



WOW: WATERSHEDS

GETTING STARTED, GRADES 9-12

LEARNING OBJECTIVES

Students will increase their knowledge and hone their conservation and stewardship mindset about watersheds as natural resources.

- Define a watershed and Identify and understand the basic characteristics.
- Study riparian buffers and watershed health through research, communications with resource experts. Conduct field investigations and use the data to inform team and community action.
- Use data to draw conclusions and make informed decisions about your local watershed.
- Share data and evidence with local and/or national citizen science platforms to improve watershed knowledge, conservation and management strategies.
- Communicate watershed facts and tips to the larger school community and engage the greater community in supporting watershed campaigns and initiatives.
- Age appropriately, discuss the societal and economic impacts associated with watershed stewardship remembering that education for sustainable development addresses equity, economics and the environment.

INTERDISCIPLINARY CONNECTIONS

Citizenship, Language Arts, Math, Science, Social Studies, Specific CTE and STEM programs

ECO-SCHOOLS USA PATHWAY CONNECTIONS

Biodiversity, Climate Change, Schoolyard Habitats, Water, WOW-Wetlands and WOW-Oceans

METRICS NEEDED FOR AWARDS

1. How many actions did students take to improve watershed health?



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UN'S SUSTAINABLE DEVELOPMENT GOALS – CONNECTIONS TO PATHWAY

<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>



ARE YOU A GLOBE SCHOOL?

The Global Learning and Observations to Benefit the Environment (GLOBE) Program is an international science and education program that provides students and the public worldwide with the opportunity to participate in data collection and the scientific process, and contribute meaningfully to our understanding of the Earth system and global environment. **Learn more at >>** <http://www.nwf.org/Eco-Schools-USA/GLOBE.aspx>

Below are protocol connections to the Watershed audit. (Optional, but recommended.)

Atmosphere Protocols

Aerosols | Air Temperature | Clouds |
Precipitation | Surface Ozone | Surface
Temperature

Hydrosphere Protocols

Alkalinity | Conductivity | Dissolved Oxygen |
Freshwater Macroinvertebrates | Mosquitos | Nitrates |
pH | Salinity | Water Temperature | Water
Transparency

Pedosphere Protocols

Bulk Density | Soil Characterization |
Soil Fertility | Soil Infiltration | Soil pH |
Soil Temperature

Biosphere Protocols

Arctic Bird Migration | Biometry | Green Up/Green
Down | Land Cover Classification





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MATERIALS

Internet for research and data collection | GPS coordinates | water and soil test kits | macroinvertebrate kits | regional or state plant and animal field guides | Secchi disk*

*DIY Secchi Disk

- <https://zebrazapps.com/embed/#/b2f40eb4598249c19bc3028ca532eb55>
- <http://www.des.nh.gov/organization/divisions/water/wmb/vlap/documents/secchi.pdf>

PROCEDURE

1. Determine who the **resource specialists** are in your community, region or state. These individuals can assist with the audit and provide richer student experiences and deeper understanding.
2. Set aside realistic periods of time to complete the audit sections.
3. The Eco-Action Team will work together to gather the audit data required.
4. **Analyze the results** and **develop an action plan**. Be sure to **communicate** results, actions and outcomes throughout the entire process.
5. **Keep this audit** with your records. This information is needed when responding to Eco-Schools USA surveys, when applying for awards and when communicating with the community, school board and members of the media.

Your data and all evidence, including notes, photographs, sketches, calculations, audits, etc. need to be kept in a location that is easily accessible to the Eco-Action team. We recommend binder, file system or Google folder. Your documentation is very important and will be used:

- to inform decisions,
- to engage the community,
- as evidence to support findings,
- to update your dashboard, and
- to apply for awards.