

## **Choose Your Own Adventure: School Nutritional Policy**

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### **Summary**

Students will use current obesity research to choose a new school nutritional policy with the goal of improving student health. Once a policy has been chosen, the students will “go on an adventure” and investigate the outcome of the policy’s implementation. A hyperlinked PowerPoint tool will enable students to discover the consequences, both intended and unintended, of different policy options. The students’ policy choices will then be evaluated based on policy processes and outcomes.

### **Learning Outcomes**

- Students will learn the procedure for establishing public health policy.
- Students will employ higher-order thinking skills to evaluate public policy.
- Students will investigate current research about obesity in adolescence.

### **Materials**

- “Creating Public Policy” PowerPoint presentation
- “Choose Your Own Adventure” PowerPoint presentation for dealing with school policy and obesity

### **Total Duration**

2 hours, 30 minutes

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## **Procedures**

### **Teacher Preparation**

Decide how the students will be grouped for this activity: either into pairs or small groups of 3 or 4 students. In order for the “Choose Your Own Adventure” option to work as described in Step 3, allow students to select a policy strategy of their choice from the list to implement and discover the consequences.

A worksheet is provided for note-taking from the introductory website, “Overweight and Obesity.” The worksheet allows variations for note-taking (words, pictures, graphic organizers, etc.). Decide whether or not the worksheet is appropriate for your class/grade level.

To personalize the PowerPoint presentations and make them more relevant to students, consider changing the background colors of the provided PowerPoint presentations to your school colors and use your school mascot as a background graphic.

You should be familiar with Bloom’s Taxonomy, especially questions related to the higher-order thinking skill of evaluation. The Dalton and Smith’s question stems written for each level of Bloom’s would be a good resource for lesson preparation (see web resource).

## Web Resource

Title: Bloom's Taxonomy and Question Stems (Dalton and Smith)

URL: [www.teachers.ash.org.au/researchskills/dalton.htm#knowledge](http://www.teachers.ash.org.au/researchskills/dalton.htm#knowledge)

Description: This website lists verbs, question stems, and potential activities and products associated with the six levels of Bloom's Taxonomy. Bloom's Taxonomy categorizes levels of questions that commonly occur in educational settings. Students will be expected to evaluate policy in this lesson. This website can be used as a resource to inform you about evaluation level questions.

## Part 1: Introduction

**Duration: 45 minutes**

In this lesson, students will investigate obesity prevention and intervention by choosing a new school policy that combats the effects of obesity, and then evaluate the chosen policy based on its processes and outcomes.

As an introduction to the obesity problem, students will investigate CDC's "Overweight and Obesity" website. An organizing worksheet, "Overweight and Obesity Website Investigation," is provided for students to use when taking notes.

Policy Pre-assessment: Ask students the following questions:

If you were the school health administrator, setting school health policies would be a part of your job. How would you decide what policies should be set? How would you know if your school health policies were working? What questions would you ask to find out? With your partner/group, brainstorm possible answers to these questions.

Some ideas for this discussion are included in the "Ideas for Policy Pre-assessment Brainstorming" document. Please note that these ideas are not an exhaustive list, and students should be encouraged to explore many different answers to these questions.

## Web Resource

Title: Overweight and Obesity

URL: [www.cdc.gov/nccdphp/dnpa/obesity/](http://www.cdc.gov/nccdphp/dnpa/obesity/)

Description: This Centers for Disease Control and Prevention web page is home to a website filled with current information about obesity definitions, trends, contributing factors, health, and economic consequences for children, teens, and adults. It is used in this lesson to introduce students to current research about obesity and pose some possible options for avoiding or lessening the effects of obesity in the present and later in life.

## Supplemental Documents

Title: Overweight and Obesity Website Investigation

File Name: Overweight and Obesity Website Investigation.doc

Description: This document can be used as a worksheet to help students organize their notes from the "Overweight and Obesity" website. It gives students options when taking notes to align them most closely with their personal learning style.

Title: Ideas for Policy Pre-assessment Brainstorming

File Name: Ideas for Policy Pre-assessment Brainstorming.doc

Description: This document contains some ideas for answers to the questions in the Policy Pre-assessment. It serves as a reference and is not an exhaustive list.

Students should be encouraged to go beyond this list to explore many different answers to these questions.

## **Step 2**

**Duration: 30 minutes**

Present the “Creating Public Policy” PowerPoint presentation, which will introduce students to how policy is made and how its effects are evaluated. The presentation will teach students the steps used in creating public policy. It also contains the assignment parameters.

Student groups will choose one of the following public health policies to be adopted by their school. Choosing their policy can be approached like one of the “Choose Your Own Adventure” books. Each different policy heads in its own direction when looking at consequences, both intended and unintended.

### A. Weight Monitoring Policy

The school will regularly weigh all students and keep track of their weight over time. The school board will be given ongoing reports showing weight gain/loss trends, which it will share with the public.

### B. Mandatory Nutritional Course Policy

The school will require all students to complete a course on proper nutrition and exercise, while keeping track of their daily food intake and exercise output. Passing the end-of-course test will be required for graduation.

### C. Obesity Patch Policy

The school will require all obese students to wear a medicinal “patch” that will cause students to lose weight by raising their metabolic rate. The transdermal patch will be provided to students free of charge.

### D. Remove Vending Machines Policy

The school will remove all vending machines with high-sugar, high-fat foods and beverages from the school. Vending machines with healthy choices will still be available.

### E. Require More Exercise Policy

The school will require each student to take physical education every day—no waivers for participation in sports activities. Daily lessons in physical education will center on activities and exercise.

## **Supplemental Document**

Title: Creating Public Policy

File Name: Creating Public Policy.ppt

Description: This PowerPoint presentation describes the steps taken in setting public policy. In this lesson, the presentation will be used to introduce students to public policy decision making.

## **Step 3**

**Duration: 45 minutes**

The students are to assume their chosen school health policy has been put into effect. Time has passed and consequences, both good and bad, have had time to arise. Have each group access the hyperlinked PowerPoint presentation “Choose Your Own Adventure: School Nutrition Policy.” They are to follow the links that show the

consequences of their chosen policy. Using the document “Evaluating Policy,” students will then evaluate their policy in light of the consequences.

### **Supplemental Documents**

Title: “Choose Your Own Adventure” PowerPoint presentation for dealing with school policy and obesity

File Name: Hyperlinked policy.ppt

Description: This PowerPoint presentation is a hyperlinked document that allows students to investigate its contents in a nonlinear fashion. Students are to follow the links to find out the consequences of their chosen policy’s implementation.

Title: Evaluating Policy

File Name: Evaluating Policy.doc

Description: This document helps students organize information about the consequences for their chosen policy. It also asks questions to help students evaluate the effects of the school health policy.

### **Conclusion**

**Duration: 30 minutes**

Students will be asked to reflect on their ability to evaluate the policy and its consequences. Look for each student’s ability to recognize patterns, make judgments, defend their opinions, come up with improved solutions, and give reasons for improvement. The reflection will be used as a post-assessment for this lesson. See the “Post-assessment” document for details.

### **Supplemental Documents**

Title: Post-assessment

File Name: Post-assessment.doc

Description: This assessment asks students to reflect on their ability to evaluate their chosen policy in light of the consequences and outcomes.

### **Assessment**

A pre-assessment brainstorming task on policy development is used to assess the students’ prior knowledge. This pre-assessment is found in the Introduction of this lesson.

Found in the conclusion, the post-assessment asks students to reflect on their ability to evaluate the policy and its consequences. See the “Post-assessment” document for details.

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### **Modifications**

#### **Extension**

Students can investigate the other four policies and reflect on the best choice, or combination of choices, for their school after viewing all of the consequences.

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## Education Standards

### **National Science Education Standards**

#### LIFE SCIENCE, CONTENT STANDARD C:

As a result of their activities in grades 9–12, all students should develop understanding of

- The cell
- Molecular basis of heredity
- Biological evolution
- Interdependence of organisms
- Matter, energy, and organization in living systems
- **Behavior of organisms**

#### SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES, CONTENT STANDARD F:

- **Personal and community health**
- Population growth
- Natural resources
- Environmental quality
- Natural and human-induced hazards
- Science and technology in local, national, and global challenges

#### HISTORY AND NATURE OF SCIENCE, CONTENT STANDARD G:

- **Science as a human endeavor**
- Nature of scientific knowledge
- Historical perspectives

## Overweight and Obesity Website Investigation

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As an introduction to the obesity problem, you will investigate CDC's "Overweight and Obesity" website ([www.cdc.gov/nccdphp/dnpa/obesity/](http://www.cdc.gov/nccdphp/dnpa/obesity/)). You may use this worksheet to take notes.

<b>Main Topic</b>	<b>Notes</b> (Words, pictures, graphic organizers, etc. are acceptable here.)

## **Ideas for Policy Pre-assessment Brainstorming**

Choose Your Own Adventure: School Nutritional Policy  
Gail Wortmann, CDC's 2005 Science Ambassador Program

Below are some examples of answers to the policy pre-assessment questions included in the Introduction. This teacher guide serves as a reference for discussion, if needed. Please note that the lists below are not exhaustive, and students should be allowed to explore these questions in many different directions. Because this is a pre-assessment, before using this sheet, allow students the time to brainstorm, to assess their knowledge of policy.

### **How would you decide what policies should be set?**

- Look for problems that students, teachers, and/or other faculty and staff members face in school that might jeopardize their health.
- Look for conditions that might be considered hazardous or dangerous to health.
- Look for new developments in health care and health policy that might be applied to the school and improve health/conditions for students, teachers, and/or other faculty and staff.

### **How would you know if your school health policies were working?**

- Measure the intended result of the policy. For example, if a policy were designed to promote handwashing, you could measure the number of students who washed their hands before lunch both before the implementation of the policy and after the policy was enacted.
- Ask those affected by the policy how well they think the policy is working. Ask if the policy has increased their knowledge, affected their attitude, and/or changed their behavior.
- Investigate for any unintended consequences from the implementation of the policy.

### **What questions would you pose to find out if the policy was working effectively?**

- How has this policy affected you and/or other members of the school's community?
  - Has this policy affected your knowledge about this health issue?
  - Has this policy affected your attitude about this health issue?
  - Has this policy affected your behavior in regards to this health issue?
- Have you noticed any effects of this policy that were not intended?

## Evaluating Policy

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Consequences of Policy Implementation		
Consequence	Good/Bad/Neither?	Reflections (thoughts about consequence)

You are going to investigate the short-term effects of your chosen policy. Outcomes of a policy are often investigated by:

- Knowledge and attitude changes
- Expressed intentions of the target audience
- Short-term or intermediate behavior shifts
- Services that are created or improved

After discussing the consequences of your chosen policy with your group members, answer the following evaluation questions:

1. Was the chosen policy a good policy? Why or why not?
2. Was the policy implemented as intended? If not, why not?
3. Did the policy have the desired outcomes? (Discuss in terms of changes in knowledge, attitudes, expressed intentions, behavior, and services offered.)
4. What were the unintended consequences?
5. Were there any outside influences that affected the outcomes? What were they?

## **Post-assessment**

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### **Suggestions for Post-assessment**

The ability to evaluate is a higher-order thinking skill, according to Benjamin Bloom, an educational psychologist who developed a classification system in 1956 for levels of intellectual behavior important in learning. Below is a list of questions that might help you evaluate at a higher level of thinking. Consider these question stems when you answer the post-assessment questions.

- Is there a better solution to...
- Judge the value of...
- Can you defend your position about...?
- Do you think ... is a good or a bad thing?
- How would you have handled...?
- What changes to ... would you recommend?
- Do you believe?
- Are you a ... person?
- How would you feel if...?
- How effective are...?
- What do you think about...?

### **Post-assessment**

Reflect on your ability to evaluate your chosen policy and its consequences. A reflective comment is one that contains original thought and shows your personal tone. It should reflect your own abilities, struggles/limitations, experiences, and goals as a learner in this lesson by giving concrete examples. Your teacher will be looking for your ability to recognize patterns, make judgments, defend your opinions, come up with improved solutions, and give reasons for improvement.

State the policy you chose.

1. What changes would you recommend to the policy and why?
2. How effective would the policy be if your changes were made in light of the consequences of policy implementation?
3. If you could do this over, or rewrite the original policy, what outcomes would you want?
4. Rewrite the policy to attain your outcomes, thinking through possible intended and/or unintended consequences.

### **Reference**

Dalton J, Smith D. Extending Children's Special Abilities—Strategies for primary classrooms. Applying Bloom's Taxonomy. [cited—add date]. Available from URL: <http://www.teachers.ash.org.au/researchskills/dalton.htm>.

## **Post-assessment Answer Key (One Example)**

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State the policy you chose. **Weight Monitoring Policy:**

**The school will regularly weigh all students and keep track of their weight over time. The school board will be given ongoing reports showing weight gain/loss trends, which it will share with the public.**

1. What changes would you recommend to the policy and why?

**We think a better solution would be to have a class in good nutrition and exercise. Although the school is regularly weighing students and reporting the results, not much else is happening. When evaluating the policy, we felt it had holes, but it took us a while to come to an agreement on what was missing and what should have been included. We finally went with a suggestion we could all live with.**

2. How effective would the policy be if your changes were made in light of the consequences of policy implementation?

**The policy would be more effective. It is hard to believe students change their life-long eating and exercise habits without the knowledge to back it up. We kept**

**thinking of ourselves and thought we wouldn't permanently change how we eat without a very convincing reason to do so.**

3. If you could do this over, or rewrite the original policy, what outcomes would you want?

**We would want the data to be gathered and shared without affecting other school programs. We would still want the students to change their knowledge and attitudes so they would choose good foods and do exercise life-long. We wouldn't want students to feel bad about participating. We know we wouldn't feel very good about being weighed if other kids commented about it to us; therefore, we didn't think the original policy would be all that effective.**

4. Rewrite the policy to attain your outcomes, thinking through possible intended and/or unintended consequences.

**Answers will vary. Students should take into consideration the original policy, the various consequences, and propose a new policy that tries to find solutions to the negative consequences while revising the policy to meet new outcomes.**

#### **Reference**

Dalton, J. & Smith, D. Extending Children's Special Abilities – Strategies for primary classrooms. Applying Bloom's Taxonomy. [cited—add date]. Available from URL: <http://www.teachers.ash.org.au/researchskills/dalton.htm>.