



Sustainable Landscape Practices

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Summary

Students will explore the benefits of utilizing sustainable landscape practices focusing on the use of native plants. After defining sustainable landscape practices and thinking about the benefits of these practices, students research information about local native plants and design a native plant landscape.

This Career Discovery activity can be implemented in different ways depending on the time available and the audience's age. See the appendix for other implementation possibilities.

This activity could be used in conjunction with other Career Discovery activities including:

- *Build a Green Roof*
- *Design a Reading Garden*
- *Create a Rain Garden or Bioswale*

Publicize and Document Your Activity

By taking the time to create and implement a World Landscape Architecture Month Career Discovery activity, you achieve two great results—you promote the profession while teaching students about sustainability, ecological issues, and the technical aspects of landscape architecture.

Be sure to publicize your activity within your community and document it to share your experience with other ASLA chapters. Refer to the appendix for suggestions on publicizing and documenting your activity.

Grade Level: 8–12

Duration

The suggested time frame is two class sessions of about 50 minutes each. Class sessions are a few days to one week apart to allow time to work on an assignment.

Personnel

- Teacher
- Landscape architect

Costs

- Volunteer time
- Photocopying
- Drawing materials (paper, pencils)

Learning Objectives

Students will:

- Learn about landscape architecture as a career
- Understand the benefits of sustainable landscape practices
- Be able to identify some local native plants
- Learn why native plants benefit the environment
- Design a landscape using native plants local to their area



Materials

PROFESSIONAL MATERIALS

- Images of landscape architecture projects that use sustainable landscape practices
- Project materials your firm has produced; example models your firm has built/created
- Copies of the ASLA career discovery brochure, *Your Path to Landscape Architecture* (obtained by contacting ASLA public relations and communications coordinator JR Taylor at 202-216-2345 or jtaylor@asla.org).

EQUIPMENT

- Computer, projector, and screen to show images of landscape projects
- Writing surface (board, flip chart, etc.)
- Markers to use on the writing surface
- Drawing paper, colored pencils, and rulers

SESSION HANDOUTS (SEE APPENDIX)

- *Native Plants*
- *Landscape Architecture FAQs*

Preparation Checklist

At least one month in advance:

- Contact the school or teacher and introduce the activity and get any required permission clearances.
- Check Internet availability for your computer.
- Think about native plants you could take to the classroom and make arrangements to obtain them.

One week prior:

- Touch base with the teacher to reconfirm the dates and times of the two sessions and Internet access.
- Gather images of landscape architecture projects utilizing sustainable landscape practices to show the students. Ideally, these would be your local projects.
- Bookmark some images of local native plants.
- Prepare and copy lists of local native plants with information about common name and scientific name (genus and species), sun or shade plant, bloom color and time of bloom, evergreen or deciduous, and maximum height and width.
- Obtain and label samples of native plants to take to the classroom.
- Make copies of materials you plan to distribute during your presentation.



Procedure

Session 1: Introduction to Landscape Architecture and Sustainable Landscape Practices

ADVANCE PREPARATION

- Select images of local landscape architecture projects utilizing native plants to show students.
- Be sure there's a surface on which to write (chalk board, white board, or flip chart).
- Have copies of the *Native Plant* assignment handout, the *Your Path to Landscape Architecture* brochure, and the *Landscape Architecture FAQs* ready to hand out.
- Set up computer, projector, and screen.

WHAT TO DO

SET THE STAGE

TIME: 5 MIN

1. Introduce yourself. Write your name where students can refer to it.
2. Tell the students you are a landscape architect. Today they will learn about landscape architecture as a career and explore how landscape architects use sustainable landscape practices with a focus on native plants.

INTRODUCE THE PROFESSION

TIME: 5 MIN

3. Ask students what they think landscape architects do.
 - Explain that landscape architecture encompasses the analysis, planning, design, management, and stewardship of natural and built environments.
4. Ask students for examples of the types of projects landscape architects might design.
 - Types of projects include: residential; parks and recreation; monuments; urban design; streetscapes and public spaces; transportation corridors and facilities; gardens and arboreta; resorts; academic campuses; therapeutic gardens; historic preservation and restoration; reclamation; conservation; corporate and commercial; landscape art and earth sculpture; interior landscapes; and more.



- Point out that landscape architecture encompasses hardscape elements such as pathways, benches, walls, fences, etc. as well as planting design.

INTRODUCE SUSTAINABLE LANDSCAPE PRACTICES

TIME: 10 MIN

5. Explain to students that landscape architects are increasingly concerned about the sustainability of the landscapes they create. Define “sustainable landscape.”
 - A sustainable site links natural and built systems to achieve balanced environmental, social, and economic outcomes and improves quality of life and the long-term health of communities and the environment. Sustainable landscapes balance the needs of people and the environment and benefit both.
6. Ask for ideas about practices that would promote more sustainable landscapes. Offer a few ideas if students are slow to make suggestions. Sustainable practices might include:
 - Water conservation (xeriscapes, rain gardens, grouping plants with similar water needs)
 - Control water runoff (bioswales, rain gardens, green roofs)
 - Match the plant to the conditions
 - Use native plants
 - Plant nitrogen-fixing plants to reduce fertilizer use
 - Create natural looking designs to reduce maintenance needs
 - Create wildlife habitat

REVIEW SOME PROJECTS

TIME: 10 MIN

7. Ask students for local examples of projects they think landscape architects may have created.
8. Show images of landscape architecture projects that use sustainable landscape practices including native plants. Select projects you have worked on or projects in your community.
 - As you look at the various projects, ask students to identify sustainable landscape practices. Questions you might ask include:
 - How is water runoff controlled?
 - Can you identify any of these native plants?
 - In what conditions do these plants grow?
 - What type of wildlife might live in this landscape?



- Have you seen these plants in our community? Where?

BENEFITS OF NATIVE PLANTS

TIME: 15 MIN

9. Tell students that they will focus on native plants, one of the sustainable landscape practices you just discussed.
 - If time allows, compare and contrast native plants to invasive, naturalized, and/or introduced species.
10. Facilitate a small group activity.
 - Break the class into groups of 3–4 students. Tell students they have 10 minutes to develop a list of at least 10 reasons why native plants might promote the sustainability of a landscape. Let them know they will share their ideas with the entire class.
 - Give an example to get students thinking. Ideas might include:
 - Adapted to local climate
 - Require less watering and maintenance
 - Provide habitat for wildlife
 - No need to fertilize
 - More resistant to disease and pests
 - Re-creation of native habitat and ecosystems that are diminishing
 - Non-invasive
 - Culturally/locally appropriate; sets a city apart
11. Ask groups to share their ideas.
 - Write the ideas on the board and correct any misconceptions. Be sure to add to their lists if they are incomplete. Their lists should include ideas such as:
 - Low maintenance
 - Low water usage
 - No need for pesticides, herbicides, or chemical fertilizers
 - Better able to withstand climatic variations
 - Attracts native pollinators
 - Non-invasive

WRAP UP

TIME: 5 MIN

12. Distribute the *Native Plants* handout.
 - Review the assignment. Students are to research the following information for at least seven plants native to their area:
 - Common name



- Scientific name (genus and species)
- Sun or shade
- Bloom color and time of bloom
- Evergreen or deciduous
- Maximum height; maximum width
- Soil (wet or dry)
- Wildlife value

13. Distribute the ASLA *Your Path to Landscape Architecture* brochure and the *Landscape Architecture FAQs* handout.

- Point out the education and licensing required to become a landscape architect.
- Point out the ASLA web address.



Session 2: Design a Native Plant Garden

ADVANCE PREPARATION

- Set up computer, projector, and screen to show samples of native plants, if needed.
- Set up native plants where students can see them.
- Prepare a handout with information about native plants local to your area.
- Be sure there's a surface on which to write (chalk board, white board, or flip chart).
- Have drawing paper, rulers, and colored pencils for student drawings.
- Arrange with the teacher when the drawing assignment will be due.

WHAT TO DO

SET THE STAGE

TIME: 5 MIN

1. Remind the students who you are and that this is your last session. Write your name on the board.
2. Tell them that today they will share information they researched about native plants and design a native plant landscape.

DISCUSS NATIVE PLANT ASSIGNMENT

TIME: 10 MIN

3. Ask students to share information about the native plants they researched. Write the common and scientific names on the board. If there is time and you have images bookmarked on your computer, show examples.
4. Distribute copies of your prepared handout with information about local native plants. Ask students to check off on the handout the native plants listed on the board. Did students find many of the plants? Were students surprised that there were so many native plants in their area?
5. Show the native plant samples you brought in. If there's time, discuss some of the adaptive features of these plants. Let students know they can get up and look at the plants while they're drawing, but remind them to be gentle with the plants if they touch them.



DESIGN A NATIVE PLANT LANDSCAPE

TIME: 35 MIN

6. Tell students they will now have an opportunity to design a native plant landscape. Imagine they've been hired by their city to design a park, outside reading area for their local library, a community gathering spot, etc. The city wants the space to feel welcoming and informal, to have minimal upkeep, and to require little to no watering.
7. Ask students to incorporate at least seven different plant species in the drawing. You may want to add some other parameters (sun, shade, short, tall, trees, various hardscape features, etc.) and labeling requirements (dimensions, plant names, etc).
8. Tell students they have the rest of the class period and may finish their drawings at home if they don't finish in class. Circulate among the students as they draw, and answer questions, give suggestions, offer compliments, etc.
Note: In advance, arrange with the teacher when the assignment will be due.

WRAP UP

TIME: 10 MIN

9. Ask students to share ideas about their native plant landscapes.
 - What type of space are they designing? (park, space next to a sidewalk, community gathering area, etc.)
 - What factors are they taking into consideration?
 - Which native plants are they using?
 - Why did they select those plants?
 - How will the plants they selected impact their communities, the wildlife, etc.?
10. Thank students for letting you visit with them and share information about landscape architecture, sustainable landscape practices, and native plants.



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HANDOUTS

Native Plants

Landscape Architecture FAQs



Publicize and Document Your Activity

Don't let the effort you put into creating and implementing a Career Discovery activity go unnoticed!

Staff at ASLA National is always on hand to help promote your events to local media; feel free to contact them at anytime. If you would like to reach out to local media yourself, below are some tips to assure your name appears in print or online.

PUBLICIZE

For tips on reaching out to local media, refer to the PR Handbook, available as part of ASLA's Chapter Operations Workbook. It is online at:

<https://www.asla.org/ChapterOutreach.aspx>

You'll find tips like these:

- Pitching the story to the media
- Formatting the press release
- Appealing to the audience
- Making the story relevant
- Social media tips

TAKE PICTURES & VIDEO

Be sure to take lots and lots of pictures and video! ASLA National would love to share your activity online as inspiration for the other chapters.

Send us photos or video of your event featuring:

- Students interacting with professionals (we must have a signed photo release from parents to use the photos)
- Your presentation materials
- The activity in process
- The end result of your activity

DOCUMENT

Email public relations and communications coordinator JR Taylor—at jtaylor@asla.org—to report on the activity or activities that your chapter completes.



Alternative Ways to Implement the Activity

This Career Discovery activity, *Sustainable Landscape Practices*, can be implemented in different ways depending on the time available and the audience's age.

ONE SESSION ONLY

Audience: Grades 8–12

Estimated time: About 50 minutes

GOAL

Students will examine some native plants and try to determine how they've adapted to the local climate (e.g., thick, leathery leaves to reduce water loss, die back in winter, long roots, flower shapes to lure specific pollinators, etc.).

RESOURCES

Provide a brief introduction to landscape architecture and how and why landscape architects use native plants. Then have students examine the native plants you have brought to determine their adaptive qualities.

FOR A YOUNGER AUDIENCE

Audience: Grades K–5

Estimated time: About 50 minutes

GOAL

Briefly teach students about the benefits of native plants and have them plant some native seeds that they can transplant into their garden.

RESOURCES

Refer to the Career Discovery *Build a Green Roof* activity for ideas.

DESIGN/BUILD A NATIVE PLANT GARDEN

Use the Career Discovery activities *Design a Reading Garden* or *Create a Rain Garden or Bioswale* to design and build a native plant garden at your school or home, or in the community.

Continued on next page



REDUCE YOUR WATER USE WITH NATIVES

Focus the activity on the environmental benefits of native plants. Expand the activity to consider these possibilities:

- Present the activity within the context of this scenario:
 - There is a water shortage in your community and everyone must cut their water consumption by at least 25 percent. Think about using native plants to reduce water needs and how you might change the landscape of one of the city parks, a public building, or the students' own gardens.
 - Calculate water costs to see how money is saved.
 - Calculate how many homes could be served with the amount of water saved.

Lead a discussion about water use issues in your community and show how various landscape architecture projects are helping to address these issues.



National Academic Standards

The ASLA Career Discovery Program activities correlate to the national standards created by the Mid-Continent Research for Education and Learning (McREL). McREL is a nationally recognized, private, nonprofit organization dedicated to improving education.

Academic standards are the skills and knowledge base expected of students for a particular subject area at a particular grade level. In the U.S., standards are not “standardized.” There are published sets of national and state standards, and some cities and local communities have created their own. Local academic standards can be matched to the McREL national standards.

ART

Standard 1. Understands connections among the various art forms and other disciplines

GEOGRAPHY

Standard 8. Understands the characteristics of ecosystems on Earth's surface

Standard 14. Understands how human actions modify the physical environment

LANGUAGE ARTS

Standard 4. Gathers and uses information for research purposes

Native Plants

Name _____

Sustainable landscape practices reflect environmental awareness in both the design and maintenance of a space. Using native plants in a landscape is one practice that has many benefits. The benefits of native plants include: adaptation to local climates, less watering and maintenance, habitat for wildlife, no need for fertilizer, more resistant to disease and pests, and non-invasive growth.

ASSIGNMENT

Find the following information for at least seven plants native to your area. Use resources such as local nurseries, gardening books, native plant societies, gardening clubs, extension services, and the Internet. Be prepared to share your information in class.

COMMON NAME:
Scientific name (genus and species)
Is it a sun or shade plant?
What color is the bloom? When does it bloom?
Is it evergreen or deciduous?
What is its maximum height? Maximum width?
Is the soil wet or dry?
What is the plant's wildlife value?
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Landscape Architecture FAQs

Landscape architecture is a profession committed to stewardship of the land while creating healthy, enjoyable, and secure places for the present and future. Landscape architecture combines art and science. It is the profession that designs, plans, and manages our land.

Landscape architecture has strong roots in the United States and early examples, such as Thomas Jefferson's Monticello, are still much admired. The actual term landscape architecture became common after 1863 when Frederick Law Olmsted and Calvert Vaux designed New York's Central Park.

WHAT DOES A LANDSCAPE ARCHITECT DO ON THE JOB?

Landscape architects deal with the increasingly complex relationships between the built and natural environments. Landscape architects use sustainable design practices to plan and design traditional places such as parks, residential developments, campuses, gardens, cemeteries, commercial centers, resorts, transportation facilities, corporate and institutional centers, and waterfront developments. They also design and plan the restoration of natural places disturbed by humans such as wetlands, stream corridors, mined areas, and forested land. Their appreciation for historic landscapes and cultural resources enables landscape architects

to undertake preservation planning projects for national, regional, and local historic sites and areas.

WHAT SKILLS DOES A LANDSCAPE ARCHITECT NEED?

- Sensitivity to landscape quality
- Understanding of the arts and a humanistic approach to design
- Ability to analyze problems in terms of design and physical form
- Technical competence to translate a design into a built work
- Skills in all aspects of professional practice including management and professional ethics

WHAT ARE THE EDUCATION AND LICENSING REQUIREMENTS?

A formal education is essential to gain the skills and knowledge to become a landscape architect. Professional education in landscape architecture can be obtained at the undergraduate or graduate level. There are two undergraduate professional degrees. These usually require four or five years of study in design, construction techniques, art, history, natural, and social sciences. There are generally three types of graduate degree programs. For more information visit ASLA's Career Discovery page: asla.org/yourpath

At present, all 50 states license (or register) landscape architects. Each state sets its own requirements for registration, but all require candidates to pass a national examination (the Landscape Architect Registration Examination, or LARE).

WHERE DO LANDSCAPE ARCHITECTS FIND JOBS AFTER GRADUATION?

Landscape architects are employed in private, public, and academic organizations. Private sector opportunities are found within landscape architectural, engineering, architectural, and planning firms. Landscape architects may also work with other types of private corporations that have physical planning departments, or offer products and services related to land planning and development. Public sector employment opportunities are found within federal, state, regional, and municipal agencies involved in land planning, development, and preservation. Landscape architects in academic practice teach and conduct research in the professional programs offered by colleges and universities across the country.

WHAT IS A LANDSCAPE ARCHITECT'S SALARY?

Landscape architectural salaries vary depending on the years of experience, geographical location, and type of position. The average annual salary and bonuses for those in the landscape architecture field total \$78,600, according to the 2010-11 ASLA National Salary Survey.

For more information about a career in landscape architecture, visit ASLA's Career Discovery page: asla.org/yourpath