Chapter 1: The Changing Land

CONTENT OBJECTIVES

Following the completion of the readings and activities for this chapter, students will have acquired the following understandings:

a. Through the study of rocks and other natural features, geologists are able to create a history of Iowa’s physical characteristics.

b. Several glaciers covered Iowa at various times in the ancient past.

c. Iowa’s rich topsoil is a product of the thick grasses that have lived and died on the prairies for centuries.

VOCABULARY TO KNOW

- Dust Bowl
- limestone
- fossil
- loess
- geologist
- prairie
- glaciation, glacier
- sandstone
- gypsum

FOR FURTHER STUDY

1. Visit one of the many county conservation facilities across the states that provide nature displays where samples of Iowa's soil and natural vegetation may be viewed.

2. Encourage students to do research on the glacial coverings that blanketed Iowa for many centuries. Students could develop a series of maps illustrating glacial activity in Iowa during the Ice Age.

3. Invite a local resident to visit the class to recount what life was like during the days of the Dust Bowl. In addition, have students interview people in the community who remember this era. Provide class time for students to share their findings.
Activity 1-1: DEFINING HISTORY

Skills. Working in small groups

Materials. A copy of image 1-1

Procedure

1. Introduce the lesson by directing students to think about a definition of history. Divide the class into small groups of 3 or 4 students to write a definition of history. When students have had adequate time to complete their definitions, discuss their responses.

2. Present Handout 1-1. Read and discuss the ten definitions of history.

3. Conclude the lesson by comparing and contrasting student definitions with those on Handout 1-1.
DEFINING HISTORY

History is not history unless it is the truth.
-Abraham Lincoln

History does not usually make real sense until long afterward.
-Bruce Catton

History repeats itself because no one was listening the first time.
-Anonymous

History is not the accumulation of facts, but the relation of them.
-Lytton Strachey

To be ignorant of what happened before you were born is to be ever a child.
-Cicero

History repeats itself. That's one of the things wrong with history.
-Clarence Darrow

Life can only be understood backward, but it must be lived forward.
-Soren Kierkegaard

The supreme purpose of history is a better world.
-Herbert Hoover

History teaches everything including the future.
-Alphonse de Lamartine

History is something that happens to other people.
-Anonymous
Activity 1-2: DESCRIBING THE IOWA PRAIRIE

Skills. Interpreting primary source materials

Materials. Lt. Albert Lea's account of the Iowa District (in text), student copies of Handout 1-2

Procedure

1. Distribute copies of handout 1-2. Explain to students that Lt. Albert M. Lea wrote his description of the Iowa prairie after surveying eastern Iowa in 1835. Note that the new territory was variously viewed by those who explored it. Some thought the prairie rich and inviting; others saw it as barren and desert like.

2. Read the Lea paragraphs (in text) aloud while students follow along. Provide time for students to complete the questions in handout 1-2.

3. Conclude the lesson by discussing Lt. Lea's representation of Iowa. He was obviously interested in describing Iowa in the most positive light to attract newcomers to the state.
DESCRIBING THE IOWA PRAIRIE

Directions. Use the information in the text to answer the following questions.

1. What part of present-day Iowa did Lieutenant Lea describe? ____________________
_______________________________________________________________________
_______________________________________________________________________

2. What natural resources did Lea list? _______________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

3. Why did Lea present Iowa in such a positive light? ____________________________
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Activity 1-3: TIMELINE

Skills. Determining length and scale for a timeline

Materials. Materials for constructing a classroom timeline

Procedure

1. Prior to this lesson, put up the timeline in the classroom. If possible, have it span the perimeter of the room, beginning with 10,000 B.C. (the close of the glacial age in Iowa) and extending to the present.

2. Introduce this lesson by reviewing with students that scientists believe people have lived in Iowa for approximately 12,000 years, and the last glaciers receded only 12,000 years ago. Have students mark the beginning of the classroom timeline with the year 10,000 B.C. Next have students mark off each thousand-year segment by measuring the length of the timeline and dividing by 12 to find the length of each 1000-year segment. (It may be advisable to expand the last two centuries to provide space for more detail.)

3. Review the following information from the text:
   - Around 10,000 B.C. the last glacier retreated from Iowa. The temperature grew gradually warmer. Hardwood trees replaced forests of fir trees. Later, as the climate grew warmer still, grasslands grew where hardwood trees had grown.
   - Around 4000 years ago the climate began to moderate. Trees began to grow again along streams and rivers. Since then the trees and grasses have played tug-of-war over the land as temperatures and rainfall have fluctuated.
   - Have students mark the timeline to reflect these periods of climatic change.

4. Conclude the lesson by noting that the timeline will serve as a classroom reference, and new information will be added periodically. In addition, the majority of the study will focus on the final timeline section representing the last 200 years.
Activity 1-4: A JOKE FROM THE SEA

This story of an unusual use of Iowa gypsum has long been well known in the state. The teacher may wish to relate or read it as a background to the illustration in the text.

As American settlers moved west, they often found items from Indian peoples who lived there long ago. The settlers were curious about those who had lived on the land before them and wanted to know where the Indians came from and how they lived. This gave a man named George Hull an idea for a fraud that made him a lot of money.

Shortly after the Civil War, Hull bought a large block of gypsum in Fort Dodge and shipped it to Chicago in a large wooden crate. Only a few people knew that he had bought it, and he kept his purchase a secret. In Chicago, a stonemason began chipping away at the block of gypsum until he carved it into the figure of a man. Working by himself and keeping the project a secret, he finished the statue and shipped it to Cardiff, New York. There it was buried in a field of a farmer, a friend of Hull's who was in on the scheme.

After a time, the farmer declared that he needed to dig a new well. He hired workers and told them where to dig—in the very spot where the statue had been buried. Of course, the workers knew nothing about the statue. When they found it, they were very excited, thinking that they had found a strange relic from an ancient time. The farmer pretended to be very excited also. He did not tell the workers that the statue was a big chunk of gypsum from Fort Dodge, Iowa.

News of the discovery spread quickly. An ancient carving had been found! It was nearly ten feet long and solid rock. Newspapers printed long stories about the discovery, and people by the hundreds came to see it. They paid fifty cents each to look at the wonderful discovery. Even some famous scientists were fooled. They examined it and reported that it was indeed an ancient statue. The carving became known as the Cardiff Giant.

Finally, a newspaper reporter discovered the true story. The giant was a fake. Someone found the record of Hull's purchase of the gypsum in Fort Dodge, and there was also the record of the shipment to Chicago. Some people who had been fooled were angry but others thought it was a great joke. Regardless, Hull made a lot of money.

Today, the Cardiff Giant lies peacefully in a museum in Cooperstown, New York. A copy has been made for a museum in Fort Dodge. That joke from Iowa's past began millions of years ago. Gypsum is one of the gifts from the shallow sea that once washed across the state.

PRIMARY MATERIAL: Lt. Albert Lea’s Account of the Iowa District (unabridged)

The general appearance of the country is one of great beauty. It may be represented as one grand rolling prairie, along one side of which flows the mightiest river in the world, and through which numerous navigable streams pursue their devious way towards the ocean. In every part of the whole District, beautiful rivers and creeks are to be found, whose transparent waters are perpetually renewed by the springs from which they flow. Many of these streams are connected with lakes; and
hence their supply of water is remarkable uniform throughout the seasons. All these rivers, creeks, and lakes, are skirted by woods, often several miles in width, affording shelter from intense cold or heat to the animals that may there take refuge from the contiguous prairies. These woods also afford the timber necessary for building houses, fences, and boats. Though probably three-fourths of the District is without trees, yet so conveniently and admirably are the water and the woods distributed throughout, that nature appears to have made an effort to arrange them in the most desirable manner possible. Where there is no water, isolated groves are frequently found to break the monotony of the prairie, or to afford the necessary timber for the enclosure of the farmer. No part of the District is probably more than three miles from good timber, and hence it is scarcely any where necessary to build beyond the limits of the woods to be convenient to farming lands the most distant from them, as the trouble of hauling the timber necessary for farming purposes, a distance of one, two or three miles, is trifling. Taking this District all in all, for convenience of navigation, water, fuel, and timber; for richness of soil; for beauty of appearance; and for pleasantness of climate, it surpasses any portion of the United States with which I am acquainted.

Could I present to the mind of the reader that view of this country that is now before my eyes, he would not deem my assertion unfounded. He would see the broad Mississippi with its ten thousand islands, flowing gently and lingeringly along one entire side of this District, as if in regret at leaving so delightful a region; he would see half a dozen before my eyes, he would not deem my assertion unfounded. He would see the broad Mississippi with its ten thousand islands, flowing gently and lingeringly along one entire side of this District, as if in regret at leaving so delightful a region; he would see half a dozen navigable rivers taking their sources in distant regions, and gradually accumulating their waters as they glide steadily along through this favoured region to pay their tribute to the great "Father of Waters"; he would see innumerable creeks and rivulets meandering through rich pasturages, where now the domestic ox has taken the place of the untamed bison; he would see here and there neat groves of oak, and elm, and walnut, half shading half concealing beautiful little lakes, that mirror back their waiving branches; he would see neat looking prairies of two or three miles in extent, and apparently enclosed by woods on all sides, and along the borders of which are ranged the neat hewed log cabins of the emigrants with their herds luxuriating on the native grass; he would see villages springing up, as by magic, along the banks of the rivers, and liberally dispensed.