



## Grade 8 Sample Lesson Plan: Unit 1 – Pollution and Environmental Health Solutions

### SOLs

- 8.1.V Describe pollutants found in water, soil, and air and their impact on body systems.
- 8.2.R Explain how humans and the environment are interdependent.
- 8.3.Q Create environmental design solutions that promote physical and psychological health.

### Objectives/Goals

- Students will apply knowledge of pollution and environmental health concerns to promote health.

### Materials

- Internet access for research
- School social media resources
- Protective gloves for trash pickup
- Cameras/cell phones or other resources for environmental documentation

### Procedure

#### *Pollution*

- Have students visit online webpages of the various agencies involved in environmental protection (e.g., see reference links to CDC, EPA, ASTDR, and DEQ) and work in groups to develop a series of healthy environment social media tweets and/or Facebook posts. Disseminate their responses through school social media accounts
  - o Raise awareness about various pollutants that affect the water, soil and air, their health effects on humans and ways humans can reduce pollution or the impact of pollution on human health.
- Spend one class session identifying sources of pollution on school facilities and school grounds as a group.
- Host an active “trash pick-up” session to pick up and recycle trash on the grounds of the school or adjacent communities.

### *Environmental Design*

- Have students watch the CDC video on healthy community design <https://www.youtube.com/watch?v=ll7Yv6L9rwE> and review information from various websites of organizations involved in healthy community design (the references below may provide a starting point); then have students walk through their school and community to:
  - Take pictures and/or document areas (e.g., sanitation or water pollution; smoking, traffic or other air pollution, poor lighting, ruin or dilapidation, barriers to physical activity and nutrition) that could be improved through environmental redesign.
  - Consider ways of improving physical and psychological health in the school and community.
  - Propose design solutions to at least two of these areas that will promote physical and psychological health and present these in class and/or to school or community leaders.

### **Assessment Idea**

- Evaluate quality of completion of social media and design assignments.
- Participation in “trash pick-up” session.

### **References**

- Allergy and Asthma Foundation - <http://fightthecauseofallergy.org>
- APHA Healthy Community Design <https://www.apha.org/topics-and-issues/environmental-health/healthy-community-design>
- CDC Environmental Hazards and Health Effects <https://www.cdc.gov/nceh/ehhe/>
- CDC Healthy Community Design <https://www.cdc.gov/features/healthycommunities/>
- CDC Healthy Community Design <https://www.youtube.com/watch?v=ll7Yv6L9rwE>
- EPA Environmental Topics <https://www.epa.gov/environmental-topics>
- 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>
- NEA Environmental Lessons <http://www.nea.org/tools/EnvironmentalEducationActivitiesAndResources.html>
- NIEHS- Your Environment- Your Health: <http://www.niehs.nih.gov/health/scied/teachers/>
- WHO Environmental Health [http://www.who.int/topics/environmental\\_health/en/](http://www.who.int/topics/environmental_health/en/)

- ATSDR Health Effects of Exposure to Substances  
<https://www.atsdr.cdc.gov/substances/ToxOrganSystems.asp>
- Virginia Department of Environmental Quality (DEQ) <http://www.deq.virginia.gov>