Kentucky Green and Healthy Schools
Teacher Guide
Green Spaces

If your students have chosen to do an Improvement Project in the Green Spaces category, the resources below can help them as they complete the Project Form.

Remember to let your students lead!

As much as possible, let the students decide the direction of their investigation and come up with Improvement Project ideas.

Overview

Green space encompasses all living and non-living things which occur naturally in the environment. Green space surrounds our built environment. Both the natural and built environments impact one another. As we are outside, we develop a strong sense of place by identifying the components within the green spaces, and how they fit together with our human-made spaces. What exists in the green space around you? Trees, plants, animals, insects, amphibians, streams, rocks, and soil, and so much more! Let's go outside today and together discover our green spaces.

For the KGHS Green Spaces category, students may explore the grounds of their school or nearby green spaces. They may investigate the man-made campus as well as wildlife, gardens, and outdoor classroom space. Students will begin to understand how our built environment impacts and interacts with the natural world around us. The School Green Team may speak with the school's facilities staff, ground keepers, administrative staff, and other teachers.

Places to Investigate

- School grounds and nearby green spaces
- Lawns, playgrounds and sports fields
- Gardens, wetlands and trails
- Trees and shrubs
- Plants and animals
- Parking lots and sidewalks
- Outdoor classrooms
- Compost or brush piles

People to Interview

- Maintenance/custodial staff
- Groundskeepers
- Administrative staff
- Teachers
- Community members

Questions

These questions can be utilized as prompts should you need them. Ideally, we would like students to engage in their own questioning to provide an authentic learning experience.

- School Campus
    - Is there a map of the school campus? If so, what is on the map?
    - What type of land borders the school in each direction (e.g., residential, agricultural, natural areas such as rivers or forests, commercial, industrial)?
    - Does the school have large shade trees that help control the seasonal temperature of your school building?
    - Are there any areas that flood or have drainage problems when it rains at the school?
    - Does the school campus contain any wetlands?
    - What happens to the rain on *impervious surface* areas (hard areas that do not allow rainwater to move through them, such as concrete, asphalt, rooftops, etc.) and *pervious surface areas* (areas that allow rainwater to filter down into the ground).
    - Approximately what percent of the outdoor school grounds is impervious surface and what percent of the school grounds is pervious?
    - Are pesticides or fertilizers used on any of the green areas?
    - Does the school have sports fields, gardens, water, or trails?
- Green Spaces
    - How much of the school grounds is mowed grass, non-mowed grass, shrubs, trees, flowers?
    - What kinds of gardens could be built (rooftop, rain, raised, container, vegetable, herb, fruit, flower, butterfly, reflection, phonological, enabling)
    - Who is responsible for maintaining the school grounds?
    - What is done with grass clippings or raked leaves from the school grounds?
    - Does the school compost?   If so, what is in the compost, where the compost is located, and the type of compost pile.
    - Does anyone at your school keep a log of seasonal changes (e.g., weather patterns, flowers blooming, wildlife behavior) occurring on your school grounds?
- Wildlife
    - What types of wildlife have been observed in the green areas (mammals, birds, reptiles, amphibians, insects)?
    - Does your school have any of the following features to attract wildlife (bird houses, bat houses, feeders, water, butterfly gardens, pollinator garden, natural habitat)?
    - Are any plants or animals found on the school grounds considered undesirable or "nuisances?"
    - Are any plants or animals found on the school grounds native to Kentucky?
    - How would you rate the biodiversity on the school grounds?
- Outdoor Classroom Space
    - How much class time is spent outdoors on the school grounds?
    - What areas are used during the time spent outside on the school grounds (e.g., playground, athletic fields, courtyard, garden, etc.)?

- How are field studies or related outdoor classroom topics incorporated into each grade's curriculum?
- Does your school have an outdoor classroom?
- If you have an outdoor classroom, what educational features does your outdoor classroom have? (e.g., wetlands, wildlife garden, vegetable garden, native tree stand, animal track box, etc.)
- If your school does not have an area outside designated as an outdoor classroom, describe any available space that could be used for the development of an outdoor learning area.
- What other nearby green spaces are suitable for educational purposes (e.g., community park two blocks away, green belt along the river within walking distance of school property, non-profit historical farm located a 5-mile bus trip away, permission from the landowner to use the vacant lot next door, etc.)?

Resources

- [i-Tree Tools](#) - i-Tree Tools are free urban forestry analysis and benefits assessment tools from the USDA Forest Service. They include i-Tree Design, which allows anyone to make a simple estimation of the benefits, including energy savings, provided by individual trees.
- [Bluegrass Greensource](#) - Bluegrass Greensource offers recycling, water education, and hazardous waste programs in central KY. They also offer grants to schools and other organizations.
- [East KY PRIDE](#) - East KY Pride offers grants and environmental education programs to schools in eastern KY.
- [EEinKentucky.org](#) - This website is a one-stop resource for environmental education in Kentucky. The site lists grant anouncements, jobs, news, professional development opportunities, conferences, and other events from across the state.
- [KEEC Environmental Education Curricula](#) - The Kentucky Environmental Education Council has published several sets of lesson plans for all grade levels on the topics of solid waste, water, and biodiversity.
- [Kentucky Division of Forestry](#) - The Kentucky Division of Forestry has staff available for presentations on various forestry concepts, and materials and resources available for educators.
- [Kentucky School Garden Network](#) - The mission of the KSGN is to create sustainable, edible gardens in every independent, public, and private school in Kentucky.
- [Project WET](#) - Project WET is an environmental education program that offers a water education curriculum guide, professional development, and workshops. The lesson plans in the guide can be used for teaching water topics to your students and to gather data for inventories.
- [Project WILD](#) - Projecet WILD is an environmental education program that offers a wildlife education curriculum guide, professional development, and workshops. The lesson plans in the guide can be used for teaching wildlife and biodiversity topics to your students and to gather data for inventories.
- **U.S. Fish & Wildlife Service** - The U.S. Fish and Wildlife service has published a fantastic resource for schools interested in creating wildlife habitat. For more information and to view the Schoolyard Habitat Project Guide, visit the [Schoolyard Habitat Program](#).

Improvement Projects

Your students should come up with their own ideas for an Improvement Project, but below are some examples of previous Improvement Projects for Green Spaces:

- Installing a rain garden
- Planting a pollinator garden
- Working with facilities staff to remove a sidewalk and install pervious pavers for a new walkway
- Creating and sharing a seasonal log to track changes around the school
- Creating a feature on school grounds to attract wildlife
- Implementing a plan to increase biodiversity around the school
- Removing invasive species

Extensions

After coming up with an idea for an Improvement Project, consider the following optional extensions.

A) Submit your investigation documentation to the Project Learning Tree (PLT) GreenSchools! program for their School Site category. Once you submit investigation documentation, your school becomes eligible for thousands of dollars in grant money from the GreenSchools! program. You can also submit your completed Improvement Project to this site. Learn more at www.plt.org/greenschools.