflation:** Refers to a widespread decline in prices that also has the potential to undermine the economy by stifling production and increasing unemployment.

**Hyperinflation:** Occurs when prices rise by 100% or more annually. It can destroy economic stability and even political stability by driving the price of necessities higher than people can afford.

**Index:** Is a statistical measure of the changes in a portfolio of stocks representing a portion of the overall market. It is a sample meant to represent the performance of the whole.





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**Inflation:** A persistent increase in prices, often triggered when demand for goods is greater than the available supply or when unemployment is low and workers can command higher salaries. The US Federal Reserve Bank and central banks in other nations try to keep inflation in check by decreasing the money supply, making it more difficult to borrow and thus slowing expansion.

## Performance Objectives

The students will be able to:

- Define the term “index.”
- Use an index as an investor tool.
- Identify trends on the PNC Christmas Price Index and project their impact on the stock market.

## Subject Areas

Family Consumer Sciences, Language Arts, Mathematics, Economics

## Materials

*Fact Sheet 1: The Twelve Days of Christmas Lyrics*

*Fact Sheet 2: PNC CPI % Change*

*Activity Sheet 1: The Total Price Christmas Story*

*Activity Sheet 2: Estimate the PNC CPI*

## Springboard Activity

### Ask

What do you think an index named the Christmas Price Index would measure? How might you use it in making investment decisions?

Answers will vary but students should be directed towards the general idea of the Christmas Price Index measuring the prices of items during Christmas time. They should also be aware that the Christmas Price Index also measures the changes in the prices over time.

### Explain

In investing, an index is used to measure the changes in a portfolio of stocks meant to represent a portion of their overall industry or sector. For example the S&P 500 Index uses 500 large publicly traded companies to measure prices on the stock market. The NYSE Composite Index measures the performance of all companies listed on the New York Stock Exchange. The NASDAQ Composite Index does the same for NASDAQ listed stocks.

PNC Wealth Management developed the PNC Christmas Price Index (CPI) to record the current costs of the gifts in *The Twelve Days of Christmas* song. The PNC CPI works like the US Department of Labor’s Bureau of Labor Statistic’s Consumer Price Index. The Consumer Price Index is often used to measure inflation.

## Procedure

Students will work in their SMG teams to predict pricing for each of the twelve gifts mentioned in the song. They should surf the Web for commercials and classified ads to look up the current





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prices of poultry, jewelry, and performers (e.g. partridge would be equivalent to modern day turkey and leaping lords and dancing ladies would be magicians, clowns, ballerinas, etc.)

In 2011, the total amount of the gifts in song was **\$24,263.18**.

PNC releases its Christmas Price Index annually on the Monday after Thanksgiving. For the most up to date information, visit <http://www.pncchristmaspriceindex.com>

### Activities

#### Reading the PNC Christmas Price Index (CPI)

##### Distribute

*Fact Sheet 2.* Inform the students the table represents the total prices and price changes of the PNC Christmas Price Index (CPI) from 1984 – 2011. Have students review the information on the table and in the chart.

##### Ask

What does the chart tell us about the total prices on the PNC Christmas Price Index?  
When was it at its highest? Its lowest?

Do you see any patterns in the changes of total prices?

##### Discuss

As a class review the information on *Fact Sheet 2* to answer the questions posed. After collecting five or six responses have students work in their SMG teams to develop and record additional responses on *Activity Sheet 1*.

##### Distribute

Activity Sheet 1. Answers will vary but should contain statements like: The PNC Christmas Price Index was lowest in 1995; The PNC Christmas Price Index was highest in 2009; After the 1995 drop, it took five years for the Christmas Price Index to return to where it was in 1994; and so on.

##### Ask

What might cause the price of the same gift purchased each year to rise and fall over the years?  
How do you think knowing the changes in the Total Price of the PNC Christmas Price Index will help you be a better investor?

Responses will vary but should include inflation and current events items like minimum wage, price of oil, etc. Students will use the information provided by the PNC Christmas Price Index report to learn how to use price indexes as predictors of market trends.

Be sure to explain the difference between the index cost and true value cost of the items:

The **PNC Christmas Price Index** cost is an index of the current costs of the gifts in the song *The Twelve Days of Christmas*.

The **“True Cost of Christmas”** is the cumulative cost of all the gifts with the repetitions listed in the song. For example, if a partridge in a pear tree cost \$160, its True Cost would be \$160 x 12 (\$1920).



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## Assessment

Direct students to review the information on the *Fact Sheets* and completed *Activity Sheet*.

### **Ask**

Based on what you know, will the PNC Christmas Price Index be higher, relatively the same, or lower this year? By how much? Why?

Based on the PNC Christmas Price Index performance over the last 29 years, what do you think will happen to the index this year? Why? What will that tell consumers about the economy near the end of the year? Explain?

Using *Activity Sheet 2* as a guide, students will write an essay on why they believe this year's PNC Christmas Price Index will rise, remain somewhat the same, or fall. They should document their reasons with at least three sources.

## Enrichment

The Consumer Price Index looks at average change over time in the prices paid for consumer goods and services. It includes the following categories:

- FOOD AND BEVERAGES (breakfast cereal, milk, coffee, chicken, wine, full service meals, snacks);
- HOUSING (rent of primary residence, owners' equivalent rent, fuel oil, bedroom furniture);
- APPAREL (men's shirts and sweaters, women's dresses, jewelry);
- TRANSPORTATION (new vehicles, airline fares, gasoline, motor vehicle insurance);
- MEDICAL CARE (prescription drugs and medical supplies, physicians' services, eyeglasses and eye care, hospital services);
- RECREATION (televisions, toys, pets and pet products, sports equipment, admissions);
- EDUCATION AND COMMUNICATION (college tuition, postage, telephone services, computer software and accessories);
- OTHER GOODS AND SERVICES (tobacco and smoking products, haircuts and other personal services, funeral expenses).

(The above definitions were taken from [http://www.bls.gov/cpi/cpifaq.htm#Question\\_6](http://www.bls.gov/cpi/cpifaq.htm#Question_6))

### **Ask**

Is your Stock Market Game team invested in a company that provides goods or services used to calculate the Consumer Price Index?

How do you think the latest Consumer Price Index report will impact the price of your stock?

Instruct students to use the *CPI News Releases* section of the Consumer Price Index (<http://www.bls.gov/cpi/news.htm>) website and the historical price charts from Yahoo! Finance (<http://finance.yahoo.com>) or another financial reporting website to substantiate their belief.

## Fact Sheet 1: The Twelve Days of Christmas

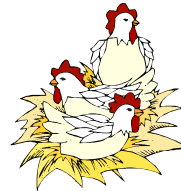
On the first day of Christmas,  
my true love sent to me  
A partridge in a pear tree.



On the second day of Christmas,  
my true love sent to me  
Two turtle doves,  
And a partridge in a pear tree.



On the third day of Christmas,  
my true love sent to me  
Three French hens,  
Two turtle doves,  
And a partridge in a pear tree.



On the fourth day of Christmas,  
my true love sent to me  
Four calling birds,  
Three French hens,  
Two turtle doves,  
And a partridge in a pear tree.



On the fifth day of Christmas,  
my true love sent to me  
Five golden rings,  
Four calling birds,  
Three French hens,  
Two turtle doves,  
And a partridge in a pear tree.



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On the sixth day of Christmas,  
my true love sent to me  
Six geese a-laying,  
Five golden rings,  
Four calling birds,  
Three French hens,  
Two turtle doves,  
And a partridge in a pear tree.

On the seventh day of Christmas,  
my true love sent to me  
Seven swans a-swimming,  
Six geese a-laying,  
Five golden rings,  
Four calling birds,  
Three French hens,  
Two turtle doves,  
And a partridge in a pear tree.

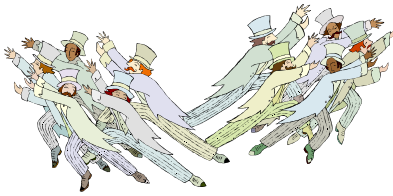


On the eighth day of Christmas,  
my true love sent to me  
Eight maids a-milking,  
Seven swans a-swimming,  
Six geese a-laying,  
Five golden rings,  
Four calling birds,  
Three French hens,  
Two turtle doves,  
And a partridge in a pear tree.

On the ninth day of Christmas,  
my true love sent to me  
Nine ladies dancing,  
Eight maids a-milking,  
Seven swans a-swimming,  
Six geese a-laying,  
Five golden rings,  
Four calling birds,  
Three French hens,  
Two turtle doves,  
And a partridge in a pear tree.



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On the tenth day of Christmas,  
 my true love sent to me  
 Ten lords a-leaping,  
 Nine ladies dancing,  
 Eight maids a-milking,  
 Seven swans a-swimming,  
 Six geese a-laying,  
 Five golden rings,  
 Four calling birds,  
 Three French hens,  
 Two turtle doves,  
 And a partridge in a pear tree.

On the eleventh day of Christmas,  
 my true love sent to me  
 Eleven pipers piping,  
 Ten lords a-leaping,  
 Nine ladies dancing,  
 Eight maids a-milking,  
 Seven swans a-swimming,  
 Six geese a-laying,  
 Five golden rings,  
 Four calling birds,  
 Three French hens,  
 Two turtle doves,  
 And a partridge in a pear tree.



On the twelfth day of Christmas,  
 my true love sent to me  
 Twelve drummers drumming,  
 Eleven pipers piping,  
 Ten lords a-leaping,  
 Nine ladies dancing,  
 Eight maids a-milking,  
 Seven swans a-swimming,  
 Six geese a-laying,  
 Five golden rings,  
 Four calling birds,  
 Three French hens,  
 Two turtle doves,  
 And a partridge in a pear tree!

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## Fact Sheet 2: PNC CPI % Change

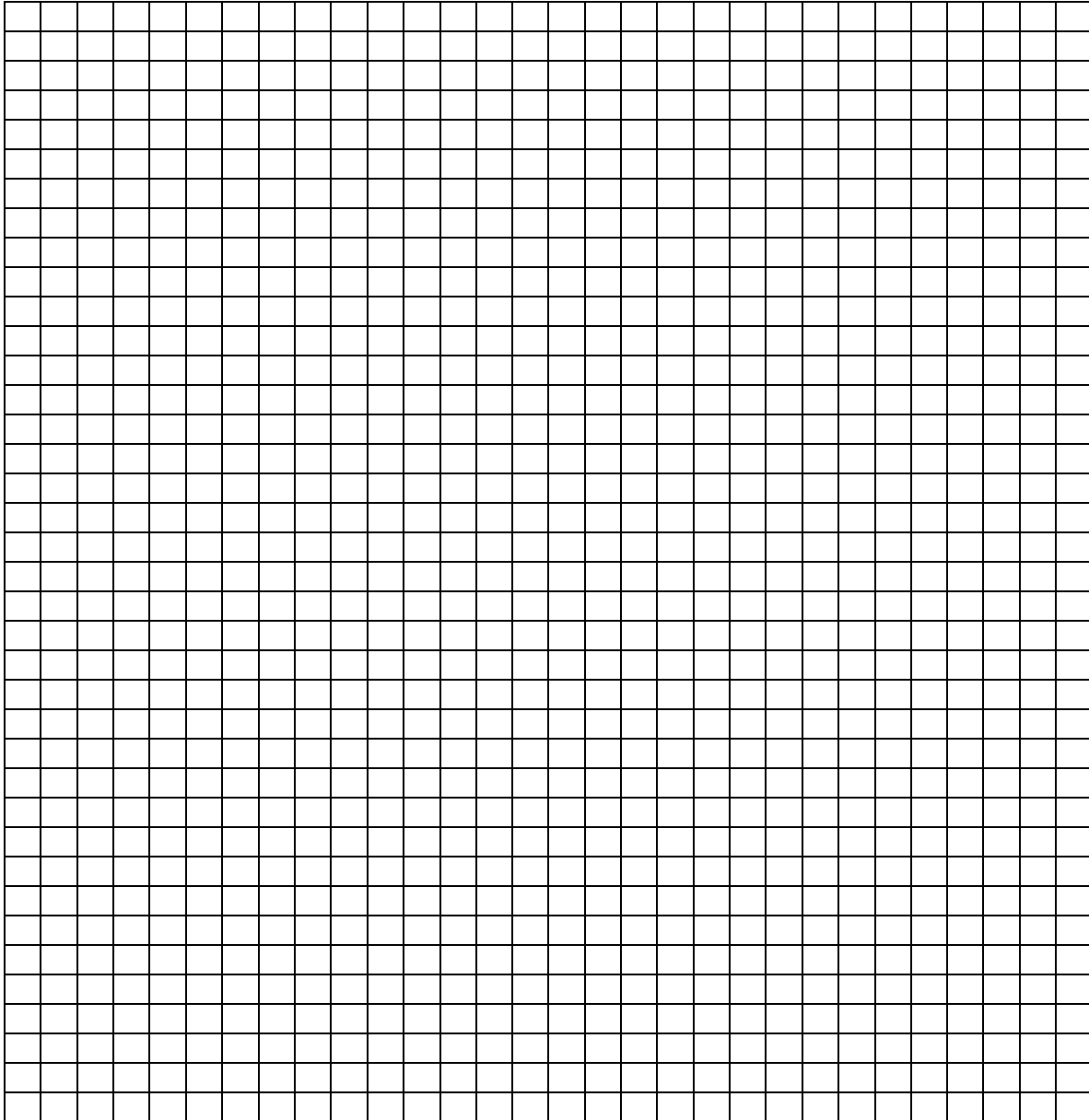
Year	Total Price	% Change
2011	\$24,263.18	3.5%
2010	\$23,439.38	9.2%
2009	\$21,465.56	1.8%
2008	\$21,080.10	8.1%
2007	\$19,507.25	3.1%
2006	\$18,920.59	3.1%
2005	\$18,348.87	6.1%
2004	\$17,296.91	2.4%
2003	\$16,885.28	16.0%
2002	\$14,558.05	-7.6%
2001	\$15,748.81	3.5%
2000	\$15,210.22	1.8%
1999	\$14,940.17	5.1%
1998	\$14,214.90	6.5%
1997	\$13,343.86	1.1%
1996	\$13,195.86	5.7%
1995	\$12,481.65	-21.7%
1994	\$15,944.20	1.2%
1993	\$15,760.70	1.1%
1992	\$15,581.96	0.8%
1991	\$15,455.79	1.5%
1990	\$15,231.72	4.3%
1989	\$14,598.78	5.9%
1988	\$13,785.63	-0.6%
1987	\$13,871.75	7.4%
1986	\$12,920.25	0.8%
1985	\$12,816.03	1.1%
1984	\$12,673.56	N/A



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## Activity Sheet 1: The Total Price Christmas Story

Graph the PNC CPI percent change and year from Fact Sheet 2. Be sure to label the graph and allow yourself space to plot negative numbers.





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Please write down 10 true statements based on the information from the graph you created.

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## Activity Sheet 2: Estimate the PNC CPI

Estimate the prices of the individual gifts mentioned in the *Twelve Days of Christmas* song and the total cost of this year's PNC Christmas Price Index. You must submit your answers on this worksheet.

HINT: The average percent change of the PNC CPI over the last 25 years is 5.3%. As you form your estimate, consider the impact of wages and prices for goods and services on the PNC CPI.

HINT: Use the charts at the PNC CPI site (<http://www.pncchristmaspriceindex.com>) to view prices of each gift over the years. Looking at the difference in prices over a longer period of time could potentially provide a more accurate estimate of the price changes. Complete the table to help make your estimate.

### Part 1: The Gifts

	Gift	2007	2008	2009	2010	2011
A	Partridge and Pear Tree	164.99	219.99	159.99	161.99	184.99
B	2 Turtle Doves	40.00	55.00	55.98	100.00	125.00
C	3 French Hens	45.00	30.00	45.00	150.00	150.00
D	4 Calling Birds	599.96	599.96	599.96	599.96	519.96
E	5 Golden Rings	395.00	349.95	499.95	649.95	645.00
F	6 Geese	360.00	240.00	150.00	150.00	162.00
G	7 Swans	4200.00	5600.00	5250.00	5600.00	6300.00
H	8 Maids	46.80	52.40	58.00	58.00	58.00
I	9 Ladies	4759.19	4759.19	5473.07	6294.03	6294.03
J	10 Lords	4285.06	4413.61	4413.61	4766.70	4766.70
K	11 Pipers	2213.40	2284.80	2284.80	2356.20	2427.60
L	12 Drummers	2397.85	2475.20	2475.20	2552.55	2629.90

### Part 2: Total PNC CPI

	2007	2008	2009	2010	2011
M	19507.25	21080.10	21465.56	23439.38	24263.18

