Nomad Land Lesson Plan

Overview

In this lesson, children will be introduced to the phenomenon of animal migration by studying the causes of their own movements throughout the day. As children contemplate the factors that determine their own movements to and from various physical environments, they will be encouraged to think about similarities to the migrations of animals that are often triggered by changes in climate and food availability. For example, the children will note the timing and distance of their trips to the playground as an analog to changing climate or to the lunchroom as an analog to changing food availability. Note: This lesson is very similar to the Nomad Land K-2 lesson. That lesson covers the same concepts, but children are required to do more reading and writing here, making it appropriate for the intermediate level.

Anticipated lesson duration: One day to record school-based migrations; and one additional class period to examine findings and watch the Meet Leonard Little Finger and Leonard Little Finger Buffalo Hunt Story movies.

Suggested Lesson Sequence	Please see the Earth Systems and Humans and Migrations del Mundo module descriptions.
Lesson Level	Intermediate
Math Connections	- Students will **measure distances** and **times** of their **"migrations"** during school. - Students will **measure distance** using informal **units of measurement**.
Science Connections	- Students will explore physiological and physical cues that prompt **animal migrations**. - Students will describe **nomadic migrations**. - Students will investigate how North America has changed greatly over the past 150 years.
Human Connections	- Children learn that some peoples are **nomadic** because they follow **nomadic** animals as a food source. - Children will appreciate the **cultural importance** of **bison** to some **Native American** tribes.
Lesson Assessment Tools	Assessment and Standards Table (Word) Assessment Activity Description Authentic Assessment

Materials

- Powerpoint Reader (Windows / Mac), and Quicktime Player
- Class Migrations activity sheet (Word)
- American Bison: King of the Prairie photo essay (Powerpoint)-- for students and teacher to view and discuss together
- Meet Leonard Little Finger, and Hunting Tatanka movies (Quicktime)-- best played on computers (with speakers) built after 2000. The Hunting Tatanka movie is a large file and runs for 17 minutes.
- String
- Meter sticks

Vocabulary

Bison: A large animal, often called a buffalo, that once freely roamed central North America. Millions of bison lived in North America until the mid-1800s. A full grown bison can easily weigh 500 pounds-- that's as heavy as 10 first graders!

Native American: A person whose ancestors have lived in North America for thousands of years. Native Americans also often call themselves "Indian".

Lakota Sioux: A tribe of plains Native Americans who live in the central part of the United States, particularly in the Dakotas. Lakota Sioux were extremely dependent upon the bison for their food, shelter, clothing, and spiritual well being.

Migration: Movement between two or more geographic areas that is important for an animal's reproduction and survival

Migrational Cues: Changes in environmental conditions (e.g., amount of light in a day) that may prompt animal migrations.

Nomad: an animal or person who has no permanent home, but moves constantly from place to place in search of food, water or other basic needs.

Nomadic Migration: Movements of animals that are not directional in nature (e.g., from north to south), but rather are random as animals search for food, water, and shelter.

Tatanka: The Lakota Sioux word meaning "buffalo" or "bison".

Vocabulary Note: students will likely be unfamiliar with other vocabulary presented in this lesson. This is done intentionally, to spur additional conversations and discussion about these words and their meanings. Encourage your students to ask about words they may be unfamiliar with.

Procedure

I. Assessing Prior Knowledge

This lesson is likely to be the first formal exposure children will have had regarding the migrations of animals. The following questions may be used to begin to assess children's

existing knowledge of animal migration:

What is a "migration?" (Animal movements between two or more geographic areas)

Why would animals need to migrate? (To survive they must find shelter, food sources, water, and safe places to have babies.)

When are animals likely to migrate? (During seasonal changes, e.g. as winter turns to spring, or as fall turns to winter)

What causes animals to migrate? (Animals respond to things like changing food supplies, changing water supplies, and the length of light in a day.)

II. Contextual Preparation

In this lesson, children will explore one type of migration-- ***nomadic migration***. Nomadic migrations are irregular-- to wherever food, water and/or cover happen to be at that time-- as distinguished from regular, return-trip cycles. One of the most well known, historical nomadic migrants in American history was the bison, or American buffalo. Until the mid-1800s, millions of bison made their living on the Great Plains of the western United States. These animals were well known for their nomadic migrations, and were followed by Native American tribes as a source of food and other resources. Prepare the students for the next set of activities by showing them the American Bison: King of the Prairie photo essay.

III. Student Activities

Introduce children to the idea that one type of animal migration is nomadic migration, whereby animals move from place to place over the course of a day or several weeks in search of food and water. In this lesson, children will keep track of their own migrations throughout the day just as scientists keep track of the migrations of whales, geese, and other animals. Students may wish to pretend they are a nomadic migrating animal for the day, such as an African wildebeest or an American bison.

1. Using the Class Migrations activity sheet, children will track their own "migrations" throughout the day. They should record what time they "migrate", where they go, the reason for movement, the distance traveled, and any cues that prompted their movements. For example, when children "migrate" to recess they might have the playground as their destination, a need to let off energy as the reason for movement, and a bell or teacher's directions as the cue that led to their movement.

2. There are several ways children may find the distances of their local migrations. You may want to solicit and then discuss possible strategies with your children. For instance,

- Students could use a long piece of string and keep track of how many string lengths it takes to reach their destination.
- Students could count the number of steps needed to complete their journey.
- Students could use other informal units of measurement such as floor tiles, meter sticks, etc.

It is important to note that, with young children, you should not feel the need to rush them to conventional, "standard" units of measurement. The use of informal units is an important aspect of developing conceptual understanding of measurement.

3. Either at the end of the day, or perhaps the beginning of a subsequent lesson, the teacher should lead the class in a discussion about the data the students recorded about their migrations.

Questions for Class Discussion:

- Where did your "migrations" take you?
- How were your migrations similar to those of animals?
  Answers will vary: children may identify migrating to the cafeteria, the water fountain, another class, or the playground. Animals migrate to food sources or watering holes or places to breed.
- What were your reasons for migrating?
  Answers will vary: To eat, to get a drink of water, to play, to use the restroom, to go to another room for music class, etc.
- How might these be similar to reasons animals migrate?
  Answers will vary: Children may identify reasons such as needing food or water.
- How did you know when to begin your migration? How is this similar to the migrational cues of animals?
  Children may identify migrational cues such as hunger, the ring of a bell, directions from a teacher, or the clock. Some of these answers may be similar to animals who respond to hunger or the length of daylight, etc.
- How far did you migrate? How does your distance compare with nomadic animals that migrate? How does you distance compare with animals such as birds that migrate during seasonal changes?
  Answers will vary: the distances children traveled will be considerably shorter than nomadic animals that migrate in search of food over the course of a day or week. The seasonal migrations of bird, turtles, or whales may be over distances of thousands of miles.

4. Nomadic peoples: some peoples of the world are still nomadic, in that they move from place to place with no permanent home. Some nomadic peoples are herdspeople, meaning that they own a herd of animals and lead the animals from place to place to find green pastures. In North America, many Native American tribes were once nomadic because they followed the bison herds on their nomadic migrations. One such tribe was the Lakota Sioux tribe of the Great Plains. Play the Meet Leonard Little Finger and

Hunting Tatanka movies on a computer with speakers. This movie features Leonard Little Finger, a Lakota Sioux elder who lives in South Dakota. In this movie, Leonard tells a fascinating story passed on to him from his grandfather that describes his grandfather's first buffalo hunt. The story occurred in the late 1800s, when bison were becoming scarce across the Central Plains due to widespread extermination. The story is a reflection of what life was like during that time period for the Lakota, offers glimpses into the family structure of a Lakota village, and shows the immense importance of the buffalo, or "Tatanka", to the Lakota peoples.

5. Summary discussion: The above questions listed in point number 3 above help children think about the world of animals. As they ponder the causes of their own migrations, continue to ask them to consider animals. Do they have bells or teachers to tell them when to migrate? No! So, how do animals know when to migrate?

Children should spend some time responding to this question. It might be helpful for students to think about their own movements when they are not in school. How do they know when to get up in the morning on a vacation day? How do they know when to ask for lunch? Go to sleep? These questions are meant to stimulate children's curiosity for deeper exploration of these concepts in later lessons.

Further, children should be encouraged to think about what life was like for nomadic children of tribes such as the Lakota Sioux, before school buildings and towns were built across America. What daily or seasonal cues might children been more "in tune" with in the day of the mighty bison herds? What did those children have that we seldom use today (e.g. open fires for light and warmth at night, and an intimate knowledge of subtle environmental changes around them that can only be gained by living outdoors), and what did they not have (e.g. electrical lightbulbs and refrigerators to keep their food preserved)? Today, America is divided up into many different land parcels owned by many different people, with many roads and fences. How might these changes affect the way that people move or behave?

6. Short story: Have students write a short story as if they were following a nomadic herd of bison to get their food. Encourage them to incorporate the vocabulary words presented at the beginning of the lesson. After the students finish their stories, you may wish for them to practice reading by presenting what they wrote in front of the class. You might have the students then choose one of these stories written by their classmates to act out as a class play.

IV. Assessment

In this activity, children should expand their understanding of the concept of animal migration by connecting to the processes inherent in their own "migrations" to the migratory patterns of animals. Children should develop and/or use informal mathematical

tools necessary to calculate migration distances (i.e., applying the concept of a "unit of measurement"). Children should also appreciate the reliance of certain peoples on nomadic animals, and why nomadic peoples are now rare in the United States.

Extensions for Authentic Assessment

1. Students could draw a map of their school to scale and then show their migrations throughout the day on their map.

2. Students could collect data on the migrations of a parent or other family member. In this extension, students should focus on other (new) reasons or cues that prompt parent migrations that may differ from prompts for student migrations.