

Classroom Activity:

The Inflation Rate Is Falling but Prices Are Not

Lesson Authors

Mary Clare Peate, PhD, Federal Reserve Bank of St. Louis

Cameron Tucker, Federal Reserve Bank of St. Louis

Standards and Benchmarks (see page 16)

Lesson Description

This lesson helps students differentiate between inflation, deflation, disinflation, and price index, clearing up common misconceptions between those four concepts. The lesson provides detailed and clear definitions of each of the three main terms, as well as helpful analogies for students to understand the definitions. After a guided lecture, students participate in an active learning activity to test their knowledge and understanding of what inflation, deflation, and disinflation look like in real life.

Grade level

High School or College

Concepts

Consumer price index (CPI)

Deflation

Disinflation

Inflation

Price level

Objectives

Students will be able to

- define inflation, deflation, and disinflation;
 - differentiate between inflation rate and price level; and
 - distinguish between deflation and disinflation by identifying price levels.
-

Compelling Question

If the inflation rate is falling, why aren't prices falling?

Time Required

30 minutes

Materials

- PowerPoint slide deck
 - Handouts 1 and 2, one copy of each
 - Handout 1 Answer Key, one copy for the teacher
 - Handout 3, one copy for each student
 - Handout 3 Answer Key, one copy for the teacher
-

Preparation

- Print one copy of *Handout 1: Cards*. Cut out all 30 cards. (If you have more than 30 students, print two copies and cut out enough cards so that each student gets one.)
 - Print one copy of *Handout 2: Signs*. Tape each sign in a different corner of the classroom.
-

Procedure

1. Display slide 2. Begin the lesson by discussing the following:
 - Are things more expensive than they used to be? (*Answers will vary. Students will likely provide examples of items that have increased in price.*)
 - What items do you notice have had price changes? (*Answers will vary. Students will likely bring up the price of fast food, clothing, books, and items they might spend their money on.*)
 2. Display slide 3. Discuss the following:
 - What was the cost of a McDonald's hamburger in the 1970s? (*After students guess, inform them that it was 28 cents. Discuss how that compares with the price of a hamburger today: The price today is higher.*)
 3. Display slide 4. Explain to students that individual prices rise and fall due to the supply and demand of those individual goods and that it's important to measure those price changes broadly to understand what's happening in the economy. Define the following terms:
 - **Inflation:** A general, sustained upward movement of prices for goods and services in an economy.
-

- **Deflation:** A general, sustained downward movement of prices for goods and services in an economy.
 - NOTE: Make sure students understand that this is the average level of prices. Meaning, if the price of one item goes down, an economy could still be experiencing inflation overall.
4. Display slide 5. Define the following terms:
 - **Inflation rate:** The percentage increase in the average price level of goods and services over a period of time.
 - **Price level:** A weighted average of the prices of goods and services in the economy, such as the **consumer price index (CPI)**.
 5. Display slide 6. Explain to students that even if the inflation rate is low or falling, the average price of goods and services will continue to increase, as long as the inflation rate is positive.
 6. Display slide 7. Explain that the graph shows the year-to-year percentage change in CPI to measure the inflation rate. Discuss the following:
 - What happened to the inflation rate between 1980 and 1983? (*It decreased.*)
 7. Display slide 8. Explain that the bottom graph shows the CPI price level. Remind students that a rising price level indicates inflation, and the inflation rate measures the rate at which price level (inflation) is rising. Discuss the following:
 - What happened to the consumer price index (price level) between 1980 and 1983? (*It increased.*)
 - Why did the price level increase (bottom graph) if the inflation rate decreased (top graph)? (*The inflation rate was still positive, meaning prices were still rising; however, as the inflation rate lowered, prices rose at a slower rate.*)
 8. Display slide 9. Discuss the following:
 - What do you notice about the inflation rate? (*The inflation rate goes up and down over time.*)
 - Point out that even though it goes up and down, the inflation rate seems roughly stable over the 40-year time period of the mid-1980s to 2020.
 9. Display slide 10. Discuss the following:
 - What is the difference between the two graphs? (*Answers will vary.*) Point out that the top graph shows the inflation rate, while the bottom graph shows the CPI price level.
 - What do you notice about the consumer price index over that same time period? (*CPI had a smoother trend; it consistently increased over time.*)
 - Based on that information, what happens to prices consistently over time? (*On average, prices consistently rise regardless of whether the inflation rate is increasing or decreasing.*)

- Notice 2009, when the price level did not increase. Review the graphs and determine why this might have occurred. (*In 2009 there was a slightly negative inflation rate, causing the price level to decrease.*)
10. Display slide 11. Define and explain the following terms:
 - **Disinflation:** A decrease in the inflation rate or a slowdown in the upward movement of prices for goods and services in the economy.
 - **Deflation:** A general, sustained downward movement of prices for goods and services in an economy.
 - NOTE: Students should notice that as long as the inflation rate is positive, prices are by definition increasing. It's irrelevant if the inflation rate was higher or lower the year before.
 11. Display slide 12. Walk students through the following analogy:
 - Imagine you are in a car driving on the highway.
 - The driver steps on the gas, causing the car to go faster and faster. This means you are moving forward at a fast rate. This is inflation.
 - Then, the driver steps off the gas. You begin to slow down; however, you are still moving forward. The rate at which you are moving forward is lowering. This is disinflation.
 - Then, the driver switches the car into reverse and starts moving backward. You are no longer moving forward on the highway. This is deflation.
 - Driving too fast is dangerous and illegal. Driving the speed limit at a steady rate is ideal. Driving in reverse on the highway is a horrible idea, and you will crash! Likewise, high inflation is bad for the economy. Inflation is best when maintained at a steady 2% (the speed limit), and deflation is often recognized as a very bad thing for an economy.
 12. Display slide 13. Tell students they are going to participate in an active learning activity to test their understanding of inflation, deflation, and disinflation.
 13. Distribute one card from Handout 1 to each student. If any cards are left over, save them for additional practice at the end.
 14. Instruct students to read the sentence on their cards and decide whether the inflation rate/price level is increasing, decreasing, or staying the same.
 15. Instruct students to move to the area of the room that corresponds with their answer.
 16. Once students move to their chosen area of the room, instruct them to discuss with their peers and adjust if needed. Refer to the *Handout 1: Cards—Answer Key*.

17. Go around the room and instruct each student to read their card and ask the class whether they agree or disagree with their chosen answer. Identify the correct answer and move students if needed.
18. Once every student has spoken, review any remaining cards with students.
19. Distribute a copy of *Handout 3: Assessment* to each student. Allow students time to answer the questions. Review the following questions and answers included in the *Handout 3: Assessment*—*Answer Key*:
 - Why would prices still be increasing, even if the inflation rate is decreasing? (*As long as the inflation rate is a positive number, prices will continue to rise.*)
 - What is the difference between the inflation rate and price level? (*The inflation rate is the percentage change in the average level of prices over a given time, or the rate at which prices are rising. The price level is the weighted average of the prices of goods and services in the economy.*)

Closure

20. Display slide 14. To conclude the lesson, discuss the following:
 - What is inflation? (*A general, sustained upward movement of prices for goods and services in an economy.*)
 - What is deflation? (*A general, sustained downward movement of prices for goods and services in an economy.*)
 - What is disinflation? (*A decrease in the inflation rate or a slowdown in the upward movement of prices for goods and services in the economy.*)
 - How are the price level and inflation rate related? (*Inflation rate is the rate at which the price level increases.*)
 - How are the price level and inflation rate different? (*A decrease in the inflation rate does not necessarily mean a decrease in prices; unless the inflation rate is negative, the price level continues to increase.*)
 - What is the difference between deflation and disinflation? (*Deflation is a decrease in price level, while disinflation is a decrease in the inflation rate.*)

Handout 1: Cards (page 1 of 3)

<p>1</p> <p>In 1979 the inflation rate was 12%, and in 1980 the inflation rate was 15%. From 1979 to 1980 the inflation rate was...</p>	<p>2</p> <p>In 1979 the inflation rate was 12%, and in 1980 the inflation rate was 15%. From 1979 to 1980 the price level was...</p>
<p>3</p> <p>In 1965 the inflation rate was 12%, and in 1966 the inflation rate was 9%. From 1965 to 1966 the inflation rate was...</p>	<p>4</p> <p>In 1965 the inflation rate was 12%, and in 1966 the inflation rate was 9%. From 1965 to 1966 the price level was...</p>
<p>5</p> <p>In 1953 the inflation rate was 8%, and in 1954 the inflation rate was 8%. From 1953 to 1954 the inflation rate was...</p>	<p>6</p> <p>In 1953 the inflation rate was 8%, and in 1954 the inflation rate was 8%. From 1953 to 1954 the price level was...</p>
<p>7</p> <p>In 1991 the inflation rate was 3%, and in 1992 the inflation rate was 0%. From 1991 to 1992 the inflation rate was...</p>	<p>8</p> <p>In 1991 the inflation rate was 3%, and in 1992 the inflation rate was 0%. From 1991 to 1992 the price level was...</p>
<p>9</p> <p>In 2002 the inflation rate was 1%, and in 2003 the inflation rate was –2%. From 2002 to 2003 the inflation rate was...</p>	<p>10</p> <p>In 2002 the inflation rate was 1%, and in 2003 the inflation rate was –2%. From 2002 to 2003 the price level was...</p>

Handout 1: Cards (page 2 of 3)

<p>11</p> <p>In 2004 the inflation rate was 5%, and in 2005 the inflation rate was 5%. From 2004 to 2005 the inflation rate was...</p>	<p>12</p> <p>In 2004 the inflation rate was 5%, and in 2005 the inflation rate was 5%. From 2004 to 2005 the price level was...</p>
<p>13</p> <p>In 2008 the inflation rate was –2%, and in 2009 the inflation rate was –3%. From 2008 to 2009 the inflation rate was...</p>	<p>14</p> <p>In 2008 the inflation rate was –2%, and in 2009 the inflation rate was –3%. From 2008 to 2009 the price level was...</p>
<p>15</p> <p>In 2010 the inflation rate was 1%, and in 2011 the inflation rate was 10%. From 2010 to 2011 the inflation rate was...</p>	<p>16</p> <p>In 2010 the inflation rate was 1%, and in 2011 the inflation rate was 10%. From 2010 to 2011 the price level was...</p>
<p>17</p> <p>In 2012 the inflation rate was 0%, and in 2013 the inflation rate was 0%. From 2012 to 2013 the inflation rate was...</p>	<p>18</p> <p>In 2012 the inflation rate was 0%, and in 2013 the inflation rate was 0%. From 2012 to 2013 the price level was...</p>
<p>19</p> <p>In 2014 the inflation rate was 5%, and in 2015 the inflation rate was 6%. From 2014 to 2015 the inflation rate was...</p>	<p>20</p> <p>In 2014 the inflation rate was 5%, and in 2015 the inflation rate was 6%. From 2014 to 2015 the price level was...</p>

Handout 1: Cards (page 3 of 3)

<p>21</p> <p>In 2016 the inflation rate was 3%, and in 2017 the inflation rate was –6%. From 2016 to 2017 the inflation rate was...</p>	<p>22</p> <p>In 2016 the inflation rate was 3%, and in 2017 the inflation rate was –6%. From 2016 to 2017 the price level was...</p>
<p>23</p> <p>In 2018 the inflation rate was 4%, and in 2019 the inflation rate was 3%. From 2018 to 2019 the inflation rate was...</p>	<p>24</p> <p>In 2018 the inflation rate was 4%, and in 2019 the inflation rate was 3%. From 2018 to 2019 the price level was...</p>
<p>25</p> <p>In 2020 the inflation rate was 1%, and in 2021 the inflation rate was 6%. From 2020 to 2021 the inflation rate was...</p>	<p>26</p> <p>In 2020 the inflation rate was 1%, and in 2021 the inflation rate was 6%. From 2020 to 2021 the price level was...</p>
<p>27</p> <p>In 1954 the inflation rate was 2%, and in 1955 the inflation rate was 2%. From 1954 to 1955 the inflation rate was...</p>	<p>28</p> <p>In 1954 the inflation rate was 2%, and in 1955 the inflation rate was 2%. From 1954 to 1955 the price level was...</p>
<p>29</p> <p>In 1965 the inflation rate was 9%, and in 1966 the inflation rate was 8%. From 1965 to 1966 the inflation rate was...</p>	<p>30</p> <p>In 1965 the inflation rate was 9%, and in 1966 the inflation rate was 8%. From 1965 to 1966 the price level was...</p>

Handout 1: Cards—Answer Key (page 1 of 2)

1. In 1979 the inflation rate was 12%, and in 1980 the inflation rate was 15%. From 1979 to 1980 **the inflation rate was...Increasing**
2. In 1979 the inflation rate was 12%, and in 1980 the inflation rate was 15%. From 1979 to 1980 **the price level was...Increasing**
3. In 1965 the inflation rate was 12%, and in 1966 the inflation rate was 9%. From 1965 to 1966 **the inflation rate was...Decreasing**
4. In 1965 the inflation rate was 12%, and in 1966 the inflation rate was 9%. From 1965 to 1966 **the price level was...Increasing**
5. In 1953 the inflation rate was 8%, and in 1954 the inflation rate was 8%. From 1953 to 1954 **the inflation rate was...Staying the same**
6. In 1953 the inflation rate was 8%, and in 1954 the inflation rate was 8%. From 1953 to 1954 **the price level was...Increasing**
7. In 1991 the inflation rate was 3%, and in 1992 the inflation rate was 0%. From 1991 to 1992 **the inflation rate was...Decreasing**
8. In 1991 the inflation rate was 3%, and in 1992 the inflation rate was 0%. From 1991 to 1992 **the price level was...Staying the same**
9. In 2002 the inflation rate was 1%, and in 2003 the inflation rate was –2%. From 2002 to 2003 **the inflation rate was...Decreasing**
10. In 2002 the inflation rate was 1%, and in 2003 the inflation rate was –2%. From 2002 to 2003 **the price level was...Decreasing**
11. In 2004 the inflation rate was 5%, and in 2005 the inflation rate was 5%. From 2004 to 2005 **the inflation rate was...Staying the same**
12. In 2004 the inflation rate was 5%, and in 2005 the inflation rate was 5%. From 2004 to 2005 **the price level was...Increasing**
13. In 2008 the inflation rate was –2%, and in 2009 the inflation rate was –3%. From 2008 to 2009 **the inflation rate was...Decreasing**
14. In 2008 the inflation rate was –2%, and in 2009 the inflation rate was –3%. From 2008 to 2009 **the price level was...Decreasing**
15. In 2010 the inflation rate was 1%, and in 2011 the inflation rate was 10%. From 2010 to 2011 **the inflation rate was...Increasing**

Handout 1: Cards—Answer Key (page 2 of 2)

16. In 2010 the inflation rate was 1%, and in 2011 the inflation rate was 10%. From 2010 to 2011 **the price level was...Increasing**
17. In 2012 the inflation rate was 0%, and in 2013 the inflation rate was 0%. From 2012 to 2013 **the inflation rate was...Staying the same**
18. In 2012 the inflation rate was 0%, and in 2013 the inflation rate was 0%. From 2012 to 2013 **the price level was...Staying the same**
19. In 2014 the inflation rate was 5%, and in 2015 the inflation rate was 6%. From 2014 to 2015 **the inflation rate was...Increasing**
20. In 2014 the inflation rate was 5%, and in 2015 the inflation rate was 6%. From 2014 to 2015 **the price level was...Increasing**
21. In 2016 the inflation rate was 3%, and in 2017 the inflation rate was –6%. From 2016 to 2017 **the inflation rate was...Decreasing**
22. In 2016 the inflation rate was 3%, and in 2017 the inflation rate was –6%. From 2016 to 2017 **the price level was...Decreasing**
23. In 2018 the inflation rate was 4%, and in 2019 the inflation rate was 3%. From 2018 to 2019 **the inflation rate was...Decreasing**
24. In 2018 the inflation rate was 4%, and in 2019 the inflation rate was 3%. From 2018 to 2019 **the price level was...Increasing**
25. In 2020 the inflation rate was 1%, and in 2021 the inflation rate was 6%. From 2020 to 2021 **the inflation rate was...Increasing**
26. In 2020 the inflation rate was 1%, and in 2021 the inflation rate was 6%. From 2020 to 2021 **the price level was...Increasing**
27. In 1954 the inflation rate was 2%, and in 1955 the inflation rate was 2%. From 1954 to 1955 **the inflation rate was...Staying the same**
28. In 1954 the inflation rate was 2%, and in 1955 the inflation rate was 2%. From 1954 to 1955 **the price level was...Increasing**
29. In 1965 the inflation rate was 9%, and in 1966 the inflation rate was 8%. From 1965 to 1966 **the inflation rate was...Decreasing**
30. In 1965 the inflation rate was 9%, and in 1966 the inflation rate was 8%. From 1965 to 1966 **the price level was...Increasing**

Handout 2: Signs (page 1 of 3)

INCREASING

Handout 2: Signs (page 2 of 3)

DECREASING

Handout 2: Signs (page 3 of 3)

**STAYING
THE SAME**

Handout 3: Assessment

1. Why would prices still be increasing, even if the inflation rate is decreasing?
2. What is the difference between the inflation rate and price level?
3. You and your friend read a headline that states “Inflation is finally back down to the Fed’s target of 2% from its historic 9%”; your friend says, “Thank goodness, prices will go down!” What would you respond to your friend? Is this correct? Why or why not?
4. Your friend tells you, “I heard inflation was at 2%. But recently, the price of eggs went up by 10% at my local grocery store! Obviously, inflation is higher than 2%!” What would you respond to your friend? Is this correct? Why or why not?
5. Fill in the following chart:

Inflation rate is...	Example	Prices are...	We call it...
Positive, increasing	Inflation rate year 1: 5% Inflation rate year 2: 6%	Increasing	
Positive, staying the same	Inflation rate year 1: 5% Inflation rate year 2: 5%		Inflation
	Inflation rate year 1: 5% Inflation rate year 2: 4%	Increasing	
Zero	Inflation rate: _____	Staying constant	Nothing, no inflation
	Inflation rate: -4%	Decreasing	Deflation

Handout 3: Assessment—Answer Key

- Why would prices still be increasing, even if the inflation rate is decreasing?
As long as the inflation rate is a positive number, prices will continue to rise.
- What is the difference between the inflation rate and price level?
The inflation rate is the rate at which prices are rising; price level is the average price of goods and services in an economy.
- You and your friend read a headline that states “Inflation is finally back down to the Fed’s target of 2% from its historic 9%”; your friend says, “Thank goodness, prices will go down!”
What would you respond to your friend? Is this correct? Why or why not?
Your friend is incorrectly interpreting the inflation rate as price level. A decrease in the inflation rate means that prices are rising at a slower rate than before, but they are still rising. Prices will continue to rise with a positive inflation rate, but the lower the rate, the slower prices rise.
- Your friend tells you, “I heard inflation was at 2%. But recently, the price of eggs went up by 10% at my local grocery store! Obviously, inflation is higher than 2%!”
What would you respond to your friend? Is this correct? Why or why not?
The consumer price index (CPI) is measured using an average of all goods and services. Therefore, even if one item changes price, the overall inflation rate is calculated using the average of many goods and services.
- Fill in the following chart:

Inflation rate is...	Example	Prices are...	We call it...
Positive, increasing	Inflation rate year 1: 5% Inflation rate year 2: 6%	Increasing	<i>Inflation</i>
Positive, staying the same	Inflation rate year 1: 5% Inflation rate year 2: 5%	<i>Increasing</i>	Inflation
<i>Positive, decreasing</i>	Inflation rate year 1: 5% Inflation rate year 2: 4%	Increasing	<i>Disinflation (But it’s still inflation!)</i>
Zero	Inflation rate: 0%	Staying constant	Nothing, no inflation
<i>Negative</i>	Inflation rate: –4%	Decreasing	Deflation

Standards and Benchmarks

Voluntary National Content Standards in Economics

Standard 11: Money and Inflation

Money makes it easier to trade, borrow, save, invest, and compare the value of goods and services. The amount of money in the economy affects the overall price level. Inflation is an increase in the overall price level that reduces the value of money.

- **Benchmarks: Grade 4**
 5. Inflation is an increase in most prices, deflation is a decrease in most prices.
- **Benchmarks: Grade 12**
 3. The consumer price index (CPI) is the most commonly used measure of price-level changes. It can be used to compare the price level in one year with price levels in earlier or later periods.
 4. The annual inflation rate is the percentage change in the average prices of goods and services over a twelve-month period.