

Tentative Daily Schedule for the *From the Mountains to the Ocean Academy*

Each day of the Academy will be structured to incorporate preparation (learning new science content and MWEE investigation skills), action (MWEE investigations outdoors and/or using on-line resources), and reflection (data analysis & synthesis, personal & group learning assessment, and application of new knowledge & skills to develop MWEE lesson ideas for teachers' individual classrooms).

DAY	SCIENCE THEME/SOL(2010)	TOPIC	SKILLS	INVESTIGATION
1	Hydrosphere: Water cycle & watersheds <i>SOL's:</i> 6.1, LS.1, ES.1, ES.2, BIO.1 & 6.7, LS.6, LS.9, PS.1, BIO.8, CH.1, PH.1	1. Introductions & Course overview 2. Personal & Group MWEE teaching assessment 3. Watershed Science: interdisciplinary connections	Practice w/ new field technologies	Field investigation: problem, question, hypothesis, & methods design
2	Hydrosphere/Biosphere interface <i>SOL's:</i> 6.7, LS.7, LS.11, ES.6, BIO.9 Hydrosphere: Water chemistry & aquatic ecology <i>SOL's:</i> 6.7, LS.9, LS.11, ES.1, ES.2, ES.8, BIO. 2, BIO.8	1. Forest hydrology & the importance of riverine buffers 2. Aquatic ecosystem chemistry 3. Indicator species	1. Water chemistry: understanding the parameters 2. Using aquatic macroinverts as indicator species 3. How to conduct a site analysis	Shenandoah River Site 1: Site analysis, water chemistry, & macroinvertebrate survey
3	Hydrosphere: Regional watershed & Hydrosphere/Atmosphere interface <i>SOL's:</i> 6.7, LS.6, LS.9, LS.11, ES.8, BIO.2, BIO.8	Shenandoah River Watershed Hydrology Importance of outdoor-based watershed investigations for students	1. Data analysis 2. Hypothesis evaluation 3. Creating a safe, outdoor-based watershed field trip for your students	Shenandoah River Site 2: Site analysis, water chemistry, macroinvertebrate survey
4	Biosphere: Terrestrial/Estuarine ecology <i>SOL's:</i> 6.7, LS.6, LS.9, LS.11, ES.8, ES.10, BIO.2, BIO.8	Hydro-ecological connectivity between the Shenandoah River watershed and the Chesapeake Bay	1. Using Fieldscope 2. Using on-line water quality & weather data	Watershed boundaries, water flow, & water quality analysis investigations
5	Lithosphere: Karst topography & groundwater systems <i>SOL's:</i> 6.7, LS.11, ES.10 Stewardship: Land-use policy <i>SOL's:</i> 6.5, 6.7, 6.9, LS.11, ES.6, ES.10, BIO.8	1. Karst topography & groundwater hydrology 2. Land use impacts on C.B. watershed 3. Group presentations of lessons developed 4. Personal & group MWEE learning assessment	1. Using a karst hydrology model 2. Using hydro-geology models to investigate run-off & recharge	Shenandoah Valley karst and spring sites