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| **Lesson** | **Lesson Goal** | **Activities** | **Material Needs/ Estimated Cost** |
| Introduction | Students will be introduced to environmental health, environmental hazards, and the role of environmental health professionals.  **TOTAL TIME: 1 hour** | * Toxic Release Inventory Analysis (TRI) Activity * Ice Breaker: paired sharing, birth map, famous people/cities (can choose from ice breaker options) | TRI activity   * Computers   Ice Breaker   * Note cards * Pens/markers * Tape * Map of the United States (Birth Map) |
| Flint Water Crisis | Give thorough background and sequence of events involved in Flint Water Crisis and introduce students to public health emergency situations and government responsibility to prevent such situations.  **TOTAL TIME: 1 hour 50 minutes** | * Testing Lead In Water | * Lead in water test kit (can be found at most hardware stores: $ 13.99) |
| Lead and Hazard Assessment | Introduce students to lead and teach them how to properly assess lead hazards based on different exposure routes.  **TOTAL TIME: 1 hour 30 minutes** | * How to check a lead service line activity (Demo) * Lead paint demo activity | LSL Demo:   * Key or screwdriver * Refrigerator magnet   Lead paint Demo:   * Lead check sticks   8 swabs per pack, 6 packs: ($122-145 on amazon)   * Different objects that contain lead (ex: paint surfaces in classroom, metals etc.) |
| Lead Toxicology | Students will have an understanding of lead toxicology and will have the skills to use national models to track lead poisoning trends.  **TOTAL TIME: 1 hour and 15 minutes** | * Environmental Public Health Tracking Activity | * Computers |
| Excel Walk Through | Introduce students to Excel software and data presentation; teach students to present scientific data in a tangible and professional format. **TOTAL TIME: 50 minutes** | * Thanksgiving Dinner Shopping Activity | * Computers with excel application   Thanksgiving shopping activity   * Tape * Thanksgiving price list * Student instruction sheet * Assignment rubric |
| Lead Intervention | Introduce students to an overview of common interventions employed in combatting lead effects with a focus on nutrition interventions. **TOTAL TIME: 50 minutes** | * Nutrition Tag * My plate | Nutrition tag   * Ropes, cones or anything that can create a boundary * Lead blocker identification tags   MyPlate activity   * Cochrane report * Computers |
| Water Contaminants and Treatment | Students will be able to identify the potential hazards and threats of water contaminants; students will know where to acquire information for local water quality; introduce students to water treatment processes and practices. **TOTAL TIME: 2 hours 30 minutes** | * Flocculation test activity * Corrosion test activity | Flocculation test   * Alum ($ 3.44-6.00) * Container for collecting water( ex: buckets) * Two 250 mL beakers ( $ 2.50 a piece at Walmart)   Corrosion test (Aluminum foil corrosion)   * Two 250 mL beakers ( $ 2.50 a piece at Walmart) * Distilled water ( $.89 at target) * 2 crumpled pieces of aluminum foil ( $ 2.77 at Walmart) * NaCI ( table salt)( $ 1.48-5.00) |
| Water Filters | Students will discuss different water filters and treatments; students will discuss which water filter Is best circumstantially; students will learn how to build a filter. **TOTAL TIME: 1 hour and 30 minutes** | * Homemade water filter | Filters   * Plastic soda or juice bottle * Vase or tall drinking glass * Gravel or small stones * Clean sand ( $ 4.00 -5.00 at lowes) * Activated charcoal( $ 5.00-10.00) * Cotton balls ( $ 4.00-6.00 at walmart) * small cloth ( $ 10.00-15.00 at walmart) * coffee filter ( $ 2.00-10.00 at walmart) * Gardening dirt ( $ 1.75- 7.00 at home depot) * Water * Scissors |
| NSF International and Bottled Water | Introduce students to NSF International and bottled water regulation. Additionally, provide students with information needed to distinguish between various type of bottled water, and how to safely store bottled water. **TOTAL TIME: 1 hour and 20 minutes** | * Fact check activity * Small debate: tap vs. bottled | Fast Check activity   * Computers   Debate   * Handout for class debate |
| Water Regulation and NRDC | Students will understand the role NRDC plays in environmental justice; students will be introduced to the different areas of work within the NRDC; NRDC’s influence on policy and legislative decisions will be explored through history and current events. **TOTAL TIME: 2 hours and 10 minutes** | * NRDC map activity | * Computers |
| Government and Policy | Introduce students to environmental health policy; explore the influence of politics on policy; encourage students to be actively involved in local and national policy issues. **TOTAL TIME: 50 minutes** | * Paris accord debate * Govtrack activity * Kahoot activity | Govtrack   * Computers * Worksheet   Kahoot   * Computers * Game code( get from website)   Paris accord debate   * Computer and link |
| Environmental Justice | Help students to examine how the benefits and burdens of society are distributed. It explores the social, political, and economic systems that create inequality based on race and class, and how this can lead to disparate burdens of pollution in communities. **TOTAL TIME: 1.5 hours** | * Four Corners Toxic Waste Activity * EJSCREEN Activity | 4 toxic corners activity   * Waste basket * Information sheet * Chalk * White board   EJSCREEN activity   * Computers |
| Ethics in Environmental Health | In this lesson students will reflect on what ethics means to them and discuss solutions to ethical dilemmas from their own lives. **TOTAL TIME: 1.5 hours** | * Ethics Column Activity | Ethics Column   * Pens * Paper * Two containers (hats etc.) * Student journal * Classroom board * Copies of the ethicist |
| Risk Assessment | Introduce students to basics of health risk assessment to understand and communicate health risk from environmental exposures. **TOTAL TIME: 1 hour and 20 minutes** | * Health risk assessment activity worksheet * Exposure assessment activity worksheet | None |
| IEUBK Module | Introduce students to basics of EPA’s IEUBK Model and its applications for child blood lead level exposure. **TOTAL TIME: 1 hour and 25 minutes** | * IEUBK activity | * Computers |
| Health Communication | Introduce students to basics of health communication to obtain a better understanding on how health information is distributed to the public. **TOTAL TIME: 50 minutes** | * Health communication activity handout | None |
| Final Project: Becoming an Environmental Advocate | Students will identify one environmental and human health problem and become part of the solution to that problem. **TOTAL TIME: 2-3 weeks** (by teacher’s discretion) |  |  |