

Lesson Title: Visit to Pine Bush Discovery Center Exhibit Area

Lesson Abstract: Students will move around the Discovery Center exhibits finding answers to worksheet questions

Length of lesson: 40 min

Lesson Goals: Students field trip will be enhanced by focusing students attention to relevant exhibits

Lesson Objectives: SWBAT locate relevant exhibits and answer questions presented

Assessment of Objectives: Completed handout

Preparation: Copies of handout

Materials: Clipboards

Background Information: The Albany Pine Bush Commissions Discovery Center provides a large number of exhibits each of which that presents important information about the Pine Bush.

Lesson Plan:

QA Has anyone ever gone out on a scavenger hunt? What do you do?

This activity is like a scavenger hunt. You have ____ minutes to walk around the exhibit area of the Discovery Center. By the end of this time you must have completed ____ questions on your worksheet. You may work alone or in groups of _____. However, you must be quiet as to not disturb the other visitors.

Supv Students completes handout

QA Review handout

Pine Bush Trademark

What is the most common tree in the Pine Bush ? _____

How does the size of the trees roots compare to the size of the tree above ground?

Why must the roots of the tree be so deep? _____

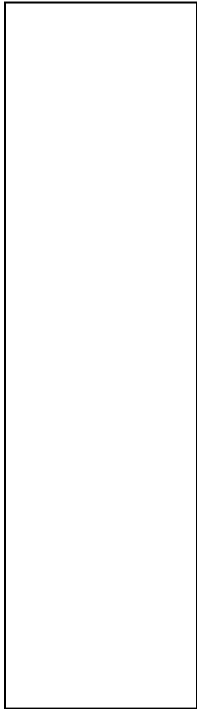
How does a fungus help the Pitch Pine tree? _____

Why is a Pitch Pine called a "pitch" pine? _____

Glacier

A Mile High

In the margin of this page make a scale drawing of the Discovery Center and the glacier.



We can't Manage Without You

How much of the Pine Bush is left? _____ acres

Describe **3** factors that have harmed the Pine Bush. _____

A Chilly Beginning

When was New York last covered by a glacier? _____ years ago

What was formed when the ice melted? _____

How did sand get to the Pine Bush area? _____

What did the wind do to the sand? _____

Totally Cool

Put the following terms in order from oldest to newest: Dunes Glacier Pine Bush Sand Water

When was New York covered by a sea? _____ years ago.

Hands on Sand

In the box draw a diagram of a sand dune.

Include the wind direction that formed the dune.



Sand Lab

How many inland Pine Barrens are left in the world? _____

What do all of the pine barrens have in common? _____

Fire Required

How does fire help Lupine and New Jersey Tea? _____

Why is fire important in the Pine Bush? _____

Portrait of an Enemy

List 3 invasives in the Pine Bush. _____

What is girdling? _____

Seeds of Change

How much of the Pine Bush is being restored each year? _____

Why is maintain diversity so important? _____

By Prescription Only – Movie

What happens if there are no fires in the Pine Bush? _____

What are the outcomes of a prescribed burn? _____

A Clean Slate

What is mechanical management? _____

Why is mechanical management used? _____

Not so Barren

Why was the road through the Pine Bush so special? _____

A Delicate Balance

How has the Pine Bush changed in the last 50 years? _____

Pine Bush Trademark

What is the most common tree in the Pine Bush ? **Pitch Pine**

How does the size of the trees roots compare to the size of the tree above ground?

The roots are almost as long as the tree above ground

Why must the roots of the tree be so deep? **To anchor the tree: to get water**

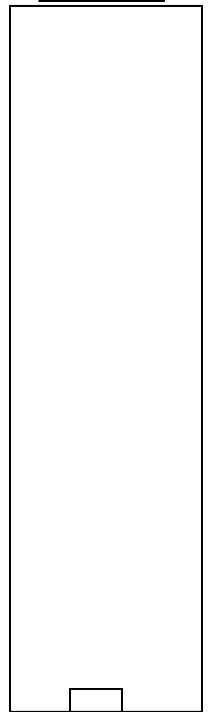
How does a fungus help the Pitch Pine tree? **It helps the tree absorb phosphorus**

Why is a Pitch Pine called a “pitch” pine? **It’s sap is called pitch. Pitch is used for making turpentine and waterproofing**

A Mile High

In the margin of this page make a scale drawing of the Discovery Center and the glacier.

Glacier



We can’t Manage Without You

How much of the Pine Bush is left? **6000** acres

Describe **3** factors that have harmed the Pine Bush. **Lack of fire**

Spread of invasives **habitat loss/ urbanization** **Fragmentation**

A Chilly Beginning

When was New York last covered by a glacier? 6000 years ago

What was formed when the ice melted? Lake Albany

How did sand get to the Pine Bush area? It was deposited by the ancient Mohawk River

What did the wind do to the sand ? The wind blew the sand into dunes.

Totally Cool

Put the following terms in order from oldest to newest: Dunes Glacier Pine Bush Sand Water

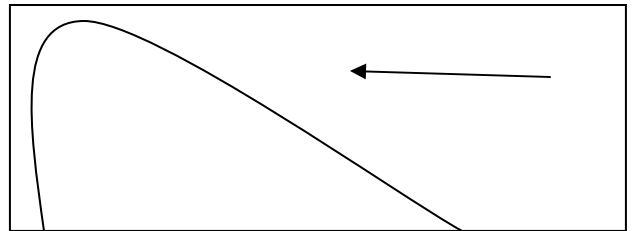
Glacier Water Sand Dunes Pine Bush

When was New York covered by a sea? 408 million years ago.

Hands on Sand

In the box draw a diagram of a sand dune.

Include the wind direction that formed the dune.



Sand Lab

How many inland Pine Barrens are left in the world? 20

What do all of the pine barrens have in common? They were formed by glaciers and maintained by fire.

Fire Required

How does fire help Lupine and New Jersey Tea? It breaks open their seed coats

Why is fire important in the Pine Bush? Fire clears vegetation and removes dead trees.

Portrait of an Enemy

List 3 invasives in the Pine Bush. Garlic Mustard, Honeysuckle, Spotted Knapweed (star thistle)

What is girdling? Girdling is removing a band of bark from a tree.

Seeds of Change

How much Pine Bush is being restored each year? 40 acres

Why is maintaining diversity so important? Survival of species may have value that is still unknown

By Prescription Only – Movie

What happens if there are no fires in the Pine Bush? It becomes overgrown and there is too much leaf litter.

What are the outcomes of a prescribed burn? Outcomes include: opening the landscape, removal of exotics, and Pitch Pines and Lupines are able to reproduce.

A Clean Slate

What is mechanical management? Use of equipment to clear land

Why is mechanical management used? It is used in areas too overgrown for a safe fire or where invasives have become too widespread.

Not so Barren

Why was the road through the Pine Bush so special? It connected the Hudson and Mohawks valleys which was very important during the early settlement of the area.

A Delicate Balance

How has the Pine Bush changed in the last 50 years? There has been a large increase in people, buildings and roads.