

# Utah's Amazing Ecosystems

## Summary

Students will learn about ecosystems by researching different areas in Utah.

## Time Frame

5 class periods of 45 minutes each

## Group Size

Pairs

## Life Skills

Thinking & Reasoning, Communication, Social & Civic Responsibility

## Materials

- computers with Internet access
- computers with multimedia software
- library
- paper
- pencil/pen
- computer disks

## Background for Teachers

Students sometimes know more about the rainforests of the world than our own ecology. Utah is a very diverse place and offers much in the way of ecological studies. This activity lets them research areas that they may already be familiar with.

### Background information:

The wildlife found in an ecosystem is determined in large part by its climate. Climate, in turn, is determined by the amount of precipitation that the area receives, its altitude, and its latitude. The altitude and latitude help to determine the temperature.

Higher elevations and areas further away from the equator typically indicate colder temperatures. Conversely, areas with low altitudes or that are nearer the equator are warmer. Utah has high mountains and also some very low areas. We are also a large enough state to have an important difference in latitudes from the north to the south. These factors (combined with precipitation) contribute to Utah's diverse ecology.

## Intended Learning Outcomes

- Know science terminology appropriate to grade level.
- Use reference sources to obtain information (library databases, handbooks, encyclopedias, etc.).
- Understand natural and human-produced systems in science (appropriate to grade level).

## Instructional Procedures

1. To introduce the lesson, let students describe various places in Utah based on their own travel and experience.
2. Students will need to define the following terms: ecosystem, producer, primary consumer, secondary consumer, tertiary consumer, decomposer, latitude, altitude, precipitation. They can do this by building a crossword, looking them up as they go, or through class discussion/lecture.

3. Students will work in pairs, choose an area in Utah, and research its ecosystem using the Internet and other tools. (My students have found some helpful people in the National Forest Service and other government agencies.)

Students must find enough information to accurately present:

- two decomposers

- six producers

- four primary consumers three secondary consumers

- one tertiary consumer

- habitats for each organism.

In addition, they should find the

- latitude

- altitude

- precipitation (may be seasonal)

- temperature for their area

They should include resources for all of their information.

They should also answer the question, "How will this area be different in 20 years?" Students may get discouraged at this point because the research isn't as easy as they are used to. If they are creative, hardworking, and patient they will be successful.

4. Students will design their presentations before they get on the computers (this is especially helpful if computer time is limited). They will use 1/2 piece of paper to represent each slide. They should sketch the information on each slide. This is like a rough draft.

They will need to get their design approved before they can use the computers.

5. Once you have approved the students' design they may begin entering it into the computer.

Remind them that they should save often and should also check for typing errors. (Spellcheck doesn't get them all!)

6. Students will present to the class. Make sure that each student fully participates in the presentation. I sometimes have them write down exactly what their responsibilities were for the presentation and I use that in their assessment.

### Extensions

You may add the effects of humans on the ecosystem and this is applicable to Human Biology.

### Assessment Plan

I like to use rubrics and have included one. I often make the rubric with my classes so that they have input. Usually I give them the minimum requirements and tell them that if they do just that amount of work they will get a C because it is just average. We will then come up with specific criteria for the other grades.

### Authors

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