Big Era Three
Panorama Teaching Unit
Farming and the Emergence of Complex Societies
10,000 – 1000 BCE

Landscape Teaching Unit 3.1
Getting a Grip On the Food Supply: Domestication and Its Results
10,000-4000 BCE

Table of Contents

A project of San Diego State University
In collaboration with the
National Center for History in the Schools (UCLA)
http://worldhistoryforusall.sdsu.edu/

Why this unit?

Without the shift from hunting/gathering to farming/herding, the development of the complex societies that gave rise to our current way of life would not have been possible. This unit deals with the origins of agriculture, which first took place in Southwest Asia starting about 11,000 years ago. It also considers the results of the shift from collecting to producing food, which paved the way for the complex societies that first arose in the world about 5,000 years ago. This unit alerts students to the historical processes that led to farming and herding, one of the key turning points in human history. Note that the dates cited in this unit are approximate and provisional, subject to change as new research emerges.

Unit objectives

Upon completing this unit, students will be able to:

1. Explain how the shift to domestication first came about.
2. Compare the life ways of Paleolithic hunter-gatherer communities (about 23,000 years ago) both with those of hunter-gatherers who relied significantly on wild grain (about 10,000 years ago) and with those of farmers (about 9,000 years ago).
3. Assess the advantages and disadvantages of the shift from a hunting/gathering to a farming/herding way of life.
4. Describe the changes brought about by the shift to agriculture in humans' relations to the environment, to other humans, and to ideas.
5. Articulate a concept of "progress" based on evidence.

Time and materials

This teaching unit is versatile. Each of the two lessons may stand on its own, taking one or two 45-minute class periods each. Time taken will vary, depending on how long is spent on the introductory activities, lesson activities, discussion, assessment, and homework. No materials are needed other than copies of the Student Handouts, and for some activities, pencil and paper.

Author

The principal author of this teaching unit is Dr. Anne Chapman. She served for many years as history teacher and academic dean of Western Reserve Academy in Hudson, Ohio. She has been a history education consultant to the College Board, the Educational Testing Service, and the National Center for History in the Schools. She also edited *World History: Primary Source Readings* for West Publishing.

The historical context

The domestication of plants and animals meant a revolutionary increase in human control over food supplies. In the process of domestication, humans deliberately cultivated and raised selected plants and animals in places they chose, regulating their growth and reproduction. This resulted in a five to ten-fold increase in the number of people that a given unit of land could feed. Even greater increases came later. However, hunting remained for a long time an important food source in farming communities.

Historians do not fully understand the reasons why shifts to farming took place in Southwest Asia and other regions at the particular times they did, especially considering that anatomically modern Homo sapiens had been successfully gathering and hunting for more than 200,000 years. Several factors certainly played a part.

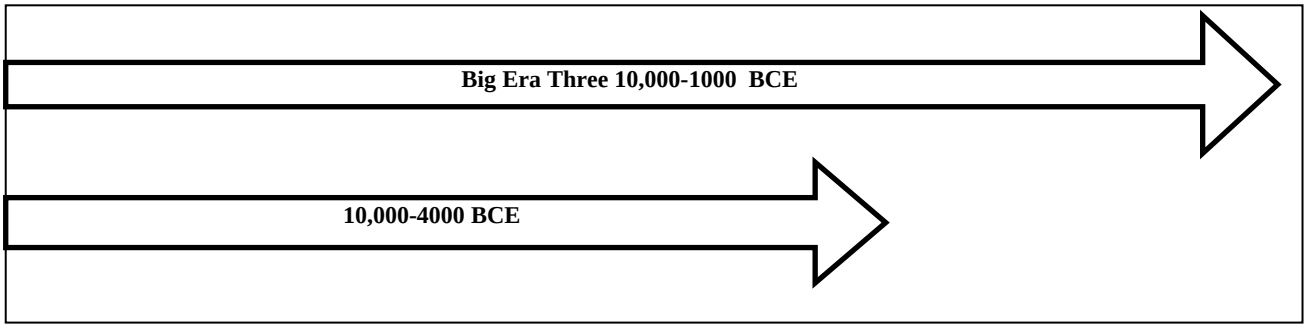
- First, Southwest Asia had an unusually large number of species of large-seeded grasses compared to other world regions: 32 of them compared to 5 in Central America, which had the next highest number. Two kinds of wild wheat and barley, among other grasses, grew in the area where farming began, as well as the wild ancestors of lentils, peas, chickpeas, and flax. Women and men domesticated all these between about 11,000 and 9,500 years ago.

- Second, four of the most promising wild mammal candidates for domestication—sheep, goats, cattle, and pigs—were all found wild in Southwest Asia.. It is the only place in the world where their range and that of the wild wheat and barley species overlapped.

- Third, a climate change may in some areas have reduced the availability of the wild grasses, leading people to experiment to try to increase the productivity of a resource they had come to rely on.

Population among farmers rose. Permanent settlements multiplied and grew in size. Surpluses could be consistently produced and then stored in containers or on the hoof. Important here was the invention of pottery about 7000 years ago in which food could be both stored, cooked, and transported. Some individuals and families began to accumulate more surplus wealth than others, which led to inequalities of power, influence, and well-being. Leadership under these new conditions required different skills and justifications than in small hunting-gathering communities. The need grew for conflict resolution, for symbolic ways to unify larger populations, and for defense of stored surpluses against rivals and outsiders. Production of surplus crops and herds made it possible for a community to support people who did not grow food themselves but had specialized jobs as artisans, priests, soldiers, and political chiefs. Because farming peoples lived in larger, denser communities than did hunter-gatherers, infectious diseases appeared and spread more easily, partly as a result of close contact between humans and infected domestic animals

This unit in the Big Era time line



Lesson One

Be the first to practice domestication: an archaeology-based simulation

Introductory Activities

1. Ask students to brainstorm: If you had to pick one thing that distinguishes domesticated plants and animals from their wild ancestors and relatives (that clearly divides all domesticated flora and fauna from all wild species), what would it be? Compare ideas, and have students try to pick the most significant distinguishing characteristic of domestication, and explain why they consider it the most significant.

2. Ask half the students to list what are the most important advantages, the other half, what are the most important disadvantages, of keeping animals such as goats, sheep or cattle as domestic animals rather than hunting them. Compare the answers that students list.

   Discussion: Do the advantages of having domesticated animals outweigh the disadvantages? Ask students to explain their answers. Did advantages clearly outweigh disadvantages at the time domestication of animals first began?

3. This activity lends itself well to small group work. It can serve as a partial review of Big Era Two. Ask students to list what human-made tools or other items would be necessary to make domestic animals and plants a significant part of a group's diet.

   Discussion: Which of these tools, or the technologies needed to make them, do we know about from archaeological evidence were already part of human culture by about 20,000 years ago? Students may refer to Big Era Two Panorama Teaching Unit.

4. [This activity can serve as a review of Big Era Two. Ask students to list the most important changes in Homo sapiens' way of life from about 100,000 years ago to about 20,000 years ago, and explain on what basis they were ascribing and assessing significance.

   a. Discussion: How important would you say the domestication of plants and animals beginning around 11,000 was, compared to the changes between 100,000 and 20,000 years ago?

Activities

All the following activities are based on Student Handouts 1.1 and 1.2. Teachers may find it helpful to share with students what they will be asked to answer or do before they begin to work with a Student Handout.

1. This activity lends itself well to small group work. Decide what you and your group would have to do in order to gain more reliable control over your food supply. Describe, step by step, the actions that would have to be taken, given the resources of people, technology, and ideas you have available.

   Discussion: What important questions do you have regarding how to gain more reliable control over your food supply that are left unanswered by the information in Student Handout 1.2? How would the answers to your questions help? Could your questions be answered today? If so, what now allows us to do so?

2. Based on reading of Student Handout 1.1, write a set of diary entries describing daily events relevant to you, as well as your acts and feelings and those of people in your household. (Of course, students could not really have made diary entries 10,000 years ago because writing had not been invented!)

   Discussion: In what ways would your life at that time have been harder, and in what ways easier, than your life today? Consider, among other things, demands on your time, skills, mind, and feelings. (The discussion of "standard of living" and "quality of life" in Lesson 2 of the Big Era Three Panorama Teaching Unit may be a helpful background for this activity.)

3. Based on Student Handouts 1.1 and 1.2 of this lesson, as well as the Student Handouts in Lesson 2 of the Big Era Two Panorama Teaching Unit (about the Ukraine mammoth hunters' camp of 23,000 years ago), ask students to:

   - Compare the hunting/gathering lifestyles of the two different periods and locations.
   - Describe what were the three most important similarities, and the three most important differences, in the lives of the Ukrainian mammoth hunters of 23,000 years ago and the Southwest Asian hunter-gatherers of 10,000 years ago. Explain your reasons for your answer, including an explanation of how you decided what was important.
   - Decide whether the two ways of life were more different or more similar, and explain your reasons for your answer.

4. Based on the information in Student Handouts 1.1 and 1.2, ask students to:

   - Compare the hunting-gathering life ways of the two different periods and locations.

- Describe what were the three most important similarities, and the three most important differences, between the Southwest Asian hunter-gatherers of 10,000 years ago, and the farmers of the same region of 9,000 years ago. Explain your reasons for your answer, including an explanation of how you decided what was important.

Discussion:

- Has there been progress during the 10,000 or so years between the Ukrainian mammoth hunters of 23,000 years ago and the Southwest Asian hunter-gatherers of 10,000 years ago?
- Explain how you have defined "progress."
- Has there been progress during the 1,000 or so years between the Southwest Asian hunter-gatherers of 10,000 years ago and the farmers of the same region of 9,000 years ago?
- Has your definition of "progress" remained the same? Why or why not?
- During which of the two periods you have compared has there been more "progress"? Explain your answer.
- What changes that could be defined as "progress" might have happened that are not knowable from the archaeological evidence we have?

5. Explain what there was in the way of life of the group described in this lesson's Student Handout 1.1 that set the stage or prepared the way for the more complex way of life (often called civilization) that is characterized by accumulation of surpluses, complex division of labor, the organization of humans into increasingly large groups, unequal power distribution, and large-scale building.

Lesson 1

Student Handout 1.1

Be the First to Practice Domestication: An Archeology-based Simulation

You are members of a group of some 100 people, from newborns to elderly folk, who live in Southwest Asia about 10,000 years ago. You hunt deer and gazelles (which can run 50 miles per hour, are very easily panicked, and can jump over 25 feet) when the herds are in your territory. You also get some wild goats, cattle, pigs, hares, small rodents, birds, and fish. You range considerable distances from home base to collect some 60 different species of plant food, including berries, acorns, seeds, and nuts. The bulk of this food is wild wheat and barley, which you harvest with flint-toothed bone sickles from the patches where they are usually found at various distances from your settlement. You can collect about 3 to 4 pounds of their seed in an hour, not counting the time to get to and from the fields.

A pound of wheat or barley seed provides about 1,200 calories, about half the daily requirement for an adult. This is about 10 percent more calories than in a pound of beef and 50 percent more than in a pound of goat meat. While cereals' protein content is about 30 percent less than that of meat, lentils are higher in both calories and protein content than either cereals or meat.

Unwanted seeds of the many weeds that grow along with the cereals are mixed with the harvested seeds. Also, many cereal seeds are lost, dropping to the ground because on wild cereals they are only loosely attached to the stalk. Year to year, some cereal stands disappear because they are rooted up, trampled, eaten by animals, or shaded out by weeds. Therefore, your group has to scout new stands. Some years, weather conditions result in much smaller stands of cereals.

Your band lives in round huts having a single room and dimensions of about 20 feet across and 3 feet into the ground. They have stone foundations, mud-brick walls, and roofs of reeds and clay supported by wooden posts. The floors are smoothed with a layer of clay.

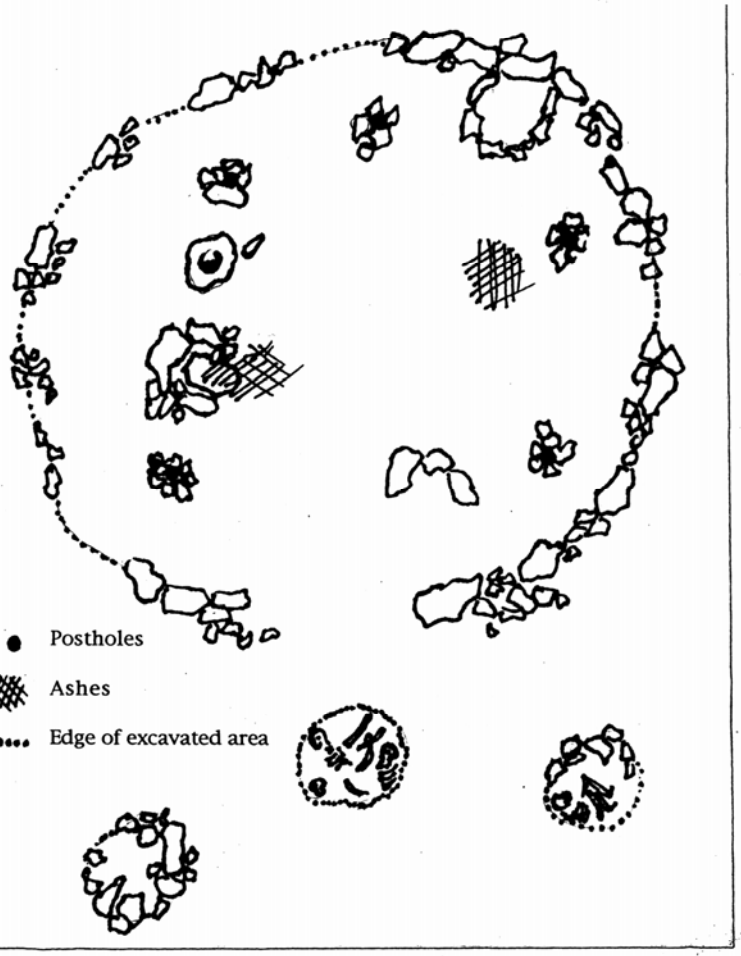
Inside the houses are stone-lined hearths; flat, hollowed-out grindstones and mortars with cylindrical pestles; bone and stone tools, including picks and stone bowls; small figurines of hoofed animal and a few human figurines, as well as jewelry made with animal teeth and shells from 120 miles away. Bone tools, often decorated, are used to work animal hides and to make baskets. Some of the flint tools and arrowheads have been heat-treated for finer flaking. Cooking is done with heated stones. Some houses have storage bins inside. Outside are several 3-foot deep pits. In some, humans and simple grave-goods are buried.

The information in Student Handout 1.1 is based on reports of archaeological excavations at Mallaha (occupied between 13,000 and 11,000 years ago), Abu Hureyra (occupied between 13,000 and 9,000 years ago), Jericho (occupied between 11,000 and 9,300 years ago), Mureybet (occupied between 10,500 and 9,300 years ago), Beidha (occupied between 10,500 and 8,200 years ago) and Netiv Hagdud (occupied between 10,300 and 9,300 years ago), which span the period during which domestication occurred. For references see the Resources for Teachers section of this unit.

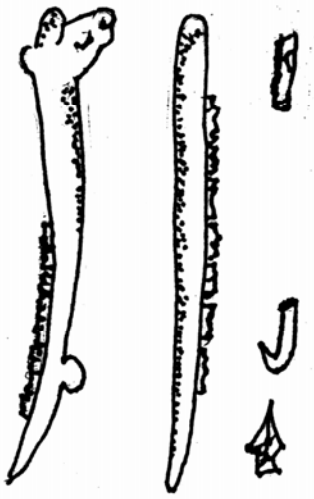
Lesson 1

Student Handout 1.2

Houseplan and Associated Objects From Southwest Asian Settled Hunter-Gatherer Sites of About 10,000 Years Ago
Note: Objects shown are not to scale.



Wild wheat, native to Near East. It tolerates a wide range of temparatures and poor soil. For its domesticated relative, see Illustrations to Student Handout 2.4



[While the houseplan is imaginary, it is based on a composite of plans reported from excavations at real sites in Soutwest Asia from about that date. The objects represent information from several sites, but are not theselves composites.]

Sources:
Based on Price, D.T. & A.B. Gebauer eds. Transitions to Agriculture in Prehistory. Madison, WI: Prehistory Press, 1992,p.31; Piggott, Stuart. Ancient Europe. Chicago: Aldine, 1965, p.41; Cole, Sonia. The Neolithic Revolution. London: Trustees of the British Museum, 1965, pp.4,10,16; Mellaart, James. Earliest Civilizations of the Near East. N.Y.: McGraw Hill, 1965, pp. 23, 25, 48; Kuijt, Ian ed. Life in Neolithic Farming Communities. N.Y.: Kluwer Academic/Plenum Publishing, 2000, pp. 266. 268.

Lesson Two

Domestication accomplished: now what?

Activities

All the following activities are based on Student Handouts 2.1, 2.2, 2.3, and 2.4. Some involve information from Student Handouts 1.1 and 1.2, and from Lesson Two of the Big Era Two Panorama Teaching Unit.

Note: It is usually helpful to share with students what they will be asked to answer or do before they begin to work with Student Handouts.

1. Compare the changes between 10,000 (Student Handouts 1.1 and 1.2) and 9.000 years ago (Student Handouts 2.1, 2.2, 2.3, and 2.4.) with those between 23,000 (see Lesson 2, Big Era Two, Panorama Teaching Unit)] and 10,000 years ago. Which changes do you consider more important? Why?

2. This discussion lends itself well to small group work.
    a) Explain what important conclusions can be drawn from the information in the Student Handouts 2.1, 2.2, 2.3, and 2.4 (including illustrations) about the following in agricultural settlements of about 9,000 years ago in Southwest Asia:
        i. political organization
        ii. economic organization
        iii. social organization
        iv. systems of ideas
    b) Explain on what evidence you are basing your conclusions.
    c) Discussion
        i. On what did you base your judgment of importance?
        ii. Rate, and explain, how reliable you consider each of your conclusions to be on a scale of 1-10, with 10 being the most reliable (ashes inside their houses were found only inside a fired clay box, so they must have known how to control fire) and 1 the least reliable (since no special ways to dispose of human waste were found, they must have used it to fertilize their crops).
        iii. What important questions would you want to ask about the way of life in this time and place for which the evidence is lacking? Why do you think these questions are important?

3. This activity could serve as assessment. You are a clever and curious member of a seasonally moving hunting/gathering band of about 50 people in Southwest Asia about 9,000 years ago. You have visited to trade, then lived for a while in one of the large, long-settled farming villages of several hundred people in the region.
    a) Explain to your band, when you got home, why you think they should, or should not, shift to a fully settled, agricultural way of life. Whatever your recommendation, make sure you point out both the advantages and the disadvantages of what you propose, based on what you yourself could have seen and experienced.
    b) Discussion: Are there any advantages or disadvantages you could add to your argument based on what we know to-day? What? Which of your arguments in favor and against do you think would be most persuasive in that time and place? Why?

4. [This activity could serve as assessment.] Imagine that you are one of the following: (Note: Each role may be assigned to a group, or roles distributed to students at random.)
    a) a journalist
    b) a social worker
    c) a politician
    d) a housewife
    e) a teacher

    You have taken a time-machine back 9,000 years, to one of the settled agricultural villages about which evidence is presented in Student Handouts 1.2, 2.2, 2.3, and 2.4., where you stay for several weeks. Write the script of a discussion about your experiences, based on the evidence from the above Student Handouts, which will be broadcast upon your return on National Public Radio.

    Include as much of the important information as you can while, making it interesting to an audience of to-day. How did you decide what was important to include? Compare accounts by those in different roles. What conclusions can you draw from the comparison?

5. List all the problems you can think of that were solved by the practice of agriculture, and how agriculture solved them. Then list all the new problems that arose as a result of the practice of agriculture. Make sure you do not overlook possible political, economic, social, moral/ethical/religious and technological problems.
    a) Discussion
        i. In what ways, if any, were the kinds of new problems different from the kinds of old problems?
        ii. Did one set of problems affect more people? Did it affect them more seriously (life and death as opposed to inconvenience)? Did it affect them more of the time?

6. This activity can also serve as assessment. Divide the class into small groups. Ask each group to describe the changes brought about by the shift to domestication, one third of the groups to work on the changes in humans' relations to the environment, one-third changes in humans' relations to other humans, and one-third changes in humans' relations to ideas. Have groups share their conclusions.
    a) Discussion
        i. In which areas of human life did the shift to domestication bring about the greatest changes?
        ii. What explanation for the differences in the impact of domestication could you come up with?
        iii. What evidence would you look for that might support your explanation?

7. This is another activity that can serve as an assessment. Ask students to describe what there was in the way of life of the people living in settled agricultural villages about 9000 years ago that set the stage or prepared the way for the more complex way of life often called "civilization", characterized by complex division of labor, accumulation of surpluses, the organization of humans into increasingly large groups, a society with various possibilities for unequal power distribution, and symbolic visual communication.
    a) Discussion
        i. In what ways were these people at this time closer to being the kind of complex society often called a "civilization" than had been the case in the mammoth-hunter camp of 23,000 years ago?
        ii. What had been the case in the settled hunting/gathering village of 10,000 years ago?

Lesson 2

Student Handout 2.1

What Does the Evidence Show?

Excavations of sites dated to around 9,000 years ago show that:

- Domesticated seed plants and animals had become visibly different from their wild relatives. The differences were consistent, and bred true. Compare wild wheat (Student Handout 1.2) with early domesticated wheat Student Handout 2.4.
    - Domesticated cereal seed plants had larger seeds with thinner skins in larger and tighter clusters more firmly attached to the stem.
    - Domesticated animals had become not only smaller overall but had even smaller skulls (and therefore brains) than the decrease in size would have suggested.
- Concentration of people in the same location increased.
    - Jericho (West Bank of Palestine) had a population of about 2,000.
    - Çatal Hüyük (modern Turkey) population estimates ranged from 4,000 to 7,500.
    - Several more settlements' inhabitants were estimated at about 1,000
    - Typical villages at the time numbered people in the hundreds.
    - Hunting/gathering bands without any permanent settlement continued to exist, numbering typically some 10-50 people.
- Agriculture, and with it denser settlements, spread. Hundreds of existing archaeological sites overlap during this period in Southwest Asia. Only a minority of them have been studied so far.
- Agriculturalist specialized.
    - Some became settled farmers, who cultivated grain and kept domestic animals.
    - Others became less settled herders, who kept domestic animals and collected or traded for edible plants including grain.
- Defense became an issue for some.
    - Jerichoat this time had built a town wall of stone that survived to a height of 18 feet and had at least one tower 40 feet across, its ruins still 30 feet high with an internal stairway, and a ditch outside the wall cut into solid limestone 28 feet wide and 8 feet deep.
    - Çatal Hüyük in Turkey was built so that its houses presented an unbroken line of blank walls to the outside of the settlement without doors or windows, the only way in being by easily moveable ladders. The doors of individual houses there opened into their roofs.

  - Sling stones, maces and long-bladed knives are added to the arrows already in use. However, no large caches of weapons have been found.

- Architecture became more complex.
  - Round or oval houses were replaced by rectangular ones, which were easier to add rooms to.
  - Houses with several rooms, with spaces for air circulation to keep the house dry built into raised foundations, with a second story, with built-in furniture appeared.
  - Lime-plaster floors became common, which involved quarrying, transporting and crushing a lot of chalk and limestone, and a lot of fuel to stoke the kilns used in its preparation.
- Special structures were built, meant for public purposes not for being lived or worked in by individuals or families. These public buildings, often with features that seemed to mark them as religious, were characterized by such details as:
  - being twice or more the size of homes.
  - having more elaborate floors such as painted plaster, carefully fitted limestone slabs, stone chips set in mortar and polished.
  - having stone pillars set in the floor; carvings, sculptures or paintings on floor, walls, or pillars; deliberately placed skulls of humans or animals; objects not found in homes, made of imported materials.
- Special treatment was frequently given to human skulls. After a first disposal of a corpse in a way that got rid of the flesh off the bones, skeletons were often re-buried under floors or benches within the houses or in pits outside them. Skulls were typically re-buried or kept separately, singly or in groups; or stored in containers, or within buildings, sometimes in the hundreds or displayed singly, sometimes on clay supports. Realistic reconstructed faces with shells for eyes were modeled in lime plaster on many skulls. Others had the top of the skull daubed with red ochre.
- In some settlements, sculptures of women with large hips, breasts and bellies, and bulls' heads or horns appear in ways showing that people considered them important.
- Tools of chipped, pressure-flaked, and sometimes heat-treated flint and of bone continued to be made. Added are polished stone and obsidian tools, for raw materials of which sources are limited, are geographically widely spread but are few within individual settlements. Mirrors appear, sparsely, for the first time.
- Pottery containers began to be made, shaped similarly to objects made of stone and wood, and to clay-coated baskets. Its manufacture spread slowly.
- No special provisions were made for sanitation. Some settlements show refuse as well as ashes thrown into courtyards, over a wall, or out the door.
- Humans in farming communities had health problems that did not trouble hunter/gatherers.
  - Skeletons show that because a highly grain-based diet lacks some essential nutrients, agriculturalists in general reached a lower average adult height, and had

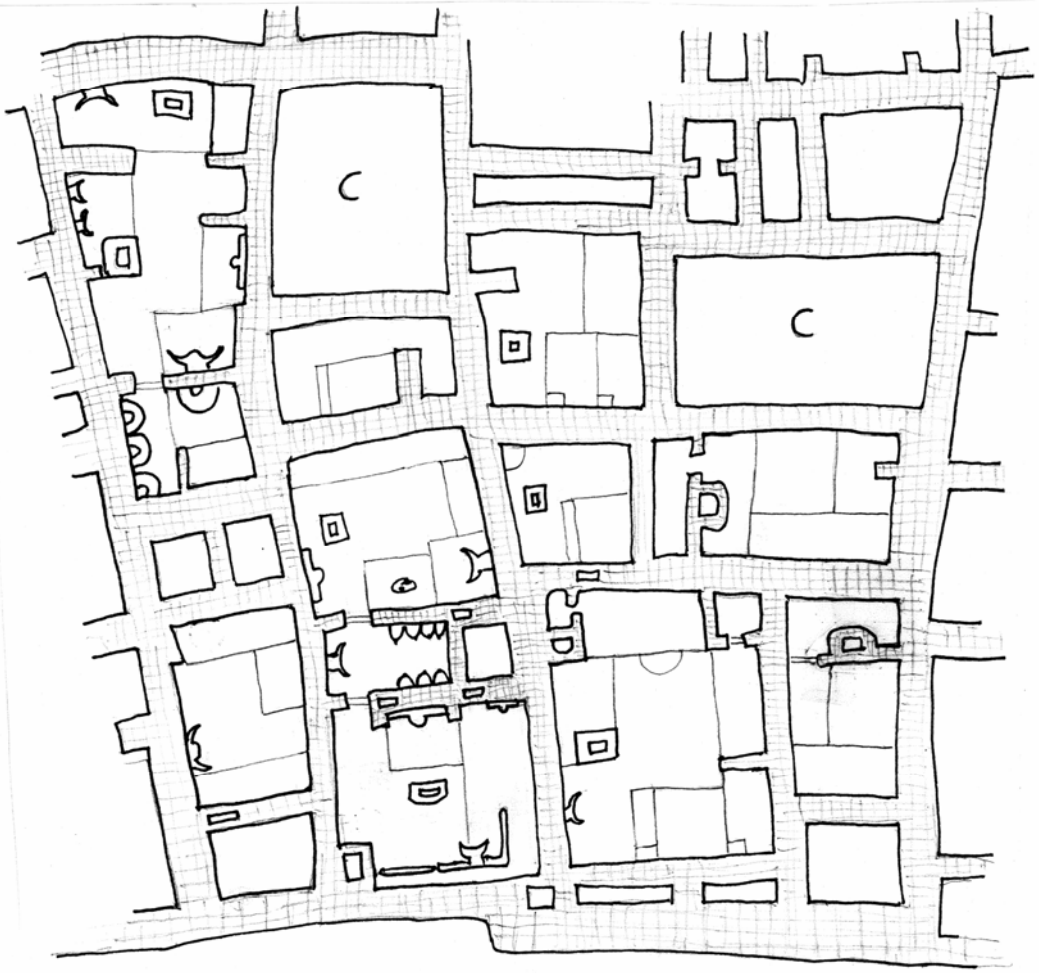
a marked increase in weakened bones, in lost teeth and cavities, in anemia, and in diseases carried by grain-attracted rodents.

- Women's skeletons in some settlements show deformation of knees, spine, and big toe. These are consistent with the skeletal changes that would result from spending a lot of time bent over a grindstone and rubbing a pestle back and forth over it to crush grain.

The information in Student Handout 3 is based on archaelogical excavations of the levels dated to about 9,000 years ago at the following sites: Jericho, Çatal Hüyük , Hallan Cemi, Kfar Hahoresh, Beidha, Ain Ghazal, Abu Hureyra, Gritille. For references, see list of Sources of the Information in the Unit.

Lesson 2
Student Handout 2.2

Groundplan of a Large Agricultural Settlement
About 9000 Years Ago Note: Not to scale.



wall of mudbrick (of standard size in this period throughout the excavated area)

C interior courtyard (contained animal bones, broken objects, heavy layers of ashes)

change of level (edges of platforms, steps, benches; human burials under some platforms)

plaster relief (women, bulls, breasts--see Student Handout 3: Illustrations, (2))

hearth

oven

clay storage bin

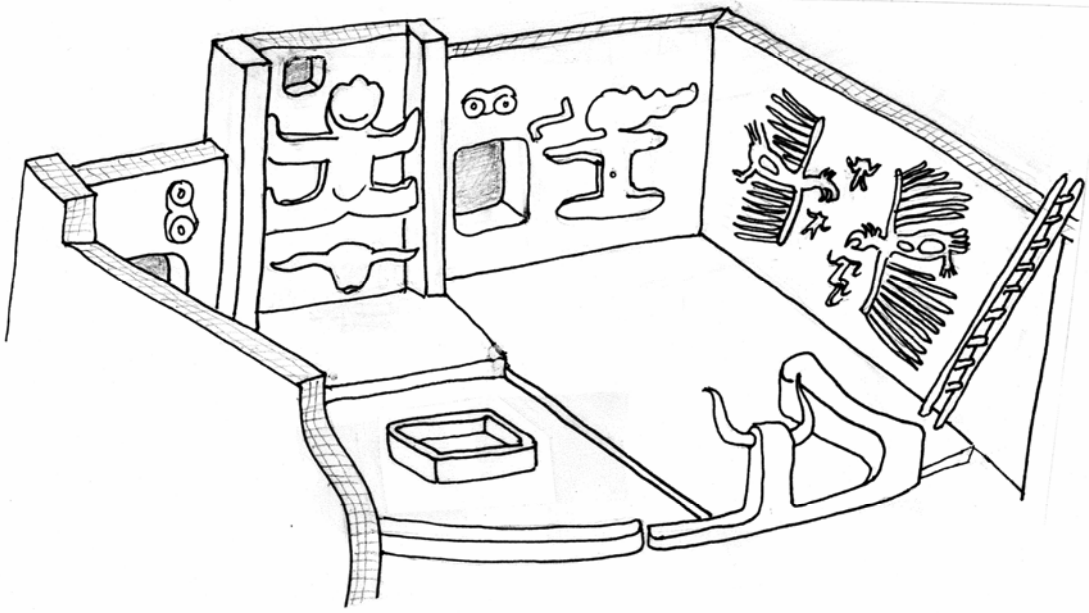
human skull

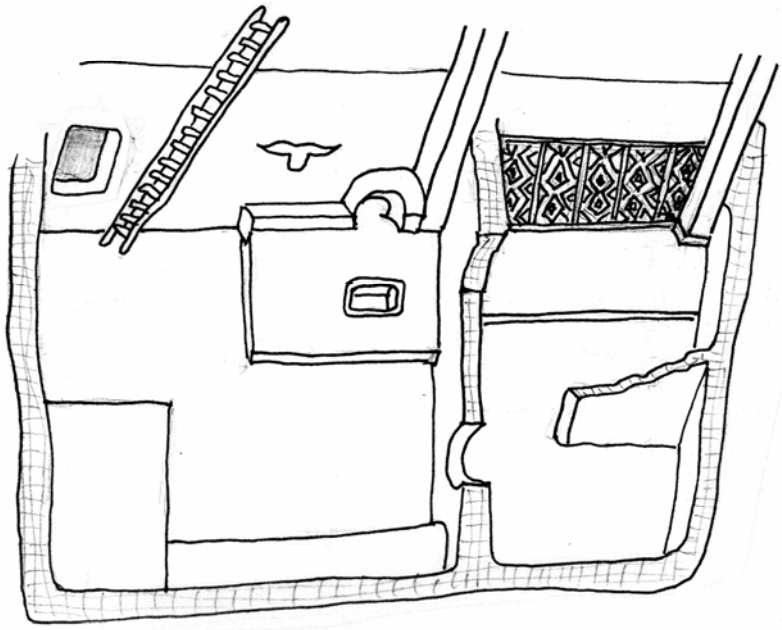
Source: Adapted from Archaeology 232-a history of Archaeology in the West/002 Catal huyuk map, at http://www.ccny.cuny.edu/architecture/archprof/slide-232/ and information from Mellaart, James. Catal Huyuk: a Neolithic Town in Anatolia. New York: McGraw Hill, 1967, Chapter IV.

Lesson 2

Student Handout 2.3

Cut-away Views of Reconstructed Rooms In Large Agricultural Settlement About 9000 Years Ago
Note: Not to scale.



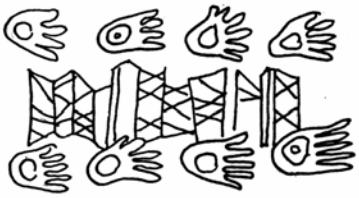


Source: Composites, based on Mellaart, James. Catal Huyuk: a Neolithic Town in Anatolia. New York: McGraw Hill, 1967, pp. 61, 83, 107,115, 116, 118, 121, 169; www.grundel.nl/tf/ot/catal_huyuk.htm; and http://catal.arch.cam.ac.uk/visit/Neolithic/actIvEN.html

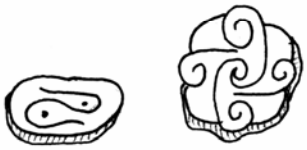
Lesson 2

Student Handout 2.4

Objects From Large Agricultural Settlements
About 9000 Years Ago Note: Not to scale.



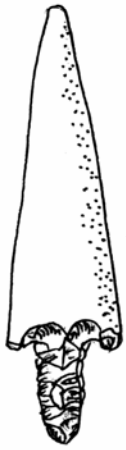
Wallpainting



2 Stamp Seals

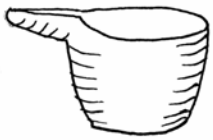
Domesticated Wheat
(for wild ancestor, see Student Handout 2: Illustrations)

Stylized Human Figures from Wallpaintings

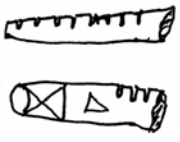


Obsidian Arrowhead

3 Clay and Lime Plaster Sculptures



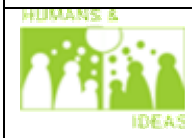
Spouted Stone Bowl



Smoothed and Finely Notched 4" Stone Objects
(Bones notched in the same way have also been found.)

Sources: Kuijt, Ian ed. Life in Neolithic Farming Communities. New York: Kluwer Academic/Plenum Publishers, 2000, pp. 53, 169, 173; Mellaart, James. Catal Huyuk: a Neolithic Town in Anatolia. New York: McGraw Hill, 1967, p. 92; Mellaart, James. Earliest Civilizations of the Near East. N.Y.: McGraw-Hill, 1965, pp. 29. 56; Mellaart, James. The Goddess From Anatolia. Vol.II. Adenau, West Germany: Eskenazi, 1989, p. 86; Hirsch, Udo. The Goddess From Anatolia. Vol.III. Adenau, West Germany: Eskenazi, 1989, pp. 91, 93; Cole, Sonia. The Neolithic Revolution. London: Trustees of the British Museum (Natural History), 1965, p.4; Redman, Charles L. The Rise of Civilization. San Francisco: W.H.Freeman, 1978, pp. 163, 172;.

This unit and the Three Essential Questions

	"The invention of farming had such a negative impact on the natural environment that humans should never have done it. They would have been better off remaining hunters and gatherers." Debate this statement.
	How do you think social and economic relations between adult men and women in early farming villages and in hunting-gathering bands might have differed? Why do you think changes took place? How do you think gender relations in early farming villages and in urban societies today might generally differ? Why?
	What inferences might we make about religious beliefs and practices of people in the neolithic era from archaeological evidence? Can we possibly know anything about what people *believed* in the absence of written documents? What might you infer about peoples' religious beliefs or practices by simply examining the exterior of a church, a mosque, or a synagogue?

This unit and the seven Key Themes

This unit addresses the following Key Themes:

Key Theme 1. Population Patterns

Key Theme 6. Spiritual Life and Moral Codes

Key Theme 7. Science, Technology, and the Environment

This Unit and the Standards in Historical Thinking

Historical Thinking Standard 1: Chronological Thinking

The student is able to (C) establish temporal order in constructing historical narratives of their own: working forward from some beginning through its development, to some end or outcome; working backward from some issue, problem, or event to explain its origins and its development over time.

Historical Thinking Standard 2: Historical Comprehension

The student is able to (H) utilize visual, mathematical, and quantitative data presented in charts, tables, pie and bar graphs, flow charts, Venn diagrams, and other graphic organizers to clarify, illustrate, or elaborate upon information presented in the historical narrative.

Historical Thinking Standard 3: Historical Analysis and Interpretation

The student is able to (H) hold interpretations of history as tentative, subject to changes as new information is uncovered, new voices heard, and new interpretations broached.

Historical Thinking Standard 4: Historical Research Capabilities

The student is able to (D) identify the gaps in the available records and marshal contextual knowledge and perspectives of the time and place in order to elaborate imaginatively upon the evidence, fill in the gaps deductively, and construct a sound historical interpretation.

Historical Thinking Standard 5: Historical Issues-Analysis and Decision-Making

The student is able to (B) marshal evidence of antecedent circumstance and current factors contributing to contemporary problems and alternative courses of action.

Resources

Instructional resource for teachers

Christian, David. *Maps of Time: An Introduction to Big History.* Berkeley: University of California Press, 2004.

Cohen, Mark Nathan. *The Food Crisis in Prehistory: Overpopulation and the Origins of Agriculture*. New Haven: Yale UP, 1977.

Cole, Sonia. *The Neolithic Revolution*. London: Trustees of the British Museum (Natural History), 1965.

Diamond, Jared. *Guns, Germs, and Steel*. New York: W. W. Norton, 1997.

Kuijt, Ian, ed. *Life in Neolithic Farming Communities*. New York: Kluwer Academic/Plenum Publishers, 2000.

Mellaart, James. *Çatal Hüyük: a Neolithic Town in Anatolia*. New York: McGraw Hill, 1967.

---. *Earliest Civilizations of the Near East*. New York: McGraw-Hill, 1965.

---. *The Archaeology of Ancient Turkey*. Totowa, NJ: Rowman and Littlefield, 1978.

Mellaart, James, Udo Hirsch, and Belkis Balpinar. *The Goddess From Anatolia*. 4 vols. Milan: Eskenazi, 1989.

Piggott, Stuart. *Ancient Europe*. Chicago: Aldine, 1965.

Price, Douglas T. and Anne Birgitte Gebauer, eds. *Last Hunters-First Farmers*. Santa Fe, NM: School of American Research Press, 1995.

---. *Transitions to Agriculture in Prehistory*. Madison, WI: Prehistory Press, 1992.

Redman, Charles L. *The Rise of Civilization*. San Francisco: W. H. Freeman, 1978.

Todd, Ian A. *Çatal Hüyük in Perspective*. Menlo Park: Cimmings, 1976

Wenke, Robert J. *Patterns in Prehistory*. 4th ed. Oxford: Oxford University Press, 1996.

Instructional Sources for Students

To be developed.

Correlations to National and State Standards and to Textbooks

National Standards for World History

Era One: The Beginnings of Human Society. Standard 2A: The student understands how and why humans established settled communities and experimented with agriculture; Standard 2B: The student understands how agricultural societies developed around the world.

California: History-Social Science Content Standards

Grade Six, 6.1.3: Discuss the climatic changes and human modifications of the physical environment that gave rise to the domestication of plants and animals and new sources of clothing and shelter.

New York: Social Studies Resource Guide with Core Curriculum

Unit One: Ancient World – Civilizations and Religions (4000 BC – 500 AD), B. Neolithic Revolution and Early River Civilizations.

Virginia History and Social Science Standards of Learning

World History and Geography to 1500 AD. Era 1: Human Origins and Early Civilizations, Prehistory to 1000 BC. WHI.2: The student will demonstrate knowledge of early development of humankind from the Paleolithic Era to the agricultural revolution by c) describing technological and social advancements that gave rise to stable communities.

World history textbooks

Ancient World: Adventures in Time and Place (Macmillan/McGraw-Hill). Chapter 4: The beginning of Agriculture.

A Message of Ancient Days (Houghton Mifflin). Chapter 5: The Development of Societies. Lesson 1: Learning to Farm; Lesson 2: Living in an Early Farming Town.

World History: The Human Experience: The Early Ages (Glencoe McGraw-Hill). Chapter 1, 3: Emergence of Civilization.

World History: Patterns of Interaction (McDougal Littell). Chapter 1, 2: Humans Try to Control Nature.

Conceptual links to other teaching units

As far as well know, Southwest Asia was the site of the earliest experiments with farming. On the other hand, farming may have emerged independently in seven or eight different parts of the world. Farming communities had certain advantages over hunting and gathering peoples, especially their ability to support larger and denser populations. As farming villages grew in size and number, they tended to expand outward from the original core area. In the process hunters and gatherers either took up farming themselves or found themselves being pushed to more marginal, remote territories. Landscape Teaching Unit 3.2, titled Farmers around the World, addresses questions about how and why agriculture spread so widely, considering that the human species had gotten along fine without it for about 200,000 years. Was it inevitable that farming societies emerged in so many parts of the world rather than just a few? Remember that the complex world we live in today is still fundamentally founded on growing crops and raising animals, something humans could not do only 12,000 or so years ago.