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BROWARD COUNTY FLORIDA

Native Plants Program *Facilitator Guide*

Activity 1
EXPLORING ECO REGIONS

Activity 2
SEED STARTING

Activity 3
ATTACK OF THE INVASIVE PLANTS

Activity 4
FIND THE POLLINATOR + SURVIVAL QUEST

Activity 5
MEASURING & MONITORING PLANT POPULATIONS

Activity 6
WHO WALKED HERE BEFORE YOU

Activity 7
ECOLOGICAL VALUE OF PLANT

Activity 8
NOBODY'S RIGHT, NOBODY'S WRONG

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Native Plants Program *Activity Guide*

Overview

Introduction

The Broward Native Plants Program Facilitator Guide aims to provide activities that teachers can use in the classroom that bringing the knowledge and the value of native plants from the field to schools and classrooms.

- The activities included in this guide are designed to be low prep, low material, and can be completed in the classroom or on school grounds.
- Having a knowledge of native plants, ecosystems, and the animals they support may allow students to be good stewards of their local ecology, promoting positive behaviors towards becoming active citizens.
- Activities in this lesson can be used from 3rd to 12th grade classes with modifications to suit the needs of diverse learners.
- Educators may select activities from this guide as-needed that best suit their students or time allotted and can be completed in any order.
- Some activities in this guide include extensions to local fairs or 4-H competitive events. Students will be able to apply what they learn in class in projects that can be submitted for recognition, scoring, and even cash premiums.

Native Plants Program *Activity Guide*

Overview

Background

How do plants end up being in the environments and ecosystems where they on earth?

Plants have evolved and adapted with organisms around them over generations, influenced by elements of the area they inhabited. Factors such as the terrain and sediments, the soil and how it drains, and the climate along with the type and frequency of precipitation all take part in the forming of unique plant communities, ecosystems, and the species that adapt and survive in them. Plant communities also coexist with the other plant communities in the surrounding areas. For example, a beach dune can provide protection to the tropical hardwood forest that it may neighbor by acting as natural wind and storm protection by breaking waves and wind that could harm the plants and animals of the tropical forest.

Human activity can impact or permanently alter the makeup of a plant community, the richness of plant and animal species, and their abilities to survive. Clearing habitats to make way for developments and roads that fragment habitats, degrading water quality from chemical use, and removing or introducing species, change the potential of the region to support species native to those regions. Competition for resources like food, water, soil, and space, along with having little to no predators to keep the balance allow for invasive species to take root and have drastic effects on an ecosystem.

Site Location (optional)**:** Contact local parks department, landowners, or school officials to seek guidance and permission to use a site appropriate for an ecological restoration project to investigate plant species and ecological factors, remove native species, and transplant native species.

Native Species: Research or ask expert like park naturalists, ecological management teams, native plant society associates, or botanists what species are native to the plant community of the natural area chosen.

Invasive and Nuisance Species: Research or ask expert like park naturalists, ecological management teams, native plant society associates, or botanists what species are common nuisance or invasive species.

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BROWARD COUNTY FLORIDA

Native Plants Program *Standards*

Grade	Activity Number	Title of Activity	Standards
3	1	Exploring Eco Regions	SC.3.L.14.1, SC.3.L.14.2, SS.3.G.2.4, SS.3.G.2.5, SS.3.G.3.1, SS.3.G.3.2, SC.3.L.14.2, SC.3.L.17.1
4	1	Exploring Eco Regions	SC.4.L.16.2, SC.4.L.17.1, SC.4.L.17.4, SS.4.G.1.1, SS.4.G.1.3, SS.4.G.1.4,
5	1	Exploring Eco Regions	SC.5.L.15.1, SS.5.G.1.3, SS.5.G.1.4, SS.5.G.4.2
6	1	Exploring Eco Regions	SC.6.E.6.2, SC.6.E.7.2,
7	1	Exploring Eco Regions	SC.7.L.15.2, SC.7.L.15.3
8	1	Exploring Eco Regions	SC.8.L.18.1, SC.8.L.18.4, SC.8.N.1.6
9-12	1	Exploring Eco Regions	SC.912.L.17.4, SC.912.L.17.9, SC.912.L.17.20
3	2	Seed Starting	SC.3.L.14.2, MA.3.DP.1.1, MA.3.DP.1.2, MA.3.M.1.2,
4	2	Seed Starting	SC.4.L.17.4, SC.4.L.16.1, SC.4.N.1.1, SC.4.N.1.4
5	2	Seed Starting	SC.5.L.14.2, SC.5.L.17.1, SC.5.N.1.1, SC.5.N.1.6
6	2	Seed Starting	SC.6.L.14.2, SC.6.L.14.4, SC.6.N.1.1, SC.6.N.1.5
7	2	Seed Starting	SC.7.L.17.3, SC.7.L.15.2, SC.7.N.1.1, SC.7.N.1.5
8	2	Seed Starting	SC.8.L.18.1, SC.8.L.18.4, SC.8.N.1.1, SC.8.N.1.6

9-12	2	Seed Starting	SC.912.L.14.7, SC.912.L.17.4, SC.912.L.17.9, SC.912.N.1.1, SC.912.N.1.6
3	3	Attack of the Invasive Plant	SC.3.L.14.1, SC.3.L.14.2, SC.3.L.17.1, SC.3.L.17.2, SC.3.N.1.1, SC.3.N.1.2, SS.3.G.2.4, SS.G.3.1
4	3	Attack of the Invasive Plant	SC.4.L.16.2, SC.4.L.16.3, SC.4.L.17.2, SC.4.L.17.3, SC.4.L.17.4, SC.4.E.6.6, SC.4.N.1.1, SC.4.N.1.2, SS.4.G.1.1
5	3	Attack of the Invasive Plant	SC.5.L.15.1, SC.5.L.17.1, SC.N.1.1, MA.5.DP.1.1, SS.5.G.1.1, SS.5.G.1.4, SS.5.G.4.2
6	3	Attack of the Invasive Plant	SC.6.E.7.2, SC.6.E.7.5, SC.6.E.9, SC.6.N.1.3, SC.6.N.1.4, SC.6.N.1.5, SS.6.G.1.4, SS.6.G.6.1
7	3	Attack of the Invasive Plant	SC.7.L.17.1, SC.7.L.17.2, SC.7.L.17.3, SC.7.E.6.6, SC.7.N.1.5, SS.7.G.2.3, SS.7.G.5.1, SS.7.G.6.1, MA.7.DP.1.1
8	3	Attack of the Invasive Plant	SC.8.L.18.1, SC.8.L.18.2, SC.8.L.18.4, SC.8.N.1.4, SC.8.N.1.6, SC.8.N.4.1, SC.8.N.4.2, SS.8.G.3.1, SS.8.G.5.1, SS.8.G.5.2,
9-12	3	Attack of the Invasive Plant	SC.912.L.15.3, SC.912.L.15.6, SC.912.L.15.13, SC.912.L.17.4, SC.912.L.17.6, SC.912.17.8, SC.912.L.17.9, SC.912.L.17.12, SC.912.L.17.13, SC.912.17.16, SC.912.17.18, SC.912.L.17.20, SC.912.P.10.1, SC.912.E.7.4,

			SC.912.N.1.1, SC.912.N.4.2, SS.912.G.5.4
3	4	Survival Quest: A Pollination Game	SC.3.L.14.1, SC.3.L.15.2, SC.3.L.17.1, SC.3.N.1.1, SC.3.N.1.2, MA.3.DP.1.1
4	4	Survival Quest: A Pollination Game	SC.4.L.16.1, SC.4.L.16.4, SC.4.L.17.1, SC.4.N.1.1, SC.4.N.1.2, SC.4.N.1.4, SC.4.N.1.6, SC.4.N.1.8, SC.4.N.2.1, MA.4.DP.1.3
5	4	Survival Quest: A Pollination Game	SC.5.L.15.1, SC.5.N.1.4, SC.5.N.1.5SC.7.E.6.6,
6	4	Survival Quest: A Pollination Game	SC.6.L.14.3, SC.6.N.1.4, SC.6.N.1.5, SC.6.N.3.4
7	4	Survival Quest: A Pollination Game	SC.7.L.15.2, SC.7.L.15.3, SC.L.17.2, SC.7.L.17.3, SC.7.N.1.6, SS.7.G.5.1
8	4	Survival Quest: A Pollination Game	SC.8.L.18.1, SC.N.1.1, SC.8.N.1.6, SS.8.G.5.2
9-12		Survival Quest: A Pollination Game	SC.912.L.15.1, SC.912.L.15.3, SC.912.L.15.4, SC.912.L.17.1, SC.912.L.17.4, SC.912.L.17.6, SC.912.L.17.8, SC.912.L.17.18, SC.912.N.1.1
3	5	Measuring and Monitoring Plant Populations	SC.3.L.14.1, SC.3.L.15.2, SC.N.1.1, SC.3.N.1.3, MA.3.M.1.1, MA.3.DP.1.1, MA.3.DP.1.2, SS.3.G.1.1
4	5	Measuring and Monitoring Plant Populations	SC.4.L.16.2, SC.4.L.17.4, SC.4.N.1.1, SC.4.N.1.2, SC.4.N.1.6, MA.4.M.1.1, MA.4.DP.1.3
5	5	Measuring and Monitoring Plant Populations	SC.5.L.15.1, SC.5.L.17.1, SC.5.N.1.1, SS.5.G.1.4, SS.5.G.4.2, MA.5.M.1.1, MA.5.DP.1.1, MA.5.DP.1.2

6	5	Measuring and Monitoring Plant Populations	SC.6.N.1.1, SC.6.N.1.4, SS.6.G.1.4, MA.6.DP.1.1, MA.6.DP.1.1,
7	5	Measuring and Monitoring Plant Populations	SC.7.L.15.2, SC.7.L.15.3, SC.7.L.17.3, SC.7.E.6.6, SC.7.N.1.1, SS.7.G.5.1, MA.7.DP.1.1
8	5	Measuring and Monitoring Plant Populations	SC.8.N.1.1, SC.8.N.4.1, SS.8.G.5.1
9-12	5	Measuring and Monitoring Plant Populations	SC.912.L.14.7, SC.912.L.14.10, SC.912.L.14.53, SC.912.L.17.4, SC.912.L.17.6, SC.912.L.17.8, SC.912.L.17.12, SC.912.L.17.13, SC.912.N.3.5, SC.912.N.4.1, MA.912.DP.1.4, MA.912.DP.2.2
3	6	Who Walked Here Before You	SC.3.L.14.1, SC.3.L.17.1, SC.3.N.1.1, SC.3.N.1.2, SC.3.N.1.3, SS.3.A.1.1, SS.3.A.1.2
4	6	Who Walked Here Before You	SC.4.L.17.2, S SS.4.A.1.1, SS.4.A.2.1,
5	6	Who Walked Before You	SC.5.L.15.1, SC.5.L.17.1, SS.5.A.1.1, SS.5.A.1.2, SS.5.A.2.3, SS.5.G.1.1, SS.5.G.1.4,
6	6	Who Walked Before You	SC.6.N.1.1, SC.6.N.1.3, SC.6.N.1.4, SS.6.G.1.4, SS.6.G.1.5, SS.6.G.1.7, SS.6.G.2.1, SS.6.G.3.1, SS.6.G.5.1
7	6	Who Walked Before You	SC.7.L.15.2, SC.7.L.15.3, SC.7.L.17.3, SC.7.E.6.6, SC.7.N.1.1, SS.7.G.2.3, SS.7.G.3.1
8	6	Who Walked Before You	SC.8.N.1.1, SC.8.N.1.6, SS.8.A.1.1, SS.8.A.1.2, SS.8.A.1.5, SS.8.A.2.5, SS.8.A.2.7, SS.8.G.1.1, SS.8.G.3.2, SS.8.G.5.1

9-12	6	Who Walked Before You	SC.912.L.14.53, SC.912.L.15.3, SC.912.L.17.4, SC.912.L.17.8, SC.912.L.17.18, SS.912.A.1.1, SS.912.A.1.2, SS.912.A.1.4, SS.912.G.4.2, SS.912.G.5.2, SS.912.G.5.4, SS.912.G.6.1
3	7	Ecological Value of Plant	SC.3.L.17.2, SC.3.L.17.1, SC.3.N.1.1, SC.3.N.1.6, SS.3.G.4.1, SC.3.L.15.2
4	7	Ecological Value of Plant	SC.4.L.17.4, SC.4.L.16.1, SC.4.N.1.1, SC.4.N.1.4, SC.4.E.6.3, SS.4.G.1.4, SC.4.L.17.2
5	7	Ecological Value of Plant	SC.5.L.15.1, SC.5.L.17.1, SC.5.N.1.1, SC.5.N.1.6, SC.5.E.7.5, S.5.E.1.1, SC.5.L.17.1, SC.5.L.15.1
6	7	Ecological Value of Plant	SC.6.L.14.5, SC.6.L.15.1, SC.6.E.7.4, SC.6.N.1.1, SC.6.N.1.5, SC.6.L.15.1
7	7	Ecological Value of Plant	SC.7.L.17.3, SC.7.L.15.3, SC.7.L.17.1, SC.7.N.1.1, SC.7.L.17.2,
8	7	Ecological Value of Plant	SC.8.L.18.1, SC.8.L.18.4, SC.8.N.1.1, SC.8.N.1.6, SC.8.L.18.3
9-12	7	Ecological Value of Plant	SC.912.L.17.20, SC.912.L.17.4, SC.912.L.17.9, SC.912.N.1.1, SC.912.L.15.3, SC.912.L.17.13, SC.912.L.17.18
3	8	Nobody's Right, Nobody's Wrong	SC.3.N.1.1, SC.3.N.1.6, SC.3.L.17.2, SC.3.L.17.1
4	8	Nobody's Right, Nobody's Wrong	SC.4.L.17.4, SC.4.N.1.1, SC.4.N.1.4
5	8	Nobody's Right, Nobody's Wrong	SC.5.L.15.1, SC.5.L.17.1, SC.5.N.1.1, SC.5.N.1.6,

6	8	Nobody's Right, Nobody's Wrong	SC.6.L.15.1, SC.6.N.1.1, SC.6.E.7.4, SC.6.N.1.5
7	8	Nobody's Right, Nobody's Wrong	SC.7.L.17.3, SC.7.L.15.2, SC.7.N.1.1, SC.7.N.1.6
8	8	Nobody's Right, Nobody's Wrong	SC.8.L.18.4, SC.8.L.18.1, SC.8.N.1.1, SC.8.N.1.6
9-12	8	Nobody's Right, Nobody's Wrong	SC.912.L.17.20, SC.912.L.17.13, SC.912.N.1.6, SC.912.N.1.1

Objectives:

Knowledge Acquisition:

- Understand concepts and strategies of ecological management and restoration.
- Identify native, invasive, and nuisance species in their local environment.

1. Skill Development:

- Develop practical skills in starting seeds, maintaining proper growing conditions, and assessing germination metrics.
- Apply critical thinking and problem-solving skills in real-world ecological challenges.
- Chose appropriate control and test variable and hypothesize about results of experiment.
- Interpret results of tests and experiments to make decisions with real-world outcomes

2. Engagement and Attitudes:
    - Foster a sense of responsibility and stewardship for the local environment.
    - Increase enthusiasm and interest in native species and habitats, conservation, and restoration.
3. Collaboration and Communication:
    - Analyze and discuss their work and findings with the group.
4. Personal Growth:
    - Build confidence in their ability to make a positive impact on the environment.
    - Reflect on their role in local environment and their part in promoting efforts of conservation, restoration, and preservation.

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BROWARD COUNTY FLORIDA

Native Plants Program

Activity 1

Exploring Eco Regions

Supplies

- Seeds of native species
- A collection of Plant Profile cards
- A copy of the Plant Adaptations Chart
- Scratch paper for notes

Activity 1 Introduction

WHAT TO DO

In this activity, you will analyze the physical characteristics of different ecoregions to predict which native plants are best suited to thrive in each environment.

Group Setup:

Divide into teams of 3 or 4 students. Each group will need the following materials:

- Description cards detailing the thirteen major ecoregions in the U.S. (Level I Ecoregion Profile cards)

- A collection of Plant Profile cards

- A copy of the Plant Adaptations Chart

- Scratch paper for notes