Conducting the WOW-Watersheds Pathway

BEFORE AND AFTER THE AUDIT, GRADES 6-8

BEFORE

BE PREPARED

- Read through this document, the baseline audit and the post-action audit.
- Invite community experts to participate.
- Gather science tools (if applicable) and print materials.
- Conduct mini-lessons (if needed) to strengthen concept foundation.

ENDURING UNDERSTANDING

1. Everyone lives in a watershed and are connected to the ocean.
2. Water flows over and through a watershed. Human-made pollution in a watershed contributes to contaminated geobiological systems.
3. Watersheds play a significant role within the larger ecosystems and can provide important lessons about ecological balance and biological integrity.

ECO-SCHOOLS SEVEN STEP FRAMEWORK

- CREATE YOUR ECO-CODE
- ECO-ACTION TEAM
- ENVIRONMENTAL AUDIT
- INVOLVE THE COMMUNITY
- ECO-ACTION PLAN
- LINK TO CURRICULUM
- MONITOR & EVALUATE

COMMUNITY AND CULTURE

- Communities are supported by their watershed. A healthy watershed provides clean freshwater and nourishes wildlife and plants.
- Communities contribute to a healthy watershed in many ways, for example, through litter prevention, water conservation practices and sustainable gardening practices.
- Cultural diversity is a source for learning sustainable practices.
- Intercultural dialogue should be a guiding principle in developing solutions, raising awareness and promoting action.
- Create an inclusive, safe place for Eco-Action Team members and others within and outside of the school community to participate.

ECO-SCHOOLS USA
NATIONAL WILDLIFE FEDERATION

FOUNDATION FOR ENVIRONMENTAL EDUCATION

INTERDISCIPLINARY CONNECTIONS

- **English –** Convene book study groups using Eco-Fiction, such as Carl Hiaasen's Flush or Denise Getson's Dry Souls. Use watersheds as a common thread.

- **Math –** Calculate the geographical measurements of the watershed in which the school resides using existing technology as well as measurements related to water quality.

- **Technology –** Identify and survey existing applications available for students and the greater community to record data related to watershed health. Are the apps enough to effectively investigate watershed health? What applications need to be designed and/or are there existing apps that can be improved-suggestions to the app developer?

- **History –** How has clean water shaped the development of cities moving from east to west?

History

Technology

English

Science

Economics

Math
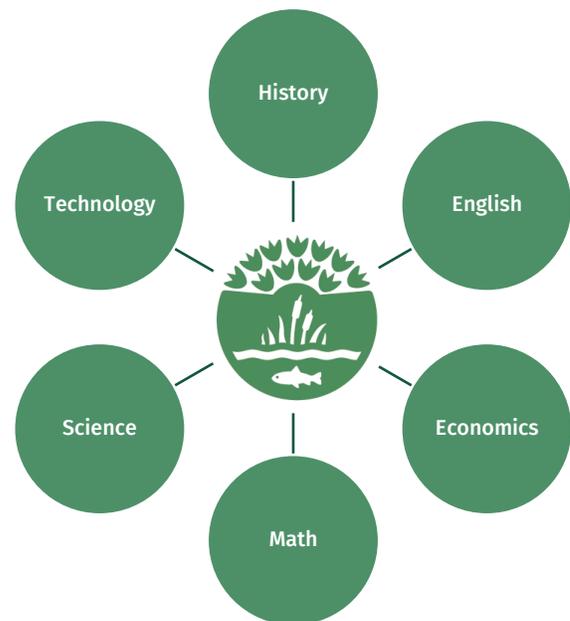
SUSTAINABLE DEVELOPMENT GOALS

In 2016, seventeen Global Goals for Sustainable Development were adopted by world leaders at a United Nations Summit. These goals universally apply to all countries, therefore Eco-Schools USA is committed to doing our part. Over the next fifteen years, efforts will be made by governments, institutions and citizens all across the globe to end all forms of poverty, fight inequalities and tackle climate change, while ensuring nobody is left behind.

4 QUALITY EDUCATION

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

15 LIFE ON LAND

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and biodiversity loss.
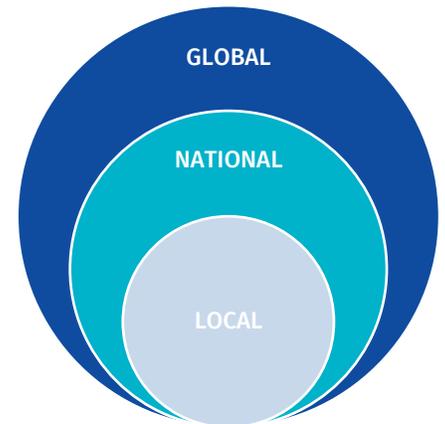
GATHER THE FOLLOWING MATERIALS

- student worksheet(s)
- science notebook
- macroinvertebrate studies kits
- audit form
- water and soil testing kits
- secchi disk*
- clip boards
- regional and/or state plant and animal field guides

DASHBOARD METRIC

- How many actions did students take to improve watershed health?

PROCEDURE

1. Before the audit, contact local experts who are willing to assist. These individuals can provide more in depth understanding and can help direct the team when questions arise and/or concerns arise.
2. Read through the audit. As an Eco-Action Team determine, based on the size of your school and the tasks to be completed, how much time will be needed to complete the baseline or post-action audit.
3. As a team, find the best locations on the school grounds or within the surrounding community to conduct investigations.
4. Conduct the baseline audit and make plans to conduct the post-action audit.
5. Analyze the results and develop an action plan.
6. Frequently communicate results and plans with the school and community.

GLOBAL

NATIONAL

LOCAL

*DIY Secchi Disk
- https://zebrazapps.com/embed/#/b2f40eb4598249c19bc3028ca532eb55
- http://www.des.nh.gov/organization/divisions/water/wmb/vlap/documents/secchi.pdf

AFTER

1. NEXT STEP: DEVELOP AN ACTION PLAN

Move into Step 3 of the Seven Step Framework by using the audit results to develop an action plan.

Identify community leaders, experts, advocacy organizations who can assist students with solution implementation and advise the Eco-Action Team how to address issues of social justice.

• • • • • • • • • • •

2. UPDATE YOUR DASHBOARD

Login to the school's dashboard and complete the following tasks.

- Upload your audit results and your action plan.
- Add any related photos or videos.
- After completing the post-action audit and moving through the Seven Step Framework apply for an award.

• • • • • • • • • • •

3. STUDENT PHOTOGRAPHERS

Invite students to protect wildlife and conserve habitat by participating in National Wildlife Federation's photography contests

- National Wildlife Federation's Photo Contest, opens in January.

- National Wildlife Federation's Garden for Wildlife Photo Contest opens in August.

4. NEXT PATHWAY

Consumption and Waste Pathway - A school can reduce its environmental impact by analyzing its consumption habits and behaviors as well as the full life cycle of the products it uses.

Biodiversity Pathway – Biodiversity is the variety of life on our planet, and a wide diversity of plant and animal species is the key to a healthy, functioning ecosystem. Investigate and strategize ways to improve biodiversity on the school grounds.

• • • • • • • • • • •

5. CONNECT TO THE GLOBE PROGRAM

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, the scientific process, and contribute meaningfully to our understanding of the Earth system and global environment.

Atmosphere
aerosols | air temperature | clouds | precipitation | surface ozone | surface temperature

Biosphere
arctic bird migration | biometry | carbon cycle | green up/down | land cover classification | Ruby-Throated hummingbird

Hydrosphere
alkalinity | conductivity | dissolved oxygen | freshwater macroinvertebrates | mosquitoes |nitrates | pH | salinity | temperature | transparency

Pedosphere
bulk density | characterization | fertility | infiltration | pH | temperature