



## Grade 10 Sample Lesson Plan: Unit 1 – Environmental Health and Crisis Management

### SOLs

- 10.2.U Investigate the influence of the environment on the individual.
- 10.2.V Identify life-threatening situations that may result from emergencies and natural disasters and community resources for emergency preparedness.
- 10.2.W Explain how the quality of the environment (secondhand smoke, carbon monoxide, allergens, lead, and toxic chemicals) directly affects a person's health status and quality and length of life, and describe strategies for risk reduction.
- 10.2.X Explain the importance of developing relationships with health, wellness, education, safety, and business professionals to address environmental health concerns.
- 10.3.X Design crisis-management strategies for natural disasters and emergency situations
- 10.3.Y Establish goals for improving environmental health

### Objectives/Goals

- Students will apply learnings about environmental health and natural disasters to the design of crisis management and health improvement plans.

### Materials

- Internet access and/or printouts of information, handouts

### Procedure

#### Environmental Health Research

- Assign students to engage in internet research (e.g., visit CDC's Division of Environmental Health Hazards and Health Effects <https://www.cdc.gov/nceh/ehhe/> as a launching point) and develop a one page poster/report/ infographic (e.g., <https://piktochart.com>) to address the following:
  - *What are some influences the environment has on the individual?*

- *How does the environment affect a person's health status, quality of life, and risk of death*
- *How can these risks be reduced?*
- *What role does the health sector play in addressing environmental health concerns?*
- *What role do environmental health agencies play?*
- *What role does the business sector and industry play?*
- *Identify at least one goal for improving environmental health*

### ***Emergency Preparedness and Crisis Management***

- Implement the lesson plans and utilize the handouts included in FEMA's Be a Hero Youth Emergency Preparedness Guide for Grades 9-12, including Lesson 1: Know Your Disasters and Lesson 2: The Adventures of Disaster Preparedness.
- Alternatively, have a discussion with students about the life threatening situations – (e.g., injury, violence, dehydration, poisoning, disease) that can result from natural disasters and other public safety emergencies (e.g., fires, earthquakes, tornados, hurricanes, riots, disease outbreaks). Talk to students about the importance of being prepared for emergencies, including first aid and CPR training, and general disaster/emergency preparedness: gathering a 3 day supply of food, water and emergency supplies; making a family communication and disaster plan; being informed about disasters that can happen in the area.
- Have students visit <https://emergency.cdc.gov/preparedness/> and <http://www.redcross.org/get-help/prepare-for-emergencies/be-red-cross-ready/make-a-plan> for instructions and assign students to :
  - Develop an emergency preparedness kit.
  - Develop a family communication plan.
  - Develop a family disaster plan.
- To further educate students about the resource agencies involved in disaster preparedness and emergency response invite representatives from emergency management, environmental quality, health and public safety agencies and organizations to present and/or donate supplies for students to prepare emergency kits.

### **Assessment Idea**

- Evaluate student completion of requested research and reports and products (i.e., kits, plans).

### **References**

- FEMA- Youth Emergency Preparedness (9-12): [https://www.fema.gov/media-library-data/ac2a3fd06796f89fcd284ddb3fea4797/FEMA\\_HS\\_TG\\_082613\\_508.pdf](https://www.fema.gov/media-library-data/ac2a3fd06796f89fcd284ddb3fea4797/FEMA_HS_TG_082613_508.pdf)
- Allergy and Asthma Foundation - <http://fightthecauseofallergy.org>
- CDC Environmental Hazards and Health Effects <https://www.cdc.gov/nceh/ehhe/>
- CDC Emergency Preparedness <https://emergency.cdc.gov/preparedness/>

- EPA Games and Quizzes <https://www.epa.gov/students/games-quizzes-and-more>
- EPA Learning and Teaching about the Environment: <https://www.epa.gov/students>
- Global Asthma Report <http://www.globalasthmareport.org/burden/causes.php>
- Global Asthma Network  
<http://www.globalasthmanetwork.org/patients/causes.php>
- HealthyPeople.Gov Environment  
<https://www.healthypeople.gov/2020/topics-objectives/topic/environmental-health>
- NIEHS- Your Environment- Your Health:  
<http://www.niehs.nih.gov/health/scied/teachers/>
- OSU Hydroville Curriculum Project- Problem-based environmental health curricula, resources, and events: <http://blogs.oregonstate.edu/hydroville/>
- WHO Environmental Health [http://www.who.int/topics/environmental\\_health/en/](http://www.who.int/topics/environmental_health/en/)

#### Lesson Plan

- FEMA Be A Hero Youth Emergency Preparedness Guide  
[https://www.fema.gov/media-library-data/ac2a3fd06796f89fcd284ddb3fea4797/FEMA\\_HS\\_TG\\_082613\\_508.pdf](https://www.fema.gov/media-library-data/ac2a3fd06796f89fcd284ddb3fea4797/FEMA_HS_TG_082613_508.pdf)

#### Articles and Videos

- “Environmental Issues Involving Global Warming” -8<sup>th</sup> Grader TED Talk <https://www.youtube.com/watch?v=PRJvuA5bW9s>
- National Geographic – “Allergy Misery”  
<http://environment.nationalgeographic.com/environment/global-warming/allergies-misery/>
- Scientific American: “The Link Between the Environment and Health” <https://www.scientificamerican.com/article/environment-and-our-health/>
- “This is Environmental Health” <https://www.youtube.com/watch?v=zmnEtCGDXMg>

#### Handout

The next page includes a handout for the lesson. The handout is designed for print use only.