



# ETHNOBOTANY: PEOPLE AND PLANTS

## Overview and Outline

### Overview of Module

The materials and lesson plans in this module focus on ethnobotany, a scientific study of the traditional knowledge and customs of a people's interactions with plants. "Ethno" means people and their culture, and "botany" is the study of plants. Students will explore the various ways different groups of inhabitants used Utah's native plants for food, shelter, clothing, medicine, in ceremonies, and for other uses over time. Other lessons will help students discover three major biomes found in Utah and the adaptations plants have made in order to survive in each of these areas.

Lessons have been designed to meet 4th Grade Science Core Curriculum, while integrating Social Studies Core Curriculum to provide students a comprehensive study of ethnobotany. All lessons address the Science Core Intended Learning Outcomes, and most lessons can be adjusted to meet these outcomes for Kindergarten through sixth grade.

The foundation for the lessons is the use of inquiry-based teaching. Wherever possible, lessons are interdisciplinary to maximize alignment with the Utah State Core Curriculum. Standards and objectives are listed for each lesson.

The activities in each lesson have also been designed to address the needs of diverse students, including English language learners and special needs students. Activities are interactive and incorporate different learning modalities: kinesthetic, auditory and visual. The affective filter has been lowered by having students work in groups or with partners, and by stressing open-ended inquiry in activities and discussions.

Materials that are included in the bins will be labeled as "BB". **The other materials listed are those available from your classroom or readily available to purchase.**

(NOTE: Lesson 7 has three activities that need native plant materials to complete. When you check out the Botany Bin, we will mail enough plant material for two of the three projects, depending on the seasonal availability.)



## Lessons in Module

### Lesson 1

#### **Budding Taxonomists:**

Students will classify plants (explore and classify according to student-generated criteria; introduce Linnaeus system; introduce a Native American system).

**4th Grade Science Core Standard 5:** Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment.

**Objective 3.** Use a simple scheme to classify Utah plants and animals.

### Lesson 2

#### **Exploring Utah's Biomes:**

Students will explore three biomes found in Utah, including the animals and plants found in each. They will sort organisms according to biome and list them on a graphic organizer.

**4th Grade Science Core Standard 5:** Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment.

**Objective 1b:** Describe Utah's wetlands (e.g., river, lake, stream, and marsh areas where water is a major feature of the environment) forests (e.g., oak, pine, aspen, juniper areas where trees are a major feature of the environment), and deserts (e.g., areas where the lack of water provided an environment where plants needing little water are a major feature of the environment).

**Objective 2a:** Identify common plants and animals that inhabit Utah's forests, wetlands, and deserts.

### Lesson 3

#### **Build a Model:**

Students will identify and create models of biomes in two-dimensional panorama books or in a three-dimensional diorama built with a variety of art media.

**4th Grade Science Core Standard 5:** Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment.

**Objective 1e:** Create models of wetlands, forests, and deserts.

### Lesson 4

#### **Amazing Adaptations:**

Students will describe the plants and animals found in each biome and classify them by their adaptations to their biomes.

**4th Grade Science Core Standard 5:** Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment.



**Objective 2:** Describe the common plants and animals found in Utah environments and how these organisms have adapted to the environment in which they live.

## Lesson 5

### Changing Landscapes:

Students will explore Native American, immigrants, explorers and trappers, and pioneer uses of plants. Extension: Students will make a beverage or food using a native plant.

**4th Grade Social Studies Core Standard 2:** Students will understand how Utah's history has been shaped by many diverse people, events and ideas.

## Lesson 6

### 4th Grade. Ties That Bind:

Students will describe interactions between plants and animals, especially people, in each biome. They will create a web of life diagram of a Utah biome, accurately labeling the organisms found there as producers, consumers, or decomposers.

**4th Grade Science Core Standard 5:** Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment.

**Objective 2c.** Describe some of the interactions between animals and plants of a given environment.

## Lesson 7

### Food, Medicines and Survival:

Students will describe Native American uses of plants. They will experiment with using Utah native plants to create something that was used by early people (such as dyes, a poultice, or a woven object.)

**4th Grade Social Studies Core Standard 2:** Students will understand how Utah's history has been shaped by many diverse people, events and ideas.

## Lesson 8

### A New Era:

Students will synthesize the information from the previous lessons to plan (and plant, if desired) a Utah Native Plant Garden. They will complete research about different Utah native plants and use this information to plan the garden. In the lesson students will use artistic design, plant and soil biology, math, and problem-solving skills in their planning.

**Extensions: 4th Grade Social Studies Core Standard 2:** Students will understand how Utah's history has been shaped by many diverse people, events and ideas.