

Unintended Consequences

Lesson Author

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Standards and Benchmarks (see page 15)

Lesson Description

Students will determine the costs, benefits, and unintended consequences of policies, beginning with analysis of a policy that would allow them to take two years off of school between grades 10 and 11. They will then analyze the costs, benefits, and unintended consequences of various government policies.

Grade Level

9-12

Concepts

Benefits

Costs

Unintended consequences

Objectives

Students will

- define benefits, costs, and unintended consequences; and
 - identify benefits, costs, and unintended consequences of sample policies.
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Time

60 minutes

Materials

- Handout 1, one copy for each student and one copy for the teacher to use as a visual
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- Handout 2, cut into strips, one strip for each student
- Handout 3, one copy for each student

Procedure

1. Show *Handout 1: Schedule of the Perfect Day*. Explain to the students that you are going to create a schedule of their perfect non-school day. Begin asking students to describe their day, hour by hour. A sample schedule is below.

Sample Schedule

Time	Activity
8:00-9:00 a.m.	Play video games
9:00-10:00 a.m.	Play video games
10:00-11:00 a.m.	Play video games
11:00-noon	Eat, get dressed, text friends
Noon-1:00 p.m.	Go swimming at water park
1:00-2:00 p.m.	Go swimming at water park
2:00-3:00 p.m.	Go swimming at water park
3:00-4:00 p.m.	Visit snack bar, hang out with friends
4:00-5:00 p.m.	Go to early-bird movie
5:00-6:00 p.m.	Movie
6:00-7:00 p.m.	Movie and theater arcade
7:00-8:00 p.m.	Pizza with friends
8:00-9:00 p.m.	Play video games at home
9:00-10:00 p.m.	Play video games at home

2. Distribute a copy of *Handout 1, Schedule of the Perfect Day* to each student. As the students mention activities, choose a few to write into the displayed handout while students fill in their own schedules with their own preferences. When students have completed the common schedules and their individual schedules, ask the following questions:
 - What would you do if you had a day off school? (*Answers will vary.*)

- If you were planning the perfect week, what additional activities would you include? (*Answers will vary.*)
 - Let's say you have two months to do anything you want to do. What additional activities would you include? (*Answers will vary.*)
3. Write the word "**benefits**" on the board and define benefits as things that are favorable to a decisionmaker. Ask students what benefits they could see for students entering 11th grade to take two years off school. Record the benefits on the board. Some possible benefits follow:
- *Having fun while you are young*
 - *Interacting with people in social, non-school settings*
 - *Learning from experiences outside of school*
 - *Applying what you have been learning in a non-school setting*
 - *Taking a break from studying before moving to the next level*
 - *Learning a new skill or developing a talent*
 - *Earning income*
 - *Providing a service in the community*
4. Ask students to imagine a new government policy that allowed students to take two years off school before continuing with upper high school grades. Explain that this break from school would be strictly voluntary. Students could forgo the break and continue immediately into 11th grade if they chose to.
5. Ask for a show of hands of students who would take two years off school if given the opportunity. Explain that the students have already started a list of benefits that might be gained as a result of this government policy.
6. Write "**costs**" to the right of the word "benefits" on the board. Explain that costs are things unfavorable to a decisionmaker. In this case, costs would be unfavorable outcomes of deciding to take two years off school. Ask the students for possible costs of taking two years off school, and record these on the board. Some possible costs follow:
- *Forgetting much of what was learned in the past two years of high school and having to spend a great deal of time relearning*
 - *Losing study skills and finding it hard to set aside time for study or to concentrate upon return to school*
 - *Finding it difficult to sit for long periods of time and pay attention*
 - *Ending up two years behind students who chose to stay in school and, therefore, becoming two years behind in entering college and the workforce*

- *Ending up two years behind students in other countries who eventually will be competing for jobs in the same labor market as the students who chose the two-years-off option*
7. Explain that the costs the students recorded were foreseen, meaning that the students are able to anticipate costs or problems with the policy and make a decision as to whether the policy is a good one.
 8. Explain that policymakers must make decisions about what government can provide with its limited resources. It is important that policymakers try to identify and consider all costs and benefits when making choices. However, policies are often instituted without policymakers knowing all of the possible outcomes. They may pass a policy quickly to make the benefits available quickly, so they don't have time to consider all possible outcomes. However, it is also the case that policymakers cannot fully know what the future will hold for the policy because they can never fully anticipate all of a policy's costs and benefits. Sometimes there are unforeseen costs and benefits. Unforeseen costs can be so severe that if people had known about them, they would have rejected the government policy.
 9. The list below contains some costs and benefits the students may not have considered regarding taking two years off school. If so, suggest these as **unintended consequences** of this policy. Unintended consequences are unforeseen costs or benefits, as exemplified in this list regarding taking two years off school:
 - *Teachers may be laid off if fewer students attend school.*
 - *Schools may lose funding as fewer students attend.*
 - *Idle students may get in trouble.*
 - *Those who take time off may develop bad habits, such as sleeping very late or staying up all night.*
 - *Those who take time off may learn valuable housekeeping skills as parents rely on them to clean and cook.*
 - *New businesses may be developed offering instruction in areas that differ from the typical high school curriculum, such as cooking classes, small-business classes, financial investment classes, or mechanics classes.*
 - *Camps might offer outdoor experiences such as hiking, boating, or wilderness training.*
 10. Ask the students who chose the two-years-off option to raise their hands if they have changed their minds about the policy and would now go to school. Ask the students who indicated they would stay in school for the two years to raise their hands if they have changed their minds about the policy and would now take two years off.

11. Explain that people often make decisions without anticipating possible consequences. This also happens with local, state, and federal governments.
12. Provide a slip from *Handout 2: Policies and Unintended Consequences* to each student, making sure that only matched sets are handed out. Explain that half of the students have received a government policy and half of the students have received an unintended consequence of a policy, written as a statement by a person affected by the policy. Instruct the students with the unintended consequences to find the student with the policy that created that consequence.
13. Debrief the activity by asking the following questions of each pair of students; then explain each law in more detail as noted:
 - What was the policy? (*Students should read the policy slip.*)
 - What was a possible consequence of the policy? (*Students should either read or paraphrase the quote on their slip.*)
 - Was this a good policy? (*Answers will vary.*)
 - **Rent controls that keep the monthly rent low are placed on apartments in a given city to keep rent affordable for low-income people in that city.** Explain that in some areas of New York, there are limits on the amount of rent landlords can charge. For the landlords, the rent they charge must be enough to pay for the costs of (i) interior maintenance of the apartment, such as cleaning, repairs, and painting; (ii) ongoing expenses, such as for the property mortgage, insurance, and trash removal; and (iii) exterior maintenance of the property, such as lawn care, painting, and building repairs. If the rent isn't high enough to cover these costs, landlords will not buy properties to provide for people who want to rent housing. Apartment buildings will sit empty, and there will not be enough properties to rent to the low-income people who need a place to live. The policymakers who designed this policy may not have anticipated that the policy would result in a shortage of apartments.
 - **The state's minimum wage—the lowest amount an employer can pay a worker per hour of work—increases to \$9 per hour.** Explain as follows: Let's say an employer has 10 workers and pays them each \$7 per hour for a total cost of \$70 per hour. If the minimum wage increases to \$9 per hour, the employer's cost would increase to \$90 per hour. If the employer can't afford that increase, she might lay off two workers. In such a case, workers with few skills or young workers are likely to lose their jobs first. Another possibility is that if two workers quit, the employer won't hire new ones. The policymakers who designed this policy may not have anticipated that employers might hire fewer workers, resulting in higher unemployment.
 - **The federal government provides income for older people in the form of Social Security.** Explain that the government designed Social Security to be a

safety net for older adults past a certain age who don't have enough money to buy food and pay for their other expenses. Over the years, the amount of money paid to older adults has grown, and many people think of Social Security as their primary source of retirement income rather than a safety net to cover unanticipated expenses. Therefore, some people fail to save enough money for their retirement. They instead spend their money on goods and services when they are young and depend on Social Security for their old-age income. The policymakers who designed Social Security may not have anticipated people saving less because of this government benefit.

- **The government places a quota (a limit) on the amount of steel that can be imported. This quota protects American steelworkers' jobs.** Explain that steelworkers complained to government representatives that steel producers from other countries were selling steel in the United States at prices lower than the price of U.S. steel. When auto manufacturers buy foreign steel, U.S. steelworkers lose their jobs. Government representatives have limited the amount of steel allowed into the United States. Limiting steel imports, however, reduces the competition for U.S. steel producers and allows them to maintain a higher price than if they had to compete with the foreign producers. Higher-priced steel causes an increase in the price of things made with steel, such as new cars. At higher prices, people buy fewer cars. If automakers sell fewer cars, they need fewer people to produce cars. The representatives who designed the policy may not have anticipated the loss of American autoworkers' jobs.
- **The government pays people to trade in their old, gas-guzzling cars for new, fuel-efficient cars. As part of the deal, car dealers destroy the old cars.** Explain that government representatives wanted to encourage people to buy new cars to improve the economy. At the same time, the representatives wanted to reduce gas consumption by reducing the number of cars that require more gasoline per mile. When old cars were traded for news cars, the old cars were destroyed. Low-income people usually buy cheap used cars; however, many of the cars they would have purchased were destroyed in the government program. The price of the remaining used cars increased. The representatives who voted for this policy may not have anticipated that the policy would increase the price of used cars.
- **State governments pass laws requiring child-care businesses with more than four children enrolled to have a license. This law includes people who run child-care businesses in their homes.** Explain that some state governments require that child-care businesses be licensed. To receive a license, child-care businesses must limit the number of children cared for by one person. By limiting the number of children that can be watched, the amount of child care available in a community is less than it would be if there were higher limits or no limits at all. The reduction in the number of child-care slots makes each available slot more expensive and increases the price parents must pay for child care. The representatives who voted for the limitation may not have anticipated that fewer child-care

slots would increase the price of care and make it difficult for some people to afford child care.

- **After an oil spill, many states enact unlimited liability laws on oil tankers. Unlimited liability means that there is no limit to the amount of money companies must pay for damages that result from an oil spill.** Explain that with no limits on the amount of money an oil company might have to pay if it damages the environment by spilling oil, some oil companies are unwilling to use their tankers to carry oil. However, the oil must be carried if the nation is going to have gasoline and heating oil. So, some oil companies hire small tanker firms that are willing to take the risk of transporting oil but do not have the money to have a fleet of well-maintained tankers. Such a practice could increase the chances of a spill. The representatives who voted for unlimited liability laws may not have anticipated that large oil companies would have small tanker companies carry the oil and thus increase the risk of spills.
- **The government passes a law limiting how much money banks can charge store owners for letting customers use debit cards.** Explain that store owners want to accept debit cards for payment of goods and services because so many customers carry debit cards instead of cash. However, store owners complained that the fees banks charged them for accepting debit cards were very high. Some policymakers agreed with store owners, so a law was passed that reduced the fee the store owners are charged. Because banks now receive far less revenue, they are charging other fees, such as a human-teller fee, a large-cash-deposits fee, or a returned-mail fee, or are increasing existing fees to make up the difference. The representatives who voted to limit debit card fees may not have anticipated the increases in other bank fees.
- **The government declared the red-cockaded woodpecker, which nests in old-growth pines, a protected species. This declaration means that the birds' nests may not be disturbed.** Explain that since the rule was enacted, owners of land that might attract the birds have been cutting down the trees so that the woodpeckers cannot build a nest. If no birds can be found on the land, the government cannot prohibit timber farmers from cutting down trees and selling the wood. However, if the woodpeckers are found on the land, the timber producers would be prohibited from cutting the trees. The representatives who voted for this law may not have anticipated that the law would actually cause the woodpeckers' habitats to disappear more quickly.
- **To raise revenue, a city increases its parking meter and city-owned lot fees by 100 percent.** Explain that parking fees can bring in a lot of money to city governments and that money can be used to pay for city services, such as police or streets. Sales tax from businesses also generates income for cities. If people do not come to the stores, the stores will fail to generate sales tax revenue for cities. The representatives who voted to raise parking fees may not have anticipated that sales tax revenue would fall or that business owners would not make as much money.

- **Policymakers encourage the production of ethanol, a biofuel made from corn, as a cleaner alternative to gasoline.** Explain that in 2008, a worldwide corn shortage was blamed for the increase in food prices. Companies that produce ethanol, a fuel made from corn, were trying to buy corn from farmers. At the same time, food producers were also trying to buy the corn. The competition for the corn made the price of corn increase. The representatives who encouraged the production of ethanol may not have anticipated increased corn prices.
14. Explain that people can take different sides on a policy, with some people feeling that the benefits from the policy outweigh the costs. Other people will feel that the cost is too great for the benefits received. When there are unintended consequences, people who supported the policy before the unintended consequences were known might change their minds, thinking that the known costs and unintended negative consequences outweigh the benefits. On the other hand, people who were opposed to the policy before the unintended consequences were known might change their minds if the unintended consequences turn out to be positive.

Closure

15. Relate the following story:

In 1867, the United States bought the territory of Alaska from Russia for \$7.2 million, approximately 2.5 cents per acre. The purchase was conducted by the secretary of state, William H. Seward. Seward's goal in purchasing the territory was to increase the size and military stance of the United States. The purchase was widely criticized and became known as "Seward's Folly," but in the 1890s, large amounts of gold were discovered in Alaska.

16. Ask the following questions:

- What are costs? (*Costs are things unfavorable to a decisionmaker.*)
- What was the cost of this government purchase? (*\$7.2 million; other government purchases that could have been made with \$7.2 million*)
- What are benefits? (*Benefits are things that are favorable to a decisionmaker.*)
- What was the immediate benefit of this government purchase? (*The United States obtained more territory.*)
- Why did the U.S. government purchase the territory of Alaska? (*The government made the purchase to increase the size and military stance of the United States.*)
- How did people react to the purchase? (*Some criticized the purchase and called it Seward's Folly, which meant it was believed a foolish purchase.*)
- What are unintended consequences? (*Unintended consequences are unforeseen costs or benefits.*)

- What was an unintended consequence of purchasing the territory of Alaska? (*Large amounts of gold were discovered in Alaska.*)
- Was this unintended consequence a cost or a benefit? (*Finding gold was a benefit.*)

Assessment

17. Distribute a copy of *Handout 3: Assessment* to each student. Tell students to read the story and answer the questions. Review students' answers.

Handout 3: Assessment Answer Key

- What was the problem in Littleville? (*The town did not have a sewage treatment facility so the sewage went directly into the river, causing pollution.*)
 - What action did the town leaders take to solve the problem? (*The town leaders decided to build a sewage treatment facility.*)
 - What was the cost of the action? (*The citizens had to give up twice-weekly trash collection and have trash collected only twice a month.*)
 - What was the benefit of the action? (*The river was clean.*)
 - Describe any unintended consequences resulting from the action. (*Tourists came to Littleville to float on the river. Businesses developed and grew. The town got more tax revenue to offer services, including frequent trash collection, a police car, street cleaning, and a swimming pool.*)
 - In this case, were the unintended consequences costs, benefits, or both? (*They were benefits.*)
18. As a writing assessment, instruct students to find an example of an unintended consequence resulting from one of the following:
- The intentional introduction of an animal into an area (Examples: rabbits introduced into Australia for food; the cane toad introduced into Australia to control sugar cane pests; the Nile perch introduced into Lake Victoria for food; goats introduced into St. Helena for food; feral pigs introduced into California for sport hunting; mongoose introduced into Hawaii to reduce rodent populations in sugar cane fields; and the oryx introduced into New Mexico for sport hunting)
 - The intentional introduction of a plant into an area (Examples: the Australian pine planted along Florida highways for aesthetics; purple loosestrife introduced into North America as an ornamental plant; saltcedar (also called tamarisk) introduced into the western United States as an ornamental plant and later used for erosion control; kudzu introduced into the Southeast for ornamental purposes and for erosion control; and blue gum eucalyptus introduced into California for timber, wind breaks, and fiber production)
 - The introduction of a new technology (Examples: disposable plastic water bottles, automobiles, cell phones, refrigeration, and railroads)

- The introduction of a new law (Examples: bicycle helmet laws, ethanol mandates, rent control, and corporate average fuel economy [CAFE] standards)

Instruct students to identify the topic (animal, plant, technology, or law) and explain the purpose for its introduction, with the inclusion of relevant facts and concrete details. Students should discuss any unintended consequences, either positive or negative. For the negative consequences, students should state possible solutions.

Handout 1: Schedule of the Perfect Day

The Perfect Day

TIME	ACTIVITY
8:00-9:00 a.m.	
9:00-10:00 a.m.	
10:00-11:00 a.m.	
11:00-noon	
Noon-1:00 p.m.	
1:00-2:00 p.m.	
2:00-3:00 p.m.	
3:00-4:00 p.m.	
4:00-5:00 p.m.	
5:00-6:00 p.m.	
6:00-7:00 p.m.	
7:00-8:00 p.m.	
8:00-9:00 p.m.	
9:00-10:00 p.m.	

Handout 2: Policies and Unintended Consequences (page 1 of 2)

<p style="text-align: center;">Policy</p> <p>Rent controls that keep the monthly rent low are placed on apartments in a given city to keep rent affordable for low-income people in that city.</p>	<p style="text-align: center;">Consequence</p> <p>"I can't find an apartment to rent. Landlords say they can't earn enough money from rent to pay for the upkeep."</p>
<p style="text-align: center;">Policy</p> <p>The state's minimum wage—the lowest amount an employer can pay a worker per hour of work—increases to \$9 per hour.</p>	<p style="text-align: center;">Consequence</p> <p>"I can't find a job. I don't have any work experience and no one is willing to pay me \$9 per hour."</p>
<p style="text-align: center;">Policy</p> <p>The federal government provides income for older people in the form of Social Security.</p>	<p style="text-align: center;">Consequence</p> <p>"I probably should save more money for my retirement, but I really want a boat, and I'll have retirement income through Social Security."</p>
<p style="text-align: center;">Policy</p> <p>The government places a quota (a limit) on the amount of steel that can be imported. This quota protects American steelworkers' jobs.</p>	<p style="text-align: center;">Consequence</p> <p>"I've been an autoworker for 15 years. Can you believe I just got laid off? Steel got so expensive, the price of American cars went up. Now, nobody is buying American cars."</p>
<p style="text-align: center;">Policy</p> <p>The government pays people to trade in their old, gas-guzzling cars for new, fuel-efficient cars. As part of the deal, car dealers destroy the old cars.</p>	<p style="text-align: center;">Consequence</p> <p>"I need a car to get back and forth to work, but I can't find any good used cars that I can afford."</p>
<p style="text-align: center;">Policy</p> <p>State governments pass laws requiring child-care businesses with more than four children enrolled to have a license. This law includes people who run child-care businesses in their homes.</p>	<p style="text-align: center;">Consequence</p> <p>"I start my job on Monday, and I still don't know where the kids will go. The child-care homes I can afford are full."</p>

Handout 2: Policies and Unintended Consequences (page 2 of 2)

<p style="text-align: center;">Policy</p> <p>After an oil spill, many states enact unlimited liability laws on oil tankers. Unlimited liability means that there is no limit to the amount of money companies must pay for damages that result from an oil spill.</p>	<p style="text-align: center;">Consequence</p> <p>"Did you read the news today? There was an oil spill off the coast. Some rusty old tanker sprang a leak. The article said that the large oil companies have stronger tankers and better insurance but instead hire smaller companies to carry their oil."</p>
<p style="text-align: center;">Policy</p> <p>The government passes a law limiting how much money banks can charge store owners for letting customers use debit cards.</p>	<p style="text-align: center;">Consequence</p> <p>"It's hard to find a checking account that doesn't charge a fee. Banks say they are losing money on debit cards, so they're charging fees on other stuff."</p>
<p style="text-align: center;">Policy</p> <p>The government declared the red-cockaded woodpecker, which nests in old-growth pines, a protected species. This declaration means that the birds' nests may not be disturbed.</p>	<p style="text-align: center;">Consequence</p> <p>"I'm cutting down those pine trees before those woodpeckers have a chance to nest. Once they build nests, I'll never be able to harvest the trees."</p>
<p style="text-align: center;">Policy</p> <p>To raise revenue, a city increases its parking meter and city-owned lot fees by 100 percent.</p>	<p style="text-align: center;">Consequence</p> <p>"I'm not shopping downtown anymore; parking is too expensive."</p>
<p style="text-align: center;">Policy</p> <p>Policymakers encourage the production of ethanol, a biofuel made from corn, as a cleaner alternative to gasoline.</p>	<p style="text-align: center;">Consequence</p> <p>"Wow, I can't believe how much my grocery bill has increased. I heard the corn shortage is making food more expensive."</p>

Handout 3: Assessment

Littleville was a river town consisting of farmers, a few merchants supplying goods and services, a few churches, a police station, a courthouse, and a community hall. All the people worked hard to earn money, but the money in the town simply circulated among the townspeople, with the merchants and city workers buying food from the farmers, the farmers buying goods and services from the merchants, and the farmers and merchants paying taxes, which paid the city workers. The town was poor, with little prospect for growth.

The city also had a sewage service. Each house had a sewer pipe that joined a larger pipe under the street. Each of the street pipes was connected to an even larger pipe that carried the waste to the river. And that was the end of the line. The waste dumped directly into the river. Over time, the river became more and more polluted. Several town members, sickened by the foul river, urged Littleville leaders to build a sewage treatment facility, but the leaders said they would not spend the town's limited money on sewage; there were more important services to provide, like twice-weekly trash collection. After all, it was a very poor town.

However, over time, the cry from Littleville residents grew louder: "Fix our polluted river!" So, the town leaders reduced trash collection to twice each month and used the money saved to build a sewage treatment plant. Soon, the river water was clean and clear. And then, an amazing thing happened. People began to visit Littleville to float on the river. Canoe rental shops opened. Raft stores opened. Restaurants opened. Suddenly, Littleville was full of tourists and the tourists' money! All of the merchants had more customers, earned more money, and paid more taxes! In no time at all, Littleville could afford street cleaning, a town swimming pool, a new police car, and twice-weekly trash collection!

- What was the problem in Littleville?
- What action did the town leaders take to solve the problem?
- What was the cost of the action?
- What was the benefit of the action?
- Describe any unintended consequences resulting from the action.
- In this case, were the unintended consequences costs, benefits, or both?

Standards and Benchmarks

National Standards in Economics

Standard 1: Productive resources are limited. Therefore, people cannot have all the goods and services they want; as a result, they must choose some things and give up others.

- **Benchmark 2, Grade 12:** Choices made by individuals, firms, or government officials often have long run unintended consequences that can partially or entirely offset or supplement the initial effects of the decision.

Common Core State Standards: Literacy in History/Social Studies, Science, and Technical Subjects, Grades 11-12

Writing

- **Text Types and Purposes**

CCSS.ELA-Literacy.WHST.11-12.2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

- **Research to Build and Present Knowledge**

CCSS.ELA-Literacy.WHST.11-12.7: Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

CCSS.ELA-Literacy.WHST.11-12.8: Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

CCSS.ELA-Literacy.WHST.11-12.9: Draw evidence from informational texts to support analysis, reflection, and research.