LEAF: Learning About Forests Pathway

BEFORE, DURING AND AFTER THE AUDIT, GRADES 9-12

BEFORE THE AUDIT

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

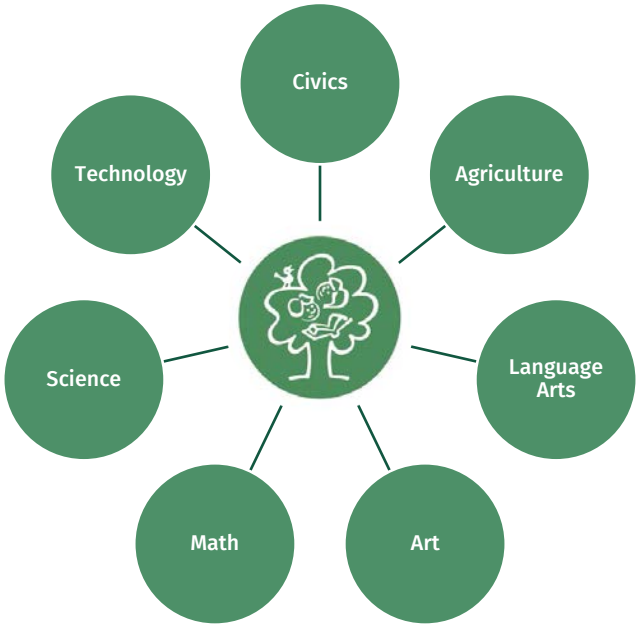
1. Forests are a system.
2. Invasive and non-native species contribute to forest health decline.
3. Forests are natural resources.
4. Forests impact the economy, the climate and human health.

COMMUNITY AND CULTURE

- Forests and nature are important for recreation and mental well-being. In many cultures, natural landscapes are closely linked to spiritual values, religious beliefs and traditional teachings.[1]
- Around 1.6 billion people depend on forests for their livelihood. [2]
- Cultural diversity, including Indigenous, Western and Eastern way of knowing are a source for learning sustainable practices and improving forest health.
- Intercultural and intergenerational 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 –** Trees have been the inspiration behind numerous great written works, such as The Giving Tree and Dante's Inferno. Let student's use trees to craft poetry, prose or a piece of non-fiction.
- **Math –** Calculate the economic impact schoolyard trees over the course of a calendar year.
- **Agriculture –** Introduce students to agroforestry, the land management strategy that incorporates the planting, cultivation, and conservation of trees alongside crops or livestock farming.
- **Technology –** What applications currently exist and what space needs to be filled when it comes to understanding the impact forests have on the environment? What might students develop in order to better track tree or forest health, to raise awareness and supports individual, school or community action?



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.

Make cities and human settlements inclusive, safe, resilient and sustainable.

Protect, restor and promote sustainable use of terrestrail ecosystems, sustainably manage forests, combat desertification and halt and revers land degradation hand biodiversity loss.

Learn more at globalgoals.org

CONDUCT THE AUDIT

GATHER THE FOLLOWING MATERIALS

- Student worksheet(s)
- Audit form
- Science notebook
- Clip boards
- Measuring tape (50-100M)
- Forestry diameter tape
- Tree flags
- Binoculars
- SEEK app by iNaturalist or other
- Regional/state tree, plant and animal field guides
- Temperature probes or thermometers for water and soil (optional)
- Probes or kits for water and soil quality (optional)

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 area being investigated, how much time will be needed to complete the baseline or post-action audit.
3. Highlight the locations on a school map where teams will collect data.
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.

AFTER THE AUDIT

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

Climate Change Pathway –
Climate change is any significant change in climate lasting for an extended period of time and includes major changes in temperature, precipitation, or wind patterns, among other effects that occur over several decades or longer. School communities can mitigate their carbon footprint and improve their buildings resilience.

Schoolyard Habitats® Pathway –
Water is a critical habitat element and plays an important role in the preparation, implementation and maintenance of gardens for wildlife.

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 | precipitation | surface ozone | surface temperature | water vapor | wind

Biosphere
Arctic bird migration | biometry | carbon cycle | green up-green down | land cover classification | Ruby-Throated hummingbirds

Hydrosphere
alkalinity | dissolved oxygen | freshwater macroinvertebrates | nitrates | pH | water temperature

Pedosphere
characterization | fertility | soil moisture-SMAP/gravimetric/sensors | pH | temperature