

RESOURCE LIBRARY  
ACTIVITY : 50 MINS

## Proactive Policies and Practices for Disease Control and Prevention

Students learn about disease prevention steps such as handwashing, food washing, waste management, pest control, environmental safety, and vaccination through interactive learning stations.

### GRADES

6 - 8

### SUBJECTS

*Biology, Health, Social Studies, Civics*

### CONTENTS

10 Links, 1 Resource, 1 Video, 1 PDF

## OVERVIEW

Students learn about disease prevention steps such as handwashing, food washing, waste management, pest control, environmental safety, and vaccination through interactive learning stations.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/proactive-policies-and-practices-disease-control-and-prevention/>

## In collaboration with



## DIRECTIONS

**Menacing Microbes Unit Driving Question: How does a community get ready for an outbreak?**

**Controlling the Contagion Lesson Driving Question: How can we prevent the spread of disease?**

### 1. What does it mean to be proactive?

- Ask your students: *What does it mean to be proactive?*  
(Potential responses: Anticipating what might happen, planning ahead, preparing in advance and acting ahead instead of simply reacting to circumstances, being ready.)
- Have students turn and talk to their neighbor about ways that they are proactive in their daily life. Have students share out their answers with the rest of the class to check for understanding.
- Add proactive to the word wall that was started at the beginning of the Menacing Microbes unit.

### 2. Use learning stations to identify proactive policies and practices to be included in an outbreak action plan.

- Introduce this step of the activity by informing students that there are many proactive measures that individuals, communities, and governments can take to prevent outbreaks of infectious diseases. In these learning stations, students will learn about six of them.
- Set up six learning stations in the room grouping the materials listed into the following categories:

#### 1. Vaccines

- Reading: [Here's Why Vaccines are so Crucial](#)
- Timeline: [History of Vaccines](#)

#### 2. Food safety

- Video: [Foodborne Diseases](#)
- Reading: [Washing Food: Does it Promote Food Safety?](#)

#### 3. Pest control

- Website: CDC, [Controlling Mosquitos at Home](#)

- Website: CDC, [Preventing Tick Bites](#)

#### 4. Clean water

- Video: [How Do We Clean Water?](#)
- Website: WHO, [Drinking-water](#)
- Reading: [Nov 19, 2001: World Toilet Day](#)

#### 5. Large-scale community plans

- Press Release: [Statewide drill tests ability to receive and deliver emergency medicine and supplies](#)
- Press Release: [Disaster exercise on intentional release of plague set for April 30](#)

#### 6. Personal Hygiene

- Infographic: [Cover your Cough](#)
  - Website: CDC, [Show Me the Science - Why Wash Your Hands?](#)
  - Video: [Fight Germs. Wash Your Hands.](#)
- Before students begin their station rotations, assign students specific roles in the group to help focus their attention at each station.
    - Each group should have a designated recorder to write down the important information on the Action Plan Research worksheet.
    - Other group members can use the columns of the [Action Plan Research](#) worksheet to focus their attention on particular aspects of each source (e.g., student A will look for the definition and people involved, student B will consider whether the method will work for the group's disease and whether it is realistic).
  - Have student project groups visit all six stations to explore more about each proactive measure.
    - As project groups visit each station, they add to the corresponding rows of their Action Plan Research worksheet. For each policy or practice, students will discuss: *What is the definition? Is it proactive or reactive? Who is involved (government, community, and individuals)? Will this work to effectively contain our disease? Is this a realistic measure to implement? Why or why not? Should we include it in our action plan?*

- Once they discuss each question, they can record their response in the corresponding box on the table.
- As students are working through the stations, circulate the room and check-in with them. Use the Action Plan Research worksheet to assess their understanding of the different reactive and proactive measures. Use the organizer to ask students questions about how each of these measures would work for their disease.
- As students finish their last learning station, have them move on to completing the exit ticket outlined in the assessment section.

By the end of this step, students should have the following rows in the Action Plan Research worksheet completed: NPIs, quarantine, isolation, closing public spaces, food recall, vaccines, food safety, pest control, clean water, large-scale community planning.

## Tip

Step 2: Add each of these proactive methods to the word wall after completing the learning stations.

## Tip

Step 2: Personal hygiene is a form of an NPI. You may want to clarify this with students by giving them examples of community and environmental NPIs.

## Tip

Step 2: Read through the materials in advance and decide how you want to organize and facilitate your stations. How will you indicate that it is time to change stations? How long will students spend at each station?

## Tip

Step 2: There are blank rows in the Action Plan Research worksheet. Students may want to add additional policies and practices to these. Some students may want to research Testing People for Disease and Public Health Education, which are listed on the table for students to research on their own.

## Modification

Step 2: This activity works best with computers. If you do not have access to computers, you will need to print the text of the websites, and show any videos and or interactive timelines from the learning stations to the entire class.

## Informal Assessment

Have students complete and submit an exit ticket that identifies one proactive policy or practice that will work for their disease. Have students submit the following details on the proactive policy or practice they have chosen:

1. *What is the name of response?*
2. *Who oversees this response?*
3. *What happens during the response?*
4. *When is this response used?*

An example of a completed exit ticket on food washing:

1. Wash produce.
2. People preparing food to eat.
3. Wash produce with cold running tap water to remove dirt. Firm produce such as apples or potatoes can be scrubbed.
4. Just prior to preparing (e.g., cutting, cooking).

## OBJECTIVES

## Subjects & Disciplines

### **Biology**

- Health

### **Social Studies**

- Civics

## Learning Objectives

Students will:

- Identify the different roles that individuals, organizations, and the government have in enacting proactive policies for response to disease outbreaks.

- Evaluate which proactive measures are most appropriate to implement in a disease outbreak.

## Teaching Approach

- Project-based learning

## Teaching Methods

- Reading
- Self-directed learning
- Visual instruction

## Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
  - Information, Media, and Technology Skills
    - Information Literacy
    - Information, Communications, and Technology Literacy
    - Media Literacy
  - Life and Career Skills
    - Social and Cross-Cultural Skills
- 21st Century Themes
  - Health Literacy
- Critical Thinking Skills
  - Analyzing
  - Applying
  - Understanding

## National Standards, Principles, and Practices

ENERGY LITERACY ESSENTIAL PRINCIPLES AND FUNDAMENTAL CONCEPTS

- **D2.Civ.10.6-8:**

Explain the relevance of personal interests and perspectives, civic virtues, and democratic principles when people address issues and problems in government and civil society.

## **COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY**

- **CCSS.ELA-LITERACY.RH.6-8.2:**

Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

- **CCSS.ELA-LITERACY.RH.6-8.7:**

Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

## **THE COLLEGE, CAREER & CIVIC LIFE (C3) FRAMEWORK FOR SOCIAL STUDIES STATE STANDARDS**

- **D2.Civ.12.6-8:**

Assess specific rules and laws (both actual and proposed) as means of addressing public problems.&nbsp;

- **D2.Civ.2.6-8:**

Explain specific roles played by citizens (such as voters, jurors, taxpayers, members of the armed forces, petitioners, protesters, and office-holders).

- **D2.Civ.6.6-8:**

Describe the roles of political, civil, and economic organization in shaping people’s lives.

### **Preparation**

### **What You’ll Need**

### **REQUIRED TECHNOLOGY**

- Internet Access: Required
- Tech Setup: 1 computer per classroom, 1 computer per pair, Projector

### **PHYSICAL SPACE**

- Classroom

## GROUPING

- Small-group learning
- Small-group work

## BACKGROUND & VOCABULARY

### Background Information

Preventing infectious disease outbreaks requires planning ahead. Prevention plans can help reduce illness, hospitalization, and death. Proactive measures anticipate future outbreaks of disease and work to prevent the transmission of disease among people. Rather than waiting for the outbreak to occur, proactive measures keep people healthy.

Proactive measures are recommended in contexts outside of disease prevention any time people are forward planning and acting accordingly. For example, communities educate people about the tolls of drug abuse as a proactive step to keep people from using them. Students who study for their tests are proactive in an effort to prevent low grades. An outbreak response and prevention plan that includes both reactive and proactive measures will not only control an outbreak once it starts but will help keep future outbreaks from occurring.

### Prior Knowledge

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### Recommended Prior Activities

- [Analyzing Disease Outbreaks](#)
- [Getting Sick: How Diseases Spread](#)
- [Investigating Infectious Diseases](#)
- [Mapping the Spread of Disease in a Community](#)
- [Reactive Policies and Practices for Disease Control](#)

### Vocabulary

<b>Term</b>	<b>Part of Speech</b>	<b>Definition</b>
<b>Centers for Disease Control and Prevention (CDC)</b>	<i>noun</i>	agency, part of the Department of Health and Human Services, whose mission is "to create the expertise, information, and tools that people and communities need to protect their health through health promotion, prevention of disease, injury and disability, and preparedness for new health threats."
<b>outbreak</b>	<i>noun</i>	sudden occurrence or rapid increase.
<b>personal hygiene</b>	<i>noun</i>	action or habit of keeping oneself clean, especially as a means of maintaining good health.
<b>practice</b>	<i>verb</i>	to do or perform often, customarily, or habitually

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## For Further Exploration

### Websites

- [ODPHP: 2019 NHO Calendar](#)



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