Wetland and Water Activities & Resources for Educating and Engaging Youth

HWR Wetland/Water Quality Curriculum (4th-8th grade focus)

- Life Downhill (model demonstration of what happens to our water resources downhill from non-point source pollution)
- Broken Water (hands-on demonstration of how a wetland works as a filter)
- Journey to the Bottom of the Pail (macro-invertebrates study/biotic index)
- Wetland Equation (hands-on demonstrations that explain what makes a wetland a wetland)

Life Downhill

- Enviroscape model
- Powder Tempera paints – variety of colors
- Watering can/mister

You can also find resources on how to make your own model in Project WET, WOW (The Wonders of Wetlands.)

Various models can be purchased from the following suppliers:

- Nature Watch (www.nature-watch.com)
- Carolina Biological Supply Company (www.carolina.com)
- NASCO Science (www.eNasco.com/science)

Broken Water

- Glass Pyrex liquid measuring cup
- Strainer
- Sponges
- Cheese cloth
- Moss
- Vegetable oil/water mix – Simulates motor oil
- Peppermint flavor & red food coloring mix – Some pollution you can only smell and some you can only see
- Dirty water mix – Simulates construction run-off
- All “pollutant” mixes in one container


ATLAS
MASON


PYREX


PYREX

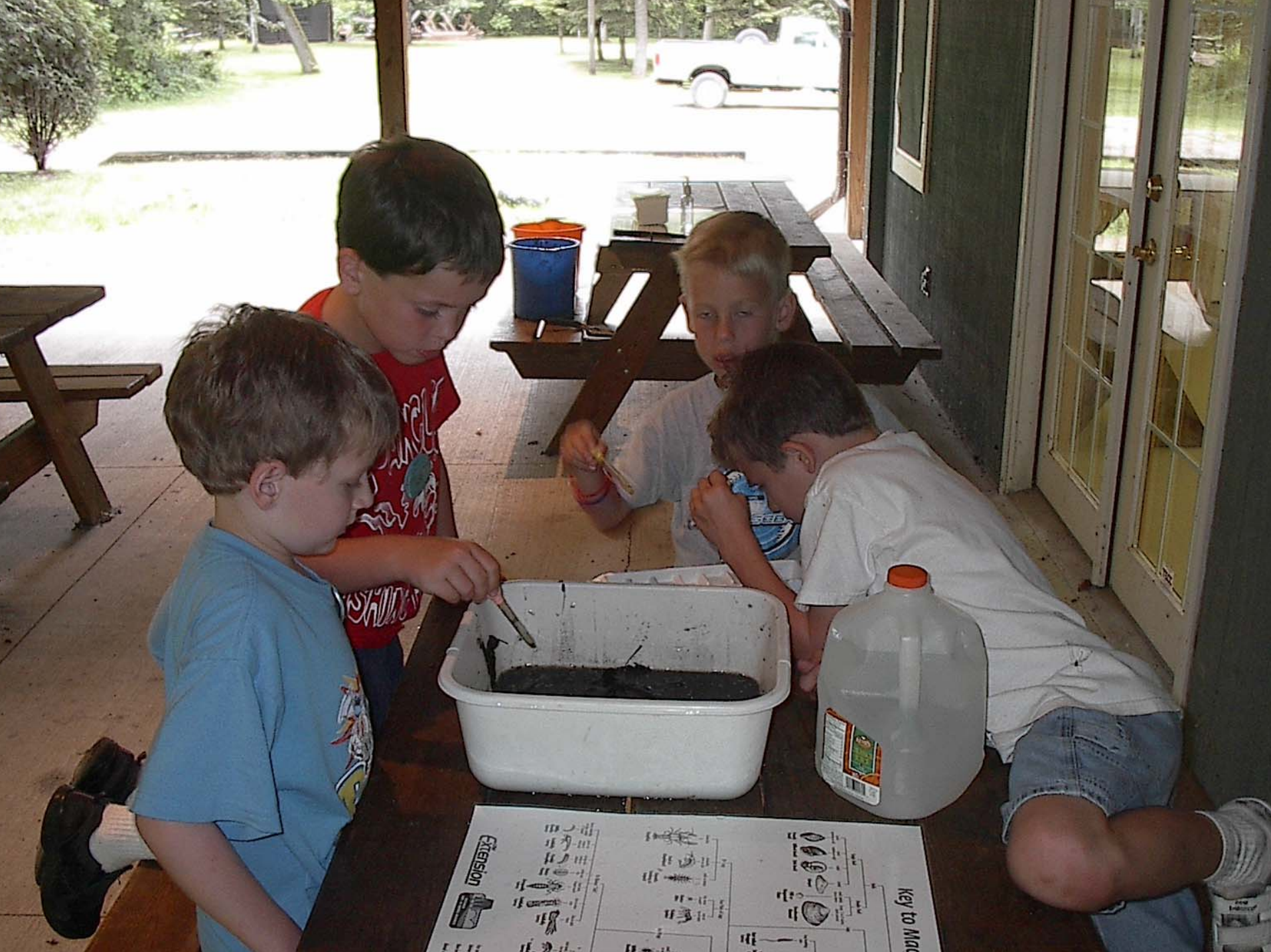

MADE IN USA
PYREX
1 litre
1000 ml
900 ml
800 ml
700 ml
600 ml
500 ml
400 ml
300 ml
200 ml


PYREX
1 litre
900 ml
800 ml
700 ml
600 ml
500 ml
400 ml
300 ml
200 ml

Journey to the Bottom of the Pail

- Dishpans
- Ice Cube Trays
- Tweezers
- Eye Droppers
- Microscopes
- Petri dishes
- Bug boxes
- Key to Macro invertebrate Life in the River Poster
- Water sample from local pond, lake, river, etc.


COMPANY
extension
Key to Macroinvertebrate Life in the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Key to Ma


HECKRODT

Wetland Equation

- SOIL + WATER + PLANTS = WETLAND

- Needed materials include:
  - Sandy soil demonstration
  - Clay bowl
  - Wetland soil
  - Wet sponge
  - Sphagnum moss
  - Wetland cornucopia demonstration
  - Dirty water

Water Quality Testing

- Hach Kits
  (HWR uses with high school/college students)
  (Also used in the Watershed Tour Education Trunk - "Chemistry Set" Station.)

- LaMotte Green Water Monitoring Kit
  (HWR uses with 4th-8th grade students)

HWR Resources Available for Youth Educators

- WERC (Watershed Education Resource Center) site – provides water quality testing & monitoring equipment, storm drain stenciling materials, pond study equipment, etc. for checkout

- Teaching kits and trunks
  - The Watershed Tour
  - Alien Invaders

All resources available for checkout are free, but require a $50 security deposit.

The Watershed Tour

- Station topics include:
  - Groundwater
  - Watersheds
  - Benthic Macro-invertebrates
  - Water quality testing
  - Waterfront development and its affects (pollution, etc.)
  - Water conservation
  - Wetland delineation
  - Water cycle game


The Watershed Tour Education Trunk
The Watershed Tour Education Trunk
PACKING MAP
Layer 1
PACKING MAP
Layer 1
THE WATERSHED TOUR TRUNK

Map C

Map B

"Development Debacle"
Station Card

"From the Ground Up"
Station Card

Part One: Terminology

1. On the worksheet match the following vocabulary terms to their definitions:
   bedrock
   impermeable
   percolation
   water table
   aquifer
   unsaturated zone

Part Two: Like a sponge

1. Construct a model that illustrates each of the terms above, using only the following materials:
   - 2 identical sponges
   - 1 shallow pan
   - 4 cups of water in a measuring cup
2. On the worksheet, draw a picture of your model and label all parts.
3. Answer the questions on the worksheet, using the terms from Part One.
4. Clean-up:
   - Wring out the sponges as much as possible.
   - Carefully pour the water from the pan back into the pitcher.
   - Wipe up any spills.

Crayola
washable
MARKERS
CLASSIC COLORS


Macromania
Station Card
Benthic Bugs
Station Card
HWR
HWR
HWR
Macromania
cards
GROUP 2
GROUP 1
Macros from Group 1 can only survive in water of high quality. If most of your macros are in Group 1 you have excellent quality water.
GROUP 1: Sensitive to pollutants
GROUP 2: Semi-sensitive to pollutants
Water Snipe Fly Larva
Alderfly Larva
Crayfish
Dobsonfly Larva
Riffle Beetle
Water Penny Larva
Snails: Gilled or Orb
Midge Larva


"Your Lucky Day"
Station Card #1
Crayola
washable MARKERS
CLASSIC COLORS
HWR
CRAYONS
Map C
Map B
"Development Debacle"
Station Card

Alien Invaders

- Clean Boats, Clean Waters
  - Use model boats/trailers/vehicles to practice finding aquatic plants on boats, trailers, and vehicles.
- Aquatic Invasive Animals
  - Fishing activity to fish out the invasive animals/fish
- Aquatic Invasive Plants
  - Card identifying/matching game (match picture with text)

Questions?

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