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**Archeologist for a Day Instructions:** Imagine that you are the archaeologist who has just finished excavating a site. The following description is a summary of the field notes from your team. After reading the description, you will be asked to report either to your home newspaper or to the research foundation that financed the excavation.

**You are going to:**

1. **READ** the information about the archeological site
2. **MARK** the text: underline or highlight key ideas, circle key words and write questions in the margins (this will make it easier to answer the questions)
3. **EXAMINE** the attached site descriptions and field notes
4. **Draw conclusions** based on the evidence discovered about the people who inhabited the site.
5. **Identify features** of their way of life that might have prepared the way for the more complex way of life often called “civilization.” That complex way of life included stored economic surpluses, specialized jobs, organization of people in increasingly large groups, unequal power-holding, and communication using writing systems.

**INFORMATION ABOUT THE SITE**

**Location of Site:** The site is in modern Ukraine. At the time of occupation by humans, the site was located on a plain with a few outcroppings of rocks and about 15 miles from a river rich with fish but frozen over in winter. The site was about 300 miles south of an ice sheet that extended from the Arctic. Temperatures dipped to -35o F in winter and rose to 70o F during the short summers. The earth was permanently frozen at depths of 2-4 feet. The surroundings were a tundra/steppe ecology with sparse vegetation and few trees. Large herds of mammoth, wooly rhinoceros, reindeer, bison, horses, wolves, arctic foxes, as well as ground squirrels, grouse, and other birds and rodents occupied the neighborhood.

**Date of Site**: Dated by carbon 14 method to between 24,000-23,000 years ago.

**The Site and Finds at the Site (See Student Handouts 2.1-2.3**): There are five areas, two of them roughly elliptical and three of them roughly round. They were shallowly hollowed out to depths of about 1-3 feet, varying in size from about 450 (Area 3) to 990 square feet (Area 1).

In each area were several holes about 12-24 inches deep and some 10 inches around, as well as mammoth skulls, jaws, tusks, long bones, and shoulder blades. Bones of the same mammoth were found in different areas. More than half of the mammoth bones came from individual animals (850 different individual mammoths’ bones were identified at the site) that had lived at very different time periods, some long before the human occupation of the site. Different bones (skulls, long bones, or jaws) were dominant in the different areas.

**Area 1** the largest, contained numerous mammoth bones and several large limestone chunks. There were 5 depressions, each 2-3 feet around with ashes in them, partly from burnt bones. Also found were 7 smoothed bones pointed at one end and split at the base, 2 of them broken; 362 shaped flint flakes with more than a dozen different kinds of tools, some of them broken, and several hundred flint fragments; 8 baked clay figurines 3-6 inches in size representing meat-eating animals and, in one case, a human female; one holed wolf-tooth and 12 holed mammoth-ivory beads. (See Student Handouts 2.2 and 2.3.)

**Area 2** contained 23 tons of mammoth bones, a single mammoth skull elaborately decorated with lines and dots in red ochre paint, two rings of stones with traces of ash and a few partly-burnt bones of hare and reindeer, and flint blade tools of two dozen different types. A small pit near the inside edge of the area contained an upright female figurine of carved mammoth bone, earth mixed with red ochre, and a mammoth shoulder-blade over the top. (See Student Handout 2.3)

**Area 3** contained 385 mammoth bones. Near its middle, a depression roughly 3 foot around and outlined by stones had in it a layer of ashes and charcoal identified as burnt mammoth bones. There were also multiple examples of 17 different types of flint scrapers and a selection of flint blades, a few broken. Many paw-bones of small mammals were found inside, but not other parts of mammal skeletons.

**Area 4** contained 12 tons of mammoth bones, 15 large chunks of limestone, two circular patches of ash about 2 feet around, broken animal bone pieces, 3 large chunks of flint weighing 25-36 pounds each, and 29,000 flint waste flakes and fragments (10 percent of them of a superior flint found only some 300 miles away). The team also found two small pits about a foot deep and two feet around filled with completed flint blade tools with many examples of a few types. Finally, the area included a few each of some three dozen different kinds of tools; 86 wolf and 21 arctic fox teeth, many with holes; 7 pieces of red ochre showing use-wear; and 3 stones hollowed out as though for grinding, with remains of bones and pigments in the hollows but no traces of vegetable matter.

**Area 5** contained 215 mammoth bones; 11 complete animal and bird figurines about 6 inches and made of clay mixed with powdered bone ash and fired; and more than 5,700 figurine fragments. The area also contained a fired, clay-lined depression with ash deposits and fired clay fragments and a narrow channel leading from it to the area’s edge. Tests show that the figurines were fired at temperatures of 500-800 degrees centigrade and that breakages were not accidental. The way the figurines fractured shows they must have been deliberately placed in the hottest part of the fire while still wet. Therefore, they were deliberately caused to explode.

**Between Areas 1 and 2** were found complete skeletons of two male adults (one in his 20s, the other in his early 30s) and one teenage male Homo sapiens. Holed ivory beads and wolf-teeth were laid around the adults’ skulls and hips. A large patch of red ochre was next to the right hand of the teenager.

**At distances of 12-18 feet from Areas 1 and 5** and from each other were 6 pits each about 6 feet in diameter and 3-4 feet deep, extending below floor level. Pit 1 had piles of small mammal skeletons mostly complete except for missing paws. Pits 2 and 3 contained mixed animal bones, broken terra-cotta and flint pieces. Pits 4 and 6 contained a layer of ashes mixed with some charred bones. Pit 5 had several dozen flat baked clay pieces 3-16 inches in size, some of them showing imprints of twisted and interlaced plant fiber, which suggested traces left by baskets, netting, or weaving. (See Student Handout 2.1.)

The many bones, other than mammoth, found at the site were identified as about 30 per cent small meat-eating mammals (such as fox and wolf), 20 percent hares, 20 percent reindeer, 10 percent bison, 9 percent birds, 7 percent horses, and 4 percent fish. Many of these bones show cut marks and/or traces of burning.

A number of sea-shells were found in several places on the site. Some of them were holed and they can only have come from sources over 1000 miles away. In several locations within a 5-mile radius of the human-related remains, large, random accumulations of mammoth bones were found, weathered to different degrees. They dated from various times (some from centuries before human occupation of the site) and showed no cut marks or charring.

**Some Background Information:**

1. Live mammoths stood about 10-14 feet tall at the shoulder. A single mammoth skull, about 4 feet tall, weighs about 180-220 pounds. A tusk, up to about 10 feet long, may weigh about 440 pounds.
2. There is evidence from well before 24,000 years ago of both bone and flint points having been fixed to wooden staffs to make spears. But not until thousands of years later is there any evidence of use of spear-throwers or bows and arrows to propel points long distances.
3. Female figurines very similar to the one at the site have been found all across Eurasia from Spain to Siberia. They have been dated variously between 28,000 and 15,000 years ago.
4. The territory needed to support a group of hunter-gatherers depends on how rich the resources are in that territory. Estimates vary from 2 square miles needed per individual in rich environments to 77 square miles needed in barren ones.
5. Studies among present-day hunter-gatherers show most of them living together in groups (usually known as bands) of 20-70 people (roughly 1-3 dozen adults, plus children). The members are mostly connected by birth or marriage and typically space their children about 4 years apart.
6. To avoid unhealthy inbreeding, a group of at least 475 individuals from which to select mates is required.
7. Most hunter-gatherer bands known from historical times are more or less loosely joined with other bands to form a larger group commonly known as a tribe. This larger group meets only occasionally (though often at regular intervals), and ranges in size from about 500 to 800 people.
8. Red ochre is known to have been used in various places in historical times to smooth animal skins, treat human wounds, and to decorate the body

**When you are done reading and examining the field notes, answer the following questions:**

1. What are the most important conclusions you would draw from this excavation?

What evidence would you base them on?

Why do you consider them the most important?

1. What important questions about the people who lived there are left unanswered by the evidence of the remains? (give 2 minimum)

Why do you consider those questions important?

What sort of new evidence might answer those questions?

1. What was there in the way of life of the people living at the site that set the stage for the more complex societies to have:
	1. stored surpluses
	2. specialized jobs
	3. an organization of people into increasingly large groups
	4. unequal power distribution
	5. communication using visual symbols?
2. Imagine that you are living in Ice Age Ukraine. Given the same environment and having the same resources as the people who inhabited on the site, what would you have needed to keep yourself alive? (list)

Could you improve on the ways they had of keeping themselves alive?

How?

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**SUMMATIVE ASSESSMENT: Based on the evidence shown in the plan of Areas, as well as other information from this lesson:**

On a separate piece of paper, neatly write a ½ to 1 (proof-read) page **article** for an online news website about your discoveries, giving an ***account of the life of the people who lived on the site* based on the *evidence* of field notes and your interpretations of them**. Give some idea of the *reliability of your conclusions* by using words such as “definitely,” “probably,” and “perhaps.” **Illustration(s) showing what the** **site looked like 24,000 years ago** should be included for full credit.