

# PRE-1500

## A GEOLOGIC SENSE OF TIME

### ACTIVITIES

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Omaha Burke High School*

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*Innocent Assassins Lesson Idea* from the University of Nebraska-Omaha about the sabertooth cat fossil that inspired Loren Eiseley's poem.

<http://www.eiseley.org/curriculum/innocent.php>

#### RESOURCES

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## Activity 1: Time Terms

**Activity Grade Level:**  
4<sup>th</sup> & 8<sup>th</sup> Grades

### Activity: Definitions

Have students read the page, A Sense of Geologic Time, in the Pre-1500 timeline of Nebraska Studies, and open the link, “Who are these scientists, and what do they do?”

[http://nebraskastudies.org/0200/stories/0201\\_0100.html](http://nebraskastudies.org/0200/stories/0201_0100.html)

[http://nebraskastudies.org/0200/stories/0201\\_0100\\_03.html](http://nebraskastudies.org/0200/stories/0201_0100_03.html)

Then, have students also use dictionaries, science books, or the Internet to define the following terms. There are two pages, *Time Terms Worksheet* and *Time Terms Definitions*, in the Resources section at the end of this document.

anthropology  
archeology  
geology  
paleontology

artifact  
fossil  
glacier  
ice age

mammoth  
migration  
Paleo-Indian  
prehistory

### Nebraska State SOCIAL STUDIES Standards

*By the end of fourth grade, students will:*

**Standard 4.1.7** Use higher level thinking processes to evaluate and analyze primary sources and other resources.

*By the end of eighth grade, students will:*

**Standard 8.4.2** Demonstrate skills for historical analysis.

**Standard 8.4.6** Improve their skills in historical research and geographical analysis.

### Nebraska State READING/WRITING Standards

*By the end of fourth grade, students will:*

**Standard 4.1.2** Demonstrate the use of multiple strategies to increase their vocabulary.

**Standard 4.1.3** Identify the main idea and supporting details in what they have read.

**Standard 4.1.4** Identify the resource appropriate for a specific purpose, and use the resource to locate information.

*By the end of eighth grade, students will:*

**Standard 8.1.2** Identify, locate, and use multiple resources to access information on an assigned or self-selected topic.

### Nebraska State SCIENCE Standards

*By the end of fourth grade, students will:*

**Standard 4.8.1** Develop an understanding of science as a human endeavor.

*By the end of eighth grade, students will:*

**Standard 8.8.1** Develop an understanding of science as a human endeavor.

## Activity 2: Scientists

### Activity Grade Level:

4<sup>th</sup> - 8<sup>th</sup> Grades

### Activity: Discussion

Have students read the page, A Sense of Geologic Time, in the Pre-1500 timeline of Nebraska Studies, and open the link, “Who are these scientists, and what do they do?”

[http://nebraskastudies.org/0200/stories/0201\\_0100.html](http://nebraskastudies.org/0200/stories/0201_0100.html)

[http://nebraskastudies.org/0200/stories/0201\\_0100\\_03.html](http://nebraskastudies.org/0200/stories/0201_0100_03.html)

Then, ask students to discuss which of the following scientific occupations interest them the most? Why? Is history a science?

anthropologist   paleontologist   geologist   archaeologist   historian

### Nebraska State SOCIAL STUDIES Standards

*By the end of fourth grade, students will:*

**Standard 4.1.7** Use higher level thinking processes to evaluate and analyze primary sources and other resources.

*By the end of eighth grade, students will:*

**Standard 8.4.2** Demonstrate skills for historical analysis.

**Standard 8.4.6** Improve their skills in historical research and geographical analysis.

### Nebraska State READING/WRITING Standards

*By the end of fourth grade, students will:*

**Standard 4.1.2** Demonstrate the use of multiple strategies to increase their vocabulary.

**Standard 4.1.3** Identify the main idea and supporting details in what they have read.

*By the end of eighth grade, students will:*

**Standard 8.1.1** Identify the main idea and supporting details in what they have read.

**Standard 8.1.2** Identify, locate, and use multiple resources to access information on an assigned or self-selected topic.

### Nebraska State SCIENCE Standards

*By the end of fourth grade, students will:*

**Standard 4.8.1** Develop an understanding of science as a human endeavor.

*By the end of eighth grade, students will:*

**Standard 8.8.1** Develop an understanding of science as a human endeavor.

### Activity 3: Prehistoric Animals

**Activity Grade Level:**  
4<sup>th</sup> - 8<sup>th</sup> Grades

#### Activity: Photograph Analysis Worksheet

Have students read the following sections in the Pre-1500 timeline of Nebraska Studies.

A Sense of Geologic Time

[http://nebraskastudies.org/0200/stories/0201\\_0100.html](http://nebraskastudies.org/0200/stories/0201_0100.html)

Ashfall

[http://nebraskastudies.org/0200/stories/0201\\_0101.html](http://nebraskastudies.org/0200/stories/0201_0101.html)

Ice Age

[http://nebraskastudies.org/0200/stories/0201\\_0105.html](http://nebraskastudies.org/0200/stories/0201_0105.html)

Then, have them use the National Archives and Records Administration *Photograph Analysis Worksheet* (located in the Resources section at the end of this document) to analyze one of the photographs of bones or drawings of a prehistoric animal that lived in Nebraska. You'll find pop-up pages for various animals on the above pages.

#### Nebraska State SOCIAL STUDIES Standards

*By the end of fourth grade, students will:*

**Standard 4.1.7** Use higher level thinking processes to evaluate and analyze primary sources and other resources.

*By the end of eighth grade, students will:*

**Standard 8.4.2** Demonstrate skills for historical analysis.

#### Nebraska State READING/WRITING Standards

*By the end of fourth grade, students will:*

**Standard 4.1.3** Identify the main idea and supporting details in what they have read.

**Standard 4.1.4** Identify the resource appropriate for a specific purpose, and use the resource to locate information.

**Standard 4.1.8** Identify similarities and differences between two fourth grade level reading selections.

**Standard 4.2.5** Demonstrate the use of self-generated questions, note taking, and summarizing while learning.

*By the end of eighth grade, students will:*

**Standard 8.1.1** Identify the main idea and supporting details in what they have read.

**Standard 8.1.2** Identify, locate, and use multiple resources to access information on an assigned or self-selected topic.

**Standard 8.1.6** Identify similarities and differences across a variety of eighth grade reading selections.

**Standard 8.2.5** Demonstrate the ability to use self-generated questions, note taking, summarizing and outlining while learning.

#### Nebraska State SCIENCE Standards

*By the end of fourth grade, students will:*

**Standard 4.4.3** Develop an understanding of living things and environments.

*By the end of eighth grade, students will:*

**Standard 8.2.1** Develop the abilities needed to do scientific inquiry.

## Activity 4: Cloning

### Activity Grade Level:

4<sup>th</sup> - 8<sup>th</sup> Grades

### Activity: Discussion

Have students read the following sections in the Pre-1500 timeline of Nebraska Studies.

A Sense of Geologic Time

[http://nebraskastudies.org/0200/stories/0201\\_0100.html](http://nebraskastudies.org/0200/stories/0201_0100.html)

Ashfall

[http://nebraskastudies.org/0200/stories/0201\\_0101.html](http://nebraskastudies.org/0200/stories/0201_0101.html)

Ice Age

[http://nebraskastudies.org/0200/stories/0201\\_0105.html](http://nebraskastudies.org/0200/stories/0201_0105.html)

Have students review the images of animals on the pages and pop-up pages above that lived in Nebraska prior to the arrival of human beings. Then lead a discussion with the following questions:

1. If scientists could bring one of the animals back to life, which would you most like to see recreated?
2. How has the geography and climate changed since your animal was last alive?
3. Why did prehistoric animals disappear?
4. Would your animal have to be placed in a zoo? If so, what problems would there be?

### Nebraska State SOCIAL STUDIES Standards

*By the end of fourth grade, students will:*

**Standard 4.1.7** Use higher level thinking processes to evaluate and analyze primary sources and other resources.

*By the end of eighth grade, students will:*

**Standard 8.4.2** Demonstrate skills for historical analysis.

### Nebraska State READING/WRITING Standards

*By the end of fourth grade, students will:*

**Standard 4.1.3** Identify the main idea and supporting details in what they have read.

**Standard 4.1.4** Identify the resource appropriate for a specific purpose, and use the resource to locate information.

**Standard 4.1.8** Identify similarities and differences between two fourth grade level reading selections.

**Standard 4.2.5** Demonstrate the use of self-generated questions, note taking, and summarizing while learning.

*By the end of eighth grade, students will:*

**Standard 8.1.1** Identify the main idea and supporting details in what they have read.

**Standard 8.1.2** Identify, locate, and use multiple resources to access information on an assigned or self-selected topic.

**Standard 8.1.6** Identify similarities and differences across a variety of eighth grade reading selections.

**Standard 8.2.5** Demonstrate the ability to use self-generated questions, note taking, summarizing and outlining while learning.

**Nebraska State SCIENCE Standards**

*By the end of fourth grade, students will:*

**Standard 4.4.3** Develop an understanding of living things and environments.

*By the end of eighth grade, students will:*

**Standard 8.2.1** Develop the abilities needed to do scientific inquiry.

## Activity 5: Roles of Scientists

**Activity Grade Level:**  
12<sup>th</sup> Grade

### Activity: Discussion

Have students read the page, A Sense of Geologic Time, in the Pre-1500 timeline of Nebraska Studies, and open the link, “Who are these scientists, and what do they do?”

[http://nebraskastudies.org/0200/stories/0201\\_0100.html](http://nebraskastudies.org/0200/stories/0201_0100.html)

[http://nebraskastudies.org/0200/stories/0201\\_0100\\_03.html](http://nebraskastudies.org/0200/stories/0201_0100_03.html)

Then, have students compare and contrast the roles of a paleontologist, archeologist, and anthropologist. Which of the preceding would be most likely to study the remains of prehistoric animals? Why?

### Nebraska State SOCIAL STUDIES Standards

*By the end of twelfth grade, students will:*

**Standard 12.2.11** Demonstrate historical research and geographical skills.

**Standard 12.3.17** Develop skills for historical analysis.

### Nebraska State READING/WRITING Standards

*By the end of twelfth grade, students will:*

**Standard 12.1.1** Identify the main idea and supporting details in what they have read.

**Standard 12.1.6** Identify and apply knowledge of the text structure and organizational elements to analyze non-fiction or informational text.

**Standard 12.2.5** Demonstrate the ability to use self-generated questions, note taking, summarizing, and outlining while learning.

### Nebraska State SCIENCE Standards

*By the end of twelfth grade, students will:*

**Standard 12.4.5** Develop an understanding of matter, energy, and organization in living systems.

**Standard 12.4.6** Develop an understanding of the behavior of organisms.

## Activity 6: Evolution

**Activity Grade Level:**  
12<sup>th</sup> Grade

### Activity: Discussion

Have students read the Ice Age section in the Pre-1500 timeline of Nebraska Studies.

[http://nebraskastudies.org/0200/stories/0201\\_0105.html](http://nebraskastudies.org/0200/stories/0201_0105.html)

Then lead a discussion on the factors that contributed to the extinction of prehistoric animals living in Nebraska.

### Nebraska State SOCIAL STUDIES Standards

*By the end of twelfth grade, students will:*

**Standard 12.2.11** Demonstrate historical research and geographical skills.

**Standard 12.3.17** Develop skills for historical analysis.

### Nebraska State READING/WRITING Standards

*By the end of twelfth grade, students will:*

**Standard 12.1.1** Identify the main idea and supporting details in what they have read.

**Standard 12.1.6** Identify and apply knowledge of the text structure and organizational elements to analyze non-fiction or informational text.

**Standard 12.2.5** Demonstrate the ability to use self-generated questions, note taking, summarizing, and outlining while learning.

### Nebraska State SCIENCE Standards

*By the end of twelfth grade, students will:*

**Standard 12.4.5** Develop an understanding of matter, energy, and organization in living systems.

**Standard 12.4.6** Develop an understanding of the behavior of organisms.

**Standard 12.5.3** Develop a scientific understanding of the origin of the earth system.



## Activity 7: Jurassic Park?

**Activity Grade Level:**  
12<sup>th</sup> Grade

### Activity: Debate

Have students read the following sections in the Pre-1500 timeline of Nebraska Studies.

A Sense of Geologic Time

[http://nebraskastudies.org/0200/stories/0201\\_0100.html](http://nebraskastudies.org/0200/stories/0201_0100.html)

Ashfall

[http://nebraskastudies.org/0200/stories/0201\\_0101.html](http://nebraskastudies.org/0200/stories/0201_0101.html)

Ice Age

[http://nebraskastudies.org/0200/stories/0201\\_0105.html](http://nebraskastudies.org/0200/stories/0201_0105.html)

Have students debate the pros and cons of the following questions:

- Should attempts be made to recreate prehistoric animals through the use of DNA (deoxyribonucleic acid) research and cloning?
- Is our society ready for a "real" Jurassic Park?

### Nebraska State SOCIAL STUDIES Standards

*By the end of twelfth grade, students will:*

**Standard 12.2.11** Demonstrate historical research and geographical skills.

**Standard 12.3.17** Develop skills for historical analysis.

### Nebraska State READING/WRITING Standards

*By the end of twelfth grade, students will:*

**Standard 12.1.1** Identify the main idea and supporting details in what they have read.

**Standard 12.1.6** Identify and apply knowledge of the text structure and organizational elements to analyze non-fiction or informational text.

**Standard 12.2.4** Use multiple forms to write for different audiences and purposes.

**Standard 12.2.5** Demonstrate the ability to use self-generated questions, note taking, summarizing, and outlining while learning.

**Standard 12.3.2** Make oral presentations that demonstrate consideration of audience, purpose, and information.

### Nebraska State SCIENCE Standards

*By the end of twelfth grade, students will:*

**Standard 12.2.1** Develop the abilities needed to do scientific inquiry.

**Standard 12.4.4** Develop an understanding of the interdependence of organisms.

**Standard 12.8.3** Develop an understanding of the history of science.

# PRE-1500

## A GEOLOGIC SENSE OF TIME

### RESOURCES

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Time Terms Definitions	12
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Nebraska Department of Education Academic Standards

<http://www.nde.state.ne.us/ndestandards/AcademicStandards.htm>

Nebraska Department of Education Social Studies and History Standards

<http://www.nde.state.ne.us/SS/DOCUMENTS/TheHistory-SocialStudiesStandardsPDF.pdf>

National Archives

<http://www.archives.gov/index.html>

Library of Congress Learning Page Lesson Plans

<http://memory.loc.gov/ammem/ndlpedu/lessons/index.html>

Six Trait Writing: Ideas, Organization, Voice, Sentence Fluency, Word Choice, and Conventions.

<http://www.edina.k12.mn.us/concord/teacherlinks/sixtraits/sixtraits.html>

**RESOURCES**

**RESOURCES**

**Time Terms**

NAME \_\_\_\_\_ PERIOD \_\_\_\_\_

**anthropology** \_\_\_\_\_  
\_\_\_\_\_

**archeology** \_\_\_\_\_  
\_\_\_\_\_

**geology** \_\_\_\_\_  
\_\_\_\_\_

**paleontology** \_\_\_\_\_  
\_\_\_\_\_

**artifact** \_\_\_\_\_  
\_\_\_\_\_

**fossil** \_\_\_\_\_  
\_\_\_\_\_

**glacier** \_\_\_\_\_  
\_\_\_\_\_

**ice age** \_\_\_\_\_  
\_\_\_\_\_

**mammoth** \_\_\_\_\_  
\_\_\_\_\_

**migration** \_\_\_\_\_  
\_\_\_\_\_

**Paleo-Indian** \_\_\_\_\_  
\_\_\_\_\_

**prehistory** \_\_\_\_\_  
\_\_\_\_\_

## RESOURCES

### Time Terms Definitions

(from Merriam-Webster)

<b>anthropology</b>	the science of human beings ; <i>especially</i> : the study of human beings and their ancestors through time and space and in relation to physical character, environmental and social relations, and culture
<b>archeology</b>	the scientific study of material remains (fossil relics, artifacts, monuments, etc.) of past human life and activities
<b>geology</b>	a science that deals with the history of the earth and its life, especially as recorded in rocks
<b>paleontology</b>	a science dealing with the life of past geological periods as known from fossil remains
<b>artifact</b>	something created by humans usually for a practical purpose
<b>fossil</b>	preserved from a past geologic age
<b>glacier</b>	a large body of ice moving slowly down a slope or valley or spreading outward on a land surface
<b>ice age</b>	a time of widespread glaciation
<b>mammoth</b>	any of a genus ( <i>Mammuthus</i> ) of extinct Pleistocene mammals of the elephant family distinguished from recent elephants by highly ridged molars, usually large size, very long tusks that curve upward, and well-developed body hair
<b>migration</b>	to pass usually periodically from one region or climate to another for feeding or breeding
<b>Paleo-Indian</b>	one of the early American hunting people of Asian origin extant in the late Pleistocene
<b>prehistory</b>	times before written history

## RESOURCES

### National Archives Photograph Analysis Worksheet

#### Step 1. Observation

A. Study the photograph for 2 minutes. Form an overall impression of the photograph and then examine individual items. Next, divide the photo into quadrants and study each section to see what new details become visible.

B. Use the chart below to list people, objects, and activities in the photograph.

PEOPLE

OBJECTS

ACTIVITIES

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

#### Step 2. Inference

Based on what you have observed above, list three things you might infer from this photograph.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### Step 3. Questions

A. What questions does this photograph raise in your mind?

\_\_\_\_\_  
\_\_\_\_\_

B. Where could you find answers to them?

\_\_\_\_\_  
\_\_\_\_\_