Module 1: The Natural Water Cycle

Activity 1: Where in the World is Water?

Materials Needed for each Group
- 12-inch inflatable globe outlining continents and oceans (Can be obtained at most toy stores; also available online.)
- Flip chart paper
- Writing implements (e.g., markers)
- Calculator

Activity 2: H₂O by the Numbers

Materials Needed for each Group
- One five-gallon container (e.g., aquarium; bucket; bottle)
- Writing instrument, preferably markers
- One piece of flip chart paper
- Basic calculator
- Measuring cup
- 5 paper cups
- One set of measuring spoons (1 TBSP; 1 TSP; ¾ TSP; ½ TSP; ¼ TSP)

Activity 3: Can You Make it Rain?

Materials Needed for Each Group
*Materials provided
- Measuring cup (microwave safe)
- 1 hard plastic or ceramic plate
- One sheet of plastic cling wrap, approximately 12-inches square (30.5 cm square)
- One rubber band
- 3 separate cups with water (1 cup of hot water; one cup of cold water; and one cup of room temperature water)
- Flip chart paper and markers
- *Water Cycle Handout (per each youth)

Activity 4: Where Water Flows: An Introduction to Watersheds

Materials Needed for Each Group
- Square piece of aluminum foil, approximately 12” x 12” (30.5 cm x 30.5 cm)
- Permanent marker
- Spray bottle with water (Note: Groups may share spray bottles)
- One piece of flip chart paper and writing implements
Module 2:
Human Interventions in the Water Cycle

Activity: From the Storm Clouds to the Ocean: Chance Encounters of Wandering Water

*Materials provided
- 1/2 gallon of water for a group of 10 youth or 1 gallon of water for a group of 20 youth
- 2 clear gallon buckets/containers to hold the resulting waste water
- For each group: 3-5, 12 oz. plastic or paper cups (*Note: Groups use a new cup each time through the water cycle)
- 7, six-sided dice
- 4 fl oz. of dishwashing detergent
- 1.75 oz. container of chocolate sprinkles
- 1/4 cup salt
- 1 roll of toilet paper
- Small bottle of maple syrup
- 3-4 cups of either cereal or crackers (crushed)
- 4 tablespoons
- 1 teaspoon
- 2 white coffee filters
- 2 funnels
- 1/2 cup of vegetable oil
- 1 cup of paper waste (e.g. shredded paper, shredded wrappers)
- Cup of grass or other plant matter (e.g. cut green grass, leaves, etc.)
- 1/2 cup of soy sauce
- Yellow food dye (0.25 fl oz.)
- Red food dye (0.25 fl oz.)
- Green food dye (0.25 fl oz.)
- Blue food dye (0.25 fl oz.)
- 1 cup of soil
- Flip chart paper and writing implements
- 1 calculator

*Learning Station Set-Up Map (Appendix A on page 40)
*Learning Station Action Directives (Appendices B-L on pages 41-53)

Module 3:
Water as an Available Resource: The Urban/Rural Interface

Activity 1: Watersheds and the Urban/Rural Interface

**Materials Needed for Each Group**
- Flip chart paper and writing implements
- One (1) roll of aluminum foil (18-inch width)
- One spray bottle per group
- At least two water-soluble markers per group (watercolor markers work well)
Activity 2: Population Growth and the Changing Face of the Urban/Rural Interface: 2010 → 2025
(*Materials provided in the curriculum)
- Flip chart paper and writing implements for each group
- Two clear 1-2 gallon “source” containers. Both filled with the same volume of water
- Four clear containers to be used as holding “tanks” (at least ½ gallon each)
- 1 set of measuring cups (should contain 1 cup, 3/4 cup, 1/2 cup, 1/4 cup) for each group (may be shared)
- One calculator for each group (optional; may be shared)
- *Room set-up diagram (See Appendix A on page 67)
- *Urban and rural water use scenarios for 2010 and 2025 (See Appendices B-E on pages 68-71)

Module 4:
Mapping Natural Watersheds

Activity 1: Water Flows Downhill: An Introduction to Topographical Maps

Materials Needed for each Pair/Small Group
*Materials provided
- *Topographic map templates A and B – Appendix A
- Flip chart paper
- Writing implements

Activity 2: Mapping Locations of Point and Nonpoint Source Pollutants in Watersheds: Predicting Impacts; Identifying Solutions
*Materials provided
- *1 map of the United States with UTM zones (pre-activity) (Appendix B)
- *1 map that includes UTM zone 15N and (pre-activity) (Appendix B)
- *4 topographical maps from different regions of the U.S. (Appendix C)
- *List of locations (points) for each topographical map (Appendix D)
- *Summary instructions for using a hand-held GPS device (Appendix E)
- Flip chart paper
- Writing implements

Module 5:
Service Learning Projects in your Watershed

Step 1: Identifying Needs in Your Community

Materials Needed for Each Group
- Ideally, each groups needs Internet access and other resources, such as local newspapers, a phone book, and book sources
- Flip chart paper
- Writing instrument (e.g., markers)
- One copy of Appendix A
Step 2: Preparing the Project

**Materials Needed for Each Group**
- Flip chart paper
- Writing instrument (e.g., markers)

Step 3: Experiencing Service

- Materials required by planned service projects developed during Step 2
- Camera or camcorder - in order to record the youth experiencing their service project

Step 4: Evaluating the Project

**Materials Needed for Each Group**
- Flip chart paper
- Writing instrument (e.g., pen or pencil)
- 1 copy of Appendix B per individual

Step 5: Sharing the Project

**Materials Needed for Each Group**
- Flip chart paper or poster board
- Computer access, if possible
- Other technology needs (will vary by group)
- Photographs or video footage of their project

Module 6: Teens Teaching Younger Youth

Activity 1: Where is Water?

**Materials Needed for Each Group**
- Appendix A: “Water and the World” distribution cut-outs
- Scissors
- Paper bag or other container to hold the cutouts
- Writing implements (e.g., markers)
- Calculator
- One piece of flip chart paper

Activity 2: How Much Water Do We Use?

**Materials Needed for Each Group**
- Writing implements (e.g., markers)
- One sheet of flip chart paper
- One copy of each Appendix A and Appendix C per individual
- **Optional**: Copies of Appendix B
- **Optional**: Calculator to be used with Appendix B

Activity 3: What Goes Down Your Drain?

**Materials Needed for Each Group**
- Pen/Pencil
- Paper
- One copy of Appendix A, “Product Chart” for each participant.
- Several copies of Appendix B, “Product Labels”