

Investigation One - Finding Wetlands, Forests, and Deserts

Standard V Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment.
Objective 1 Describe the physical characteristics of Utah's wetlands, forests, and deserts.
Intended Learning Outcomes <ol style="list-style-type: none">1. Use science process and thinking skills3. Understand science concepts and principles4. Communicate effectively using science language and reasoning

Standard
V
Objective
1

Background Information

This activity includes two parts. One discusses surface terrain, and how plants and animals are affected by the temperatures and precipitation that elevation and terrain creates. Second is allowing the students to predict what type of environment plants and animals live in.

Students can use their pre-knowledge to help them with this or from recent reading material. Other activities in this standard will require students to research the environments to make the correct answers.

The last part of this activity requires the students to color a map of Utah. Each environment has its own color. Part of the map will not relate to one environment but two. The Mountain Forest/Desert Transition part is a combination of mountains and deserts mixed together. Some of the plants and animals that grow in the lower elevations of the mountain forest area are considered desert plants and animals. Pinyon pines and juniper trees are desert plants, but they are trees and when they cover 10% of the land it is considered a forest.

Pre-Assessment/Invitation to Learn

Allow students to feel a 3-D map of Utah with their fingers. Have them describe where they felt the map raise and why they think it raised in places and why it was flat in others. If a 3-D map is not available, a regular map of Utah can be used with teacher discussing elevations.

Instructional Procedure

Materials

- Copy of Utah Environments Map for each student
- Copy of Utah Environments Map for overhead
- Colored overhead markers
- Crayons
- 3-D map of Utah
- Overhead projector
- 3 large papers (butcher paper)
- Markers

1. Explain to students that in Utah, elevation directly influences the temperature and amount of rain an area receives. The higher the elevation the cooler the temperatures and more rain an area will receive. The lower the elevation the less rain and warmer the temperature will be. Plants like certain temperatures and amounts of precipitation. They will only grow if the environment is just right for them. Animals need the right plants, temperature, moisture so they can live in their environments as well.
 - Ask the students, based on what you discussed, which plants and animals they think live in Utah's habitats; forests, deserts, and wetlands.
 - Divide the class in three groups. Then assign each group an environment to predict plants and animals that live there.
 - Assign a scribe or writer for each group and have the scribe write down the plants and animals the group predicted on the large chart paper.
 - As a class discuss the charts.
2. As a class decide...
 - What habitat is most likely to be lowest in elevation: deserts or forests?
 - What will most likely be the highest in elevation: deserts or forests?
 - What environment can be at any elevation? Why?
 - Why can a wetland be at any elevation?
3. Pass students a copy of the Utah Environment map. Place your copy on a student cam or use an overhead projector. Demonstrate the beginning of the process: green for forest areas, yellow for mountain forest/desert transition, brown for deserts, blue for wetlands. Allow the students to complete their own maps. Remind them that there are many wetland areas we cannot color because the areas are too small to show up on the map. A wetland is any area that has water or is wet. Discuss the colors on the map and have the students explain where they think the mountains and lowlands are, based on the environments in each area.
4. Journal entry: Describe a wetland, forest, and desert. How does elevation effect each area?
5. Discuss their journal entries and how this relates to the water cycle and the amount of moisture each elevation receives. Also discuss elevation changes and the impact it has on the temperature. Tell students that because of these terrains, Utah is divided into three areas: wetlands, forests, and deserts.

Curriculum Extensions

Fine Arts/Visual Arts-

- Have students color a class map of Utah to hang on the wall. This will be used for later reference and discussion. (Standard III, Objective 2)

Assessment Suggestions

- Review with the students the general elevations of forests and deserts.
- Review with the students why wetlands are found in all environments.

Resources

Books:

- *Hands-On Science Resource Book*, Jordan School District: Sandy, UT: 1994
- *Utah's Wildlife Habitats*, Volume 2, number 1 - Utah Natural Resources S.L.C, UT (801) 538-4700
- *Western Forests*, by Stephen Whitney - National Audubon Society Nature Guides ISBN: 0-394-73127-1

Websites:

- www.Utahcdc.usu.edu
- www.askjeevs.com (click on "kids questions" then ask about wetlands, forests, or deserts.)

Homework & Family Connections

- Send home the names of the three environments. Have the family discuss the conditions of each environment. If they have been to all three, have them discuss what they recall about each environment. Have the student write down what was talked about and bring it back to school for further work.

Utah Environments

- 1- Mountain Forest (7,000-11,000+)
- 2- Mountain Forest/Desert Transition (4,500-7,000)
- 3- Desert (2,000-4,500)
- 4- Wetland (in all areas)

