**Design Document for: Utah Environments**

**Goals and Objectives:**

Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment. Students will be able to do this in while incorporating the subject areas science, social studies, English language arts, and mathematics.

Science- Standard 5- Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment.

1. Objective 1-Describe the physical characteristics of Utah's wetlands, forests, and deserts.

1. Compare the physical characteristics (e.g., precipitation, temperature, and surface terrain) of Utah's wetlands, forests, and deserts.
2. 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).
3. Locate examples of areas that have characteristics of wetlands, forests, or deserts in Utah.
4. Based upon information gathered, classify areas of Utah that are generally identified as wetlands, forests, or deserts.
5. Create models of wetlands, forests, and deserts.

Social Studies: Standard 1
Students will understand the relationship between the physical geography in Utah and human life.

1. Objective 1- Classify major physical geographic attributes of Utah.

1. Identify population concentrations in the state and infer causal relationships between population and physical geography.

English Language Arts-

Reading: Informational Text Standard 2
Determine the main idea of a text and explain how it is supported by key details; summarize the text.

Reading: Informational Text Standard 3
Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

Math-

Domain: Measurement and Data

Represent and interpret data.

4. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

**Learning Goals:**

 The learning goal, describe the physical characteristics of Utah's wetlands, forests, and deserts is a great skill for fourth graders to acquire. The student will be able to describe the physical characteristics of the terrain that surrounds them in the state of Utah. Students will be able to determine what the terrain looks like, how much rainfall occurs, the temperature and will be able to compare the physical characteristics of Utah’s wetlands, forests, and deserts. Students will also be able to locate examples of these terrains and be able to identify about the plants and animals that live there.

**Identify Prerequisites and Learner Characteristics**

Prerequisites**:**

* Before teaching the Utah environments unit the students should know how to read a map and where Utah is located in America.
* Students should understand how to classify animals; this should be taught previously to the Utah environments unit. Students should know the animals that are native to Utah.
* Students should know how to do a jigsaw, and how to work in small groups and with a partner.
* Students should have been exposed to Venn diagrams and should know how to compare and contrast not only two but three different things.
* Students should know how to read and interpret graphs, such as bar graphs, line graphs and pie charts.
* Students should know how to compare whole numbers.
* Students should know how to summarize non fictional text.
* Students should know how to write a complete sentence using capitals, punctuation and complete thoughts.
* Students should know how to add and subtract whole numbers.
* Students should know how to use measurement tools (such as a rain gauge) to measure rainfall.
* Students should know how to use and read the degrees on a thermometer.
* Students should know and understand the concept of altitude.
* Students should know and be familiar with the seasons and weather patterns in Utah.

Learner Attitudes and Characteristics:

* Based on the pre-assessments/surveys given to the class, 18 of the students report liking school. 12 of the students reported that science was their favorite subject. Three of the students reported not liking to attend school. Of these three students two of them reported science as their favorite subject. 12 students prefer working with a partner. Six students prefer to work with a small group. Four students prefer working alone.
* 50% of the students reported that their favorite part of science was doing “hands on” experiments. 25% reported that they liked watching other people do the experiments. 100% of the student reported that reviewing what they learning the previous day, was helpful to them. 70% of the students liked taking notes in their science journal. 60% of the students reported that their science packets have helped them review for tests.

**Testing and Evaluation Strategies to be used in the Instruction:**

* First, I am going to give them a Venn Diagram to fill out depicting the

differences and similarities between deserts, wetlands, and forests.

* Second, I am going to have students view posters and use a fill in the blank worksheet that gives information about each environment.
* Third, I am going to give them a map to fill out. On this map, the students will

Identify the environments in Utah based on annual rainfall.

* Fourth, I am going to have students fill out animal adaptations graphic organizer.
* Fifth we will view Utah environments video, fill out graphic organizer for review
* Sixth, have students complete habitat diorama for assessment.

**Feedback Mechanisms that will Support Testing and Evaluation:**

At the end of the unit, the students will turn in their entire packet. This will

include:

* Graphic organizer of Venn Diagram
* Fill in the blank environment worksheets from viewing posters
* List numbered 1-10 with environments written for each number
* Map of Utah’s environments
* The packet will be graded and scored and handed back to them. Points will be

 given for participation

* Journals will also be graded

**Practice Activities to be used in the Instruction, Including Feedback Strategies:**

* Students will learn the vocabulary words for the unit.
* Students will make a Venn diagram of the environments in Utah.
* Students will view PowerPoint that provided information on Utah environments and fill out the fill in the blank worksheets.
* Students will also participate in a jigsaw, where they become the expert on their assigned reading and share with a small group
* Students will view ten environment posters and decipher which environment is shown.
* Students will locate on a map the environments of Utah based on rainfall.
* Students will create a graphic organizer from the Utah Environments movie and use for a review
* Feedback will be given in the form of a grade for the Utah Environments Unit as well as informal discussions.

**Examples and Non-Examples of the Procedure or Concept (as appropriate):**

* Venn Diagram

Example: Students will write 3 similarities and 3 differences having to

do with precipitation, temperature, and surface terrain

Non-example: Students will write down 1 similarity and 1 difference.

* Fill in the blanks Wetlands paper

Example: Students will correctly fill in all blanks on the Wetlands fill in the blanks paper.

Non-Example: Students skipped blanks, or put the wrong words in the blanks.

* Fill in the blanks Desert paper

Example: Students will correctly fill in all blanks on the Wetlands fill in the blanks paper.

Non-Example: Students skipped blanks, or put the wrong words in the blanks.

* Fill in the blanks Forest paper

Example: Students will correctly fill in all blanks on the Wetlands fill in the blanks paper.

Non-Example: Students skipped blanks, or put the wrong words in the blanks.

* Identify Utah environments of a map of Utah

Example: Students will correctly identify by coloring, using the color key, the environments of Utah based on annual rainfall

Non-Example: Students did not color the correct environment the correct color according to the color key, or did not color at all.

* Identify the animals that inhabit each environment

Example: Correctly completed the graphic organizer with five animals that inhabit the environment.

Non-Example- completed the graphic organizer with 2-3 animals that inhabit each environment.

* Create a habitat diorama using given rubric

Example: Student has made a diorama with five plants and five animals that are native to that environment

Non-Example: Student ahs included 2-3 animals and 2-3 plants that are native to that environment.

**Introductory Presentation of Instruction:**

• As an introduction to the Utah environments unit, I am going to have the students view 5 pictures of me somewhere in Utah (featuring the different environments in Utah). Then, I am going have them brainstorm where in Utah they think I am in each picture. I am going to put the words wetland, desert, and forest on the board and the students can raise their hands and guess which environment I am in and why. After a few minutes of guessing I will explain that Utah has 3 varying environments and they are all very close to each. I will then reveal the environments that each picture was taken and show the students on a map of Utah where it is located so that the students can visually see how close each environment in Utah is.

**Motivational Strategies to be used in Instruction:**

* A motivational strategy in this unit is to have group discussion. The

students love to share what they have learned and their favorite habitat and why.

* Students will present their habitats to their kindergarten buddy in Miss Barnes class and highlight the five plants and animals that live in that environment and how they survive. They love being the teachers. So, they will present their diorama to a small group of kindergarten buddies and call on the kindergarten students and answer questions.

**Basic Plans for Instructor Materials:**

1. Projector
2. Document Camera
3. PowerPoint Presentations
4. Utah Environments Venn Diagram
5. Class Shared Reading on Utah Environments.
6. Wetland, Desert, Forest worksheet
7. Computer
8. Annual rainfall Utah map
9. Blank annual rainfall Utah map
10. 10 pictures of Utah environments for students to identify the environment
11. Graphic Organizers
12. Science Journals
13. Utah Environments Video