

# Teacher's Guide for Dig: *Ice Age Animals*

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## Let the Ice Age Speak p. 8

### Comprehension

1. When was the last (most recent) Ice Age?
2. Where were ice sheets located?
3. What is a periglacial region?
4. What is a steppe area and why were hunter-gatherers there?

## Art That Tells Tales p. 8-11

### Art Extension

Collect some flat rocks. Using paint and/or markers, paint or draw a "cave" picture of an Ice Age animal on the rock; or if rocks are not available, simply paint a picture of an Ice Age animal on a piece of paper or a paper grocery bag.

### Comprehension

1. What is one of the oldest works of art ever found? What was it made from?
2. What common feature is depicted in the Ibex, the woolly mammoth and the woolly rhinoceros?
3. How did artists create three-dimensional-like works on cave walls?

## The Great Mammoth p. 12-15

### Integrated Activity - Timeline

On butcher paper or poster board, create a timeline of all mammoths. Then list 3 to 4 characteristics of each type of mammoth. Illustrate with your own drawings. Display your timeline in the hallway and/or bring it to a younger class and explain the development of the mammoth over time.

## Surprise in a Cave p. 16-18

### Comprehension

1. Why are bear carcasses so well preserved in caves?
2. What are some possible causes of "deep grooves" in cave walls?
3. How does a researcher determine that an area of a cave was a bear hibernation area?

## What's What at Rancho La Brea p. 20-22

### Matching

Match the item in the left column with the corresponding scientists' conclusion(s) in the right column. (May be more than one conclusion for an item).

### *La Brea Items*

- Extinction of large mammals
- Slugs, snails, freshwater clams, water beetles
- Artifacts found with La Brea woman
- Animals became mired in tar
- Cypress, walnut, juniper and pine trees

- Animal turnover

### *Scientists' conclusions*

- Personal, ceremonial items and tools
- Animals had visited area to drink

- Temperatures were a bit cooler than nowadays
- Nearby streams and lakes carried water from the mountains to the Pacific
- Arrival of people from Asia across the Bering Strait
- Change in climate/habitat

### Life in the Pits p. 22

#### Comprehension

1. What is somewhat unusual about the location of Rancho La Brea?
2. What role does rain play in the concentration of fossils at Rancho La Brea?
3. Why are so many fossils preserved in the "tar" pits?

### The Last Deer p. 23-25

#### Comprehension/Critical Thinking

1. How were the deer in the eastern Ural Mountains (7,700 years ago) different from the mammoths at that time? Why?
2. Why was *Megaloceros giganteus* called "Irish Elk"? Why or why not is it an accurate name?
3. What did biologists discover by studying the DNA of *Megaloceros*?
4. Scientists have suggested three to four possible causes for the extinction of *Megaloceros giganteus*. Name at least three. Which seem(s) to be a likely cause to you?

### The Case for Extinction p. 26-27

#### Comprehension

1. What are the four principal theories for the extinction of the mammoths and the American mastodon? Which three causes have now been ruled out for the mammoth?
2. What role did the study of teeth play in ruling out certain causes of extinction? How were the studies conducted?
3. Radiocarbon dating tests revealed an unexpected finding for the woolly mammoth. What was it?

### Who Dunit? 28-29

#### Outside Research, Debate, Writing

Choose one of the two statements below and, using resources other than the article, prepare a short written argument in support of your chosen statement. Have two to five key points to support your statement. Then, time permitting, "debate" a student/pair/group that support(s) the opposing statement. The rest of the class can vote on the "winner" of the debate.

Climate change caused the Pleistocene extinction in North America  
 Humans caused the Pleistocene extinction in North America