Grade 8 – Healthy Environment

<u>**Unit 1**</u>

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.

Title: Pollution and Environmental Health Solutions

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
  - 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.

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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 Ideas:
- 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/
- 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