Watershed Center Activity Menu

Water Testing—Chemical, lake and/or stream
- Science-ME.1.F.8.a
- Science-CHM.1.1.B.a-b

Water Testing—Biological, lake and/or stream

Project WET Activities—GLEs/CLEs available for each activity from Project WET

Project Wild and Learning Tree Activities—not available at this time, but WILD and Learning Tree activities do match many Strand 4 and some Strand 3 Science GLEs and the Biology CLEs.

Introduction to Steam Ecology
- Science-EC.1.A.6.a
- Science-EC.1.B.6.a-c
- Science-EC.1.D.6.a-b

Karst Topography
- Science-EC.1.A.4.b
- Science-ES.2.A.4.b-d
- Science-ES.2.A.6.c
- CHM/ESS-1.1.H.a-b
- CHM/ESS-5.1.B.a

Groundwater 101
- Science-ES.1.B.5.a
- CHM/ESS-5.1.B.a

Watershed 101
- Science-ES.3.A.6.b-c

Enviroscape (watershed model)

- Science Strands 4 (Ecology)& 5 (Earth Systems for grades 3-12)

Stream Table
- Science Strands 4 (Ecology)& 5 (Earth Systems) for grades 3-12

Pond life
- Science Strand 4 (Ecology) for grades 3-12, and K-2/ parents & similar-looking offspring *(no macros at this age because the juveniles do not look enough like the parent/adult)*
- Science-EC.1.A.4.b
- Science-EC.2.A.6.a

Water Conservation

Watershed Center Scavenger Hunt

Green Building/Green Site Tour
Science ES.3.A.6.c

Volunteer/Service projects—GLEs/CLEs are dependent upon topic

Nature Unleashed—GLEs available with program from Missouri Department of Conservation

Nature hikes
Science Strands 3 (Life Systems)& 4 (Ecology) for grades K-12

Habitat hikes
Science Strand 4 (Ecology) for grades K-12

Outreach/classroom visits—GLEs/CLEs dependent upon topic

Jordan Creek Tours (downtown)

Special water related programs as needed—GLEs/CLEs dependent upon topic

Questions to answer: What can we do at the watershed Center? What is available at the site? What help does the Watershed provide? How do field trips work? All lessons incorporate basic, age appropriate water education.

Other Topics to consider:

Soils
Riparian area
Aquatic Food Chains and Food Webs
Adaptations of Aquatic Plants and Animals
Inquiry-Based Field Trips

Mike—FYI for you—here is the actual wording of the specific GLEs/CLEs that I matched up to each activity…

Science Strand 1 is Matter and Energy (ME), Strand 2 is Force and Motion (FM), Strand 3 is Living Organisms (LO), Strand 4 is Ecology (EC), Strand 5 is Earth Systems (ES), Strand 6 is the Universe (UN), Strand 7 is Inquiry (basically, the scientific method and process) (IN) and Strand 8 is Science and Technology (ST)
CHM is Chemistry for High School, ESS is Earth and Space Science for High School

Water Testing

Science ME.1.F.8.a is 8th grade—Recognize more than 100 known elements (unique atoms) exist that may be combined in nature or by man to produce compounds that make up the living and non-living substances in the environment (do NOT assess memorization of the Periodic Table)
CHM.1.1.B.a-b is High School Chemistry—a. Classify solutions as either dilute or concentrated: as either saturated, unsaturated, or supersaturated. B. Compare and contrast the properties of acidic, basic, and neutral solutions.

Stream Ecology

Science EC.1.A.6.a is 6th grade—identify the biotic factors (populations of organisms) and abiotic factors (e.g., quantity of light and water, range of temperatures, soil composition) that make up an ecosystem.
Science EC.1.B.6.a-c is 6th grade—a. Identify populations within a community that are in competition with one another for resources. B. Recognize the factors that affect the number and types of organisms an ecosystem can support (e.g., food availability, abiotic factors such as quantity of light and water, temperature and temp range, soil composition, disease, competitions from other organisms, predation). C. Predict the possible effects of changes in the number and types of organisms in an ecosystem on the populations of other organisms within that ecosystem.
Science EC.1.D.6.a-b is 6th grade—a. Describe beneficial and harmful activities of organisms, including humans (e.g., deforestation, overpopulation, water and air pollution, global warming, restoration of natural environments, river bank/coastal stabilization, recycling, channelization, reintroduction of species, depletion of resources), and explain how these activities affect organisms within an ecosystem. B. Predict the impact (beneficial or harmful) of a natural environmental change (e.g., forest fire, flood, volcanic eruption, avalanche) on the organisms in an ecosystem.

Karst Topography

Caves would be an appropriate introduction at 4th grade, but probably wouldn't use the term *karst*

Science EC.1.A.4.b is 4th grade—Recognize different environments (i.e., pond, forest, prairie) support the life of different types of plants and animals. *You would need to be specific about **caves** here, but I think appropriate to introduce*
Science ES.2.A.4.b-d is 4th grade—b. Identify the major landforms on Earth (i.e., mountains, plains, oceans, river valleys, coastlines, canyons). C. Describe how weathering agents (e.g., water, chemicals, temperature, wind, plants) cause surface changes that create and/or change Earth's surface materials and/or landforms. D. Describe how erosional processes (i.e., action of gravity, waves, wind, river, glaciers) cause surface changes that create and/or change Earth's surface materials and/or landforms.

Science ES.1.2.A.6.c is 6th grade—Describe how weathering agents and erosional processes (i.e., force of water as it freezes or flows, expansion/contraction due to temp, force of wind, force of plant roots, action of gravity, **chemical decomposition**) slowly cause surface changes that create and/or change landforms.

CHM/ESS.1.1.H.a-b is HS Chem and Earth and Space Science—a. Compare and contrast the types of chemical bonds (i.e., ionic, covalent,) as they relate to mineralization, changes in rock type within the rock cycle, **formation of pollutant molecules (e.g., acid rain, ozone**). B. **Predict the products of an acid/base (neutralization)**, oxidation (rusting) and combustion (burning) reaction as it may occur in the geosphere, hydrosphere or atmosphere.

CHM/ESS.5.1.B.a is HS Chem and Earth and Space Science—Recognize the importance of water as a solvent in the environment as it relates to karst geology (dissolution and mineralization), acid rain, water

pollution, erosion and deposition of rock and soil materials. (The CHM only addresses the water portion of this).

Groundwater 101

Science ES.1.B.5.a is 5th grade—Classify major bodies of surface water (e.g., rivers, lakes, oceans, glaciers) as fresh or salt water, flowing or stationary, large or small, solid or liquid, surface or **groundwater.**

CHM/ESS.5.1.B.a—see above in Karst Topography

Watershed 101

Science ES.3.A.6.b-c is 6th grade—b. Describe the effect of human activities (e.g., landfills, use of fertilizers and herbicides, farming, septic systems) on the quality of water. C. Analyze the ways humans affect the erosion and deposition of soil and rock materials (e.g., clearing of the land, planting vegetation, paving land, construction of new buildings, building or removal of dams).

NOTE: Some of the ones listed for Groundwater and Karst above, may also apply to Watersheds….feel free to add in, if needed.

Pond Life

See the first one above on Karst Topography—**EC.1.A.4.b**

Science.EC.2.A.6.a is 6th grade—Diagram and describe the transfer of energy in an **aquatic food web** and a land food web with reference to producers, consumers, decomposers, scavengers, and predator/prey relationships.

Green Building/Green Site Tour

See part c on the first one listed for Watershed 101—**ES.3.A.6.c**