



Conducting the WOW-Oceans Pathway

BEFORE AND AFTER THE AUDIT, GRADES 9-12

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. The dynamic nature of ocean ecosystems are the result of interactions between organisms, the availability of resources and environmental changes.
2. Marine and coastal ecosystems are interconnected. Changes in one part of the system will affect other systems.
3. Human activity impacts natural systems which can have short- and long-term effects on marine and coastal wildlife and habitat.

COMMUNITY AND CULTURE

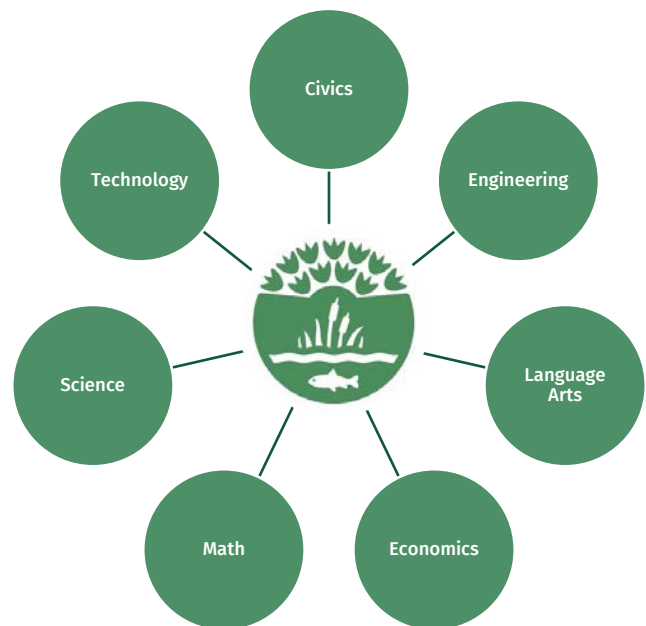
- Oceans provide key natural resources including food, medicines, biofuels and other products. They help with the breakdown and removal of waste and pollution, and their coastal ecosystems act as buffers to reduce damage from storms. Maintaining healthy oceans supports climate change mitigation and adaptation efforts.
- Marine protected areas contribute to poverty reduction by increasing people's income and improving health.
- 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.





INTERDISCIPLINARY CONNECTIONS

- **Language Arts** – Practice crafting communications based on audience and purpose. Students can hone skills to help them effectively communicate via blogs, social media, letter writing, and journalism.
- **Math** – Collect water and soil quality data. Use this data to calculate averages, create graphical representations, explain data for consumption by general audiences and calculate percent change.
- **Engineering** – Students can research the ocean’s most troubling problems, then using the engineering design process develop a solution to the problem.
- **Economics** – Water-based businesses comprise a multi-billion dollar industry and include commercial fisheries and numerous sports and recreation activities. Research different businesses and the importance sustainable strategies and practices are to their bottom line and longevity. Develop suggestions for sustainable management addressing the environmental, social equity and economic impacts and outcomes.



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.



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



Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

Learn more at globalgoals.org



GATHER THE FOLLOWING MATERIALS

- student worksheet(s)
- science notebook
- IRT (infrared thermometer)
- secchi disk*
- audit form
- water and soil testing kits
- materials for litter pick-up
- clip boards
- regional and/or state marine and coastal plant and animal field guides
- scale (litter weight)

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. If within walking distance to the coast or within a reasonable bus ride, schedule the buses and acquire the necessary number of chaperones.
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.



*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 PHOTOGRAPHER

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.



Climate Change Pathway -

Engage students in fact-based science investigations around climate, investigating vulnerability, resiliency and an overall reduction in the school's environmental footprint.



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

air temperature | clouds | surface temperature | water vapor

Biosphere

arctic bird migration | land cover classification

Hydrosphere

nitrites | pH | salinity | temperature | transparency

Pedosphere

characterization | infiltration | pH | temperature