

## Lesson 10: Youth Decision Making

**Overview:** American youth will confront many tough decisions in their lives, both personal and political. This lesson provides a framework for approaching decision making that emphasizes the value of identifying pros and cons of different options and the difficulty of balancing short term and long term tradeoffs. The lesson begins by asking students to think critically about three decision choices that young people face. It then moves from the personal issues to issues related to infrastructure at the school and community level.

Following the introductory activity on decision-making, there are two directions the class may take. Some teachers may want to have students carefully examine different approaches to providing better drinking water at their school. This group activity asks students to carefully examine the pros and cons of four different alternatives and to decide which is the best one. Additional activities related to school water infrastructure are suggested.

Other teachers may want their students to consider infrastructure issues that may go far beyond their school. The third activity provides an overview of what is often called the infrastructure crisis in America and challenges students to think of ways to increase student awareness and support for increased investment.

**Objectives:** Students should be able to do the following at the end of the lesson:

1. Describe why decision-making is difficult both at the personal level and at the society level.
2. Identify plusses and minuses before making decisions on important questions.
3. Apply decision-making skills to an infrastructure challenge.
4. Describe why infrastructure is important to life in America.

**Activities:**

1. Decision-making warm-up.
- 2A. Small group project: Providing better drinking water in our local schools.
- 2B. Small group consulting project: Building student support for infrastructure.

## **Lesson 10: Youth Decision Making**

### **1. Decision Challenge Warm-Up**

The goal of this activity is to stimulate thinking about the difficulties of decision making and assessing tradeoffs between immediate rewards and long term benefits. After students complete their plus and minus analysis of the three cases and record their decisions, find out how the class responded.

You might facilitate a conversation about each of the cases or focus conversation on the case where there was the most disagreement. Emphasize more the analysis of plusses and minuses than the actual decisions. It is important for students to recognize that short term rewards can be emotionally powerful and difficult to counteract. Your role here, however, is to discover what students think rather than to influence their decisions.

The second segment of the class offers a choice of two activities that shift the focus of decision making to infrastructure. You may use either one or, if you have extra class time available, you could use both.

### **2A. Decision-making: Providing Drinking Water in our Local Schools**

You might want to introduce this activity by discussing drinking water problems in cities like Flint where the schools are connected to contaminated city systems. In these extreme and rare conditions, providing healthy water to everyone including students at school, the solutions are regional, complicated, time consuming, and very expensive. Fortunately, the great majority of schools provide safe water that students can drink using faucets located throughout the school. But even with this free water provided for everyone, some schools have been exploring alternatives that provide students with water that may be cooler, more convenient, tasty, flavored, but also more expensive. After examining four alternatives, students will recommend a policy for their school.

Pass out Student Handout #2: “Group Activity: Providing Drinking Water in our Local Schools”. Set up the groups and go over the introductory paragraph with

them. Challenge them to generate as many pros and cons they can for each of the four alternatives before they decide which approach they will recommend. (They may come up with a fifth alternative of their own.) After students have had adequate time to complete this task, reconvene the class as a whole, where you will hear each group's recommendation. Try to come to a conclusion as a class. If any students decide they would like to suggest a change for their school, brainstorm possible next-steps such as more research, a presentation at the next student council, PTSA involvement, etc. For anyone interested in examining school drinking water in more depth, look at the resources provided in "Supplemental Materials: Water in Schools".

## **2B. Decision Making: Youth Infrastructure Consulting Team**

Begin this activity by passing out Student Handout #3: Facts about Infrastructure in America. Give students time to quickly read or read it out loud. Don't dwell on it - your goal is to get the general consensus across that there is a serious infrastructure problem in America.

Then pass out Student Handout #4: Decision Making: Youth Infrastructure Consulting Team, and divide the class into small groups of 5-8 students. Briefly review the 4 small group tasks and set a time limit of 2 or 3 minutes for selecting the specific topic to make certain that most of the time will be spent on the task.

Some students and entire groups may not understand what is being asked. You might want to provide an example like the following to maximize understanding.

Example: The student group decided to focus on roads in their community and in the school parking lot. They decided to support a photo contest for the most dangerous pot hole in the community roads and state highway that goes through their community. They are going to place four pictures in the school newspaper and post other pictures on the library wall. Contest entries must include a paragraph about the importance of safe, well maintained roads.

## Lesson 10: Youth Decision Making

### Youth Decision Making Warm-Up

**Background:** Life confronts everyone with difficult decisions that can be hugely important. This is true for large infrastructure problems that society faces as well as personal problems that students face. Choices must be made about conflicting values and the relative importance of short term and long term impacts. Uncertainty about what the future holds makes decision making especially tough. This warm-up exercise presents three examples of tough decisions that youth today might face.

**Task:** For each of the following three examples, list arguments for both sides and then record your decision.

1. Sally is 16 years old. She loves to play the piano and sing. She is invited to join a start-up band as their lead singer and occasion piano player but to do so she will need to practice two hours every day and perform once or twice most weekends. She will need to drop her AP classes to join the band and probably give up her hope to major in engineering at the state university.

**Question:** Should Sally take the short term option of music or the long term option of taking challenging academic classes? What are some good arguments on each side?

2. John is a seventeen years old senior in high school. His parents want him to go to community college for two years and then transfer to the university to try to earn an Engineering Degree. John is a good student but is bored with school. The Tesla car company has offered him a starting mechanic job that will pay him \$ 38,000 a year, enough to make it possible to purchase a car and rent an apartment for him and his girlfriend to start living together.

**Question:** Should John accept the job offer? What are some good arguments on each side?

3. Chico is 24 years old and works at a local bank. He has just completed his second year and has received an employment invitation to begin automatic investment into a 401K account. The bank will match his 5% investment with an additional 5%. He now earns \$3,000 a month. To agree to this investment offer, his take home pay would drop at least \$170. His monthly budget now for his car and recreation is \$220. If he starts investing, he will probably accumulate \$60,000 in his 401K in 10 years but he will need to cut back on his social life now.

**Question:** Should Chico start investing in a 401 K account? What are some good arguments on each side?

### **Youth Decision Making: Drinking Water in Our Schools**

Bad water has been in the news lately. Flint, Michigan has suffered from lead contamination in the citywide water supply. Regional droughts and population growth are encouraging water conservation everywhere. Consumers are increasingly preferring bottled water over traditional tap water. Because of these issues, water usage in the local schools has been receiving much attention and your school superintendent has set up a committee to make a recommendation for your school. For this activity, you will be assuming your district has safe water at each school. Nevertheless, there are options to consider. Listed below are some opinions from parents, and four possible actions, each with associated costs. As a group, discuss the alternatives and then decide what drinking water policy you will recommend to your superintendent. Be able to support your recommendation with good reasons.

#### **As a group, examine the following statements by parents. What arguments are left out?**

*“When I visited my child’s school, the fountain water was warm and tasted funny.”*

“We need more fountains, not more polluting plastic bottles!”

*“It is a matter of equity. If we do nothing, only the rich kids will have good tasting water because they alone can afford bottled water.”*

“The tap water at school is just fine. We need to spend the money on books and computers. If the kids want bottled water, they can bring it from home.”

#### **Options to consider:**

1. Nothing needs to be done. The water already provided is safe and adequate. If students are not happy with it, they can get their own bottled water. (No cost)
2. Refrigerate existing tap water and dispense it in several inexpensive water coolers. Students bring their own bottles. (Berkeley Unified School System. Minimal cost)
3. Install a filter system with dispensers located around the campus. (San Mateo Union H. S. D. Cost: \$2,000 to install one dispenser, \$200 yearly to replace filters for each dispenser.)
4. Provide bottled water for each student. (Baltimore Public School System, Cost: \$10 per student yearly.)

#### **Your recommendation:**

## Supplemental Materials: Water in Schools

### Resources:

“Promoting Water Consumption in Schools” is an informative two-page handout by California Food Policy Advocates.

([http://ww.waterinschools.org/factsheets/factsheet\\_twopg.pdf](http://ww.waterinschools.org/factsheets/factsheet_twopg.pdf))

“Schools Buying Water Filters Even Though Water is Fine” describes San Mateo Union High School District’s decision to purchase FloWater dispensaries for each school. (<http://www.sfchronicle.com/bayarea/article/Schools-buying-water-filters-even-though-7253189.php>)

At “Drinking Water Access in Schools” (<http://www.changelabsolutions.org/publications/drinking-water-access-schools>) you will find a very informative overview with several strategies described and many resources listed.

Strategic Energy Innovations is a non-profit that helps schools and other communities set and reach sustainability goals, many of which include infrastructure improvements. (<http://www.seiinc.org/580-sei-tackles-water>)

“Water in Schools” provides a wealth of valuable information including FAQs, News, Resources, and Case Studies. (<http://www.waterinschools.org/faqs/>)

### **Additional Activities:**

Students could form study groups to investigate water quality and water usage at their school. Here are some of many possible questions they might ask:

- What is the current law regarding safe and adequate water in the schools?
- What is the current condition of the school’s plumbing? When was the school built? Are there any lead pipes?
- When was the water last tested?
- Is the landscaping drought resistant?
- Is free drinking water provided in the lunch room area?

## **Facts about Infrastructure in America**

### **Falling Down Bridges**

One in 10 bridges are deemed structurally deficient, meaning the bridge has a significant defect that requires reduced weight or speed limits. Another 14 percent of the nation's 607,380 bridges are considered "functionally obsolete," meaning they are no longer suited to their current task because of overuse or a lack of safety features, yet are still in use.

### **Waterways**

Inland waterways, including canals and rivers, move the equivalent of 51 million truckloads of goods every year—and half the locks are more than 50 years old. The US Army Corps of Engineers, which maintains most of the system, says it will take \$13 billion through 2020, with 27 percent of that going towards new lock and dam facilities and 73 percent toward improving existing facilities. Without an increase in funding, it could take the Army Corps until 2090 to finish everything on the to-do list.

### **Rail**

There are more than 14,000 miles of high-speed rail operating around the world, but none in the United States. In Chicago, it can take a freight train nearly as long to go across the city, as it would for the same train to go from Chicago to Los Angeles.

### **Highway and Airport Congestion**

American Society of Civil Engineers estimates that congestion, which costs American drivers \$101 billion annually in wasted time and fuel, and airport delays that are a \$22 billion drag on the economy.

### **Roads**

Putting off repairs today means spending much more on those repairs in the future, as repair costs rise exponentially as road conditions decline. According to the American Association of State Highway and Transportation Officials, repairing a road that has fallen into poor condition can cost up to 14 times as much as preserving a road in good condition to begin with

- According to the American Society of Civil Engineers, in 2013, nearly a third of America's roads were in poor or mediocre condition. An estimated \$170 billion in capital investments annually would be required to bring about significant improvement.

**Decision Making: Youth Infrastructure Consulting Team**

**Background:** The American Society of Civil Engineers has formed a high school student consulting team to give it guidance on ways to build youth awareness of the importance of infrastructure. Your small group is the consulting team.

**Infrastructure includes:**

**Water Management:**

Drinking water system, irrigation systems, flood control, dams, waterways

**Transportation:**

Roads, bridges, mass transit, railways, canals, airports, ferries, ports

**Energy:**

Dams, power plants, power distribution and transmission facilities, pipelines

**Communication:**

Post office, telephone networks, internet services, undersea cable

**Solid Waste Management:**

Sewage, garbage collection, landfills

**Security:**

Prisons, Fire houses, Court Houses, Military Installations

**Social Services:**

Hospitals, schools, Foster Child Homes

**Cultural and Recreational:**

Museums, parks, athletic stadiums

**Small Consulting Group Tasks:**

1. After quickly looking over the handout, ***Facts about Infrastructure in America***, select one of the areas of infrastructure and one example from that area for your focus.
2. Discuss why that example is important to your school and/or community.
3. Design an activity or experience that will help students at your school understand the importance of this example of infrastructure and contribute to its support.
4. Select one person from your group to make a 30 second report on your idea to the class.