



TEACHER'S GUIDE: Grades 4 - 5

To the Teacher:

Welcome to the EarthWorks exhibit! Here you will find suggestions for making the best use of a class visit to the exhibit with students. The EarthWorks exhibit program consists of a network of videos, each about 1 to 1 ½ minutes long. At the end of each, a "choice" screen appears; other choices are available through buttons at the top of the screen. Discussion and questions can follow each video as the choice is made for the next one. The path through the program listed below is entirely pre-chosen; but you may wish to give your class some choices of their own in addition, time permitting. The path as is should take less than one hour.

The theme of this program path is an introduction to the ancient Ohio Valley earthwork builders, with emphasis on their identity as North American Indians of the Eastern Woodlands. The path ends with the topic of preservation. Texts for the selected video narrations follow these suggestions.

Ohio Social Studies Standards:

Following the suggested program path with discussion and follow-up activities will contribute to students' achievement of these Ohio state social studies standards:

1. *History*: Students use materials drawn from the diversity of human experience to analyze and interpret significant events, patterns and themes in the history of Ohio, the United States and the world.
2. *Geography*: Students use knowledge of geographic locations, patterns and processes to show the interrelationship between the physical environment and human activity, and to explain the interactions that occur in an increasingly interdependent world.
3. *Citizenship*: Students use knowledge of the rights and responsibilities of citizenship in order to examine and evaluate civic ideals and to participate in community life and the American democratic system
4. *People in Societies*: Students use knowledge of perspectives, practices and products of cultural, ethnic and social groups to analyze the impact of their commonality and diversity within local, national, regional and global settings.
5. *Social Studies Skills and Methods*: Students collect, organize, evaluate and synthesize information from multiple sources to draw logical conclusions. Students communicate this information using appropriate social studies terminology in oral, written or multimedia form and apply what they have learned to societal issues in simulated or real-world settings.

Note that the follow-up activities also meet standards in Language Arts and Science related to writing, observing and gathering evidence.

Orientation

Before starting the program path, you may want to orient students to the location and era of this culture. One option is to view some of the videos in the Timeline series: see the menu, top of screen, at the end of the introductory scene. A second option is to gather at the exhibit's Timeline wall and ask students:

- Where is our period of time on the wall? Where are the earthwork builders?
- Do you recognize any of the pictures on this wall from school or reading? (Many may identify the Pyramids, Great Wall of China, etc.). Did they come before or after the earthworks?
- What else was going on when the earthworks were built? (Students should be able to name the birth of Jesus, beginning of our AD calendar.)

Gather at the Map Wall and ask students:

- Where are we on the map?
- What river goes through our city?

Demonstrate the meaning of "Ohio Valley" as the whole area where rivers like yours drain into the Ohio.

- What earthwork sites on this map are closest to our city?

Move Along the Program Path

Gather at the video screen area. Ask students who among them has been to visit earthworks, and share their impressions. Ask them to think about how long these things have lasted. Say that they now are going to see how the earthworks may have looked when they were first built.

1. *The Great Valley*: Intro to the ancient culture which built Ohio earthworks

At the end, explain that now you will go to an earthwork along the Scioto (Columbus's river), called Mound City, where it's possible to visit today – although the mounds there were all rebuilt in the 20th Century.

Open the "All Sites" menu at the top of the screen., and choose:

2. *Mound City*: The great site of memorial mounds.

Talk about the idea of memorial places. Mention one in your area (perhaps a statue or building). Why do students think people like to revisit a special place to remember events or people now gone?

From the choice screen, select:

3. *Buildings*: How buildings were used for funerals and later made into memorial mounds.

The goings-on in these buildings may seem odd to students; but point out that they are not so different from our own cremation or processing at funeral homes.

Talk about why the Indians might have wanted to build mounds instead of leaving the buildings as they were (mounds more permanent).

Invite students to compare visiting a cemetery to visiting a mounded house site at Mound City.

Say that another, very different idea may also have been at work. Choose

4. *Reincarnation*: Belief that the spirit of the dead could enter a living person.

You may want to explain what the expert says in this scene in simpler words as necessary.

Students will understand the idea of taking pride in their ancestors; this culture probably took the idea farther, thinking they could literally take on the qualities of a great ancestor. The second

idea in this scene is that outsiders could become part of the tribal family through this transfer of spirit. Next, evidence of another kind of ceremony at Mound City.
Go back one scene and select:

5. *Pipes Mound*: Where many broken animal effigy pipes were found in a deposit.

Explain that the pipes might have belonged to dead people; or might have been contributed by the living. Explain that smoking among the Indians was always ceremonial – not just for fun. To them, the smoke from wild tobacco or an herbal mix took their wishes and prayers to the spirits. Talk about the idea of a guardian spirit which is an animal. If students could choose a guardian spirit animal from their region, which would they choose and why? (This could become a writing or drawing project). Point out that Indian stories and family (clan) identities are still connected to animals. Choose:

6. *Turtle Pipe*: A turtle story by a member of the Turtle clan.

Tell students that next they will get to see how the people who built Mound City were living. From the Culture menu, select

7. *A Hopewell Settlement*: Reconstruction of a typical “homestead.”

Here, time permitting, you may allow the children to choose among some of the aspects of daily life featured in the choice page. They can view one to all of these recommendations:

- a. *Textiles*: About the woven cloth the people made.
- b. *Gardening*: What plants were cultivated in small gardens.
- c. *Inside a House*: How people lived indoors and outdoors.

Explain that next you will go visit a very different set of earthworks in Newark. From the “All Sites” menu, select:

8. *Newark Earthworks*: Geometric earthworks covering 4 square miles.

Talk about how Newark is different from Mound City. Look at all the shapes and roadways made of earth! Here is one way they might have been used:

Open the Site Features menu at top of the screen and select:

9. *Processions*: How people might have used the roadways.

Now for a closer look at one of the enclosures in Newark, select from the Site Features menu:

10. *The Octagon*: The extraordinary precisely built octagon of earth walls.

Ask students what they think people might have done inside this huge enclosure. They can check their guesses against information in the next video. Choose from the Culture menu at top of page:

11. *Ceremonial Gatherings*: Possible uses of the great enclosures.

Tell students that while this is all correct, this particular enclosure had another very surprising use. Explain that experts thought the Octagon-Circle combination at Newark might be pointing at something, possibly some spot on the horizon where a star, the sun, or the moon rises or sets. This is called an “alignment.” Here is the story of two professors who went to look for parts of the complex which might point to sunrises or sunsets (solar alignments). Go back one scene, then select:

12. *Architecture of Alignments*: The surprising orientation of the Octagon’s walls.

Review this scene to further explain the meaning of what has been said. The Octagon-Circle turns out to point to the northernmost rising of the moon along the horizon. The moon rises at various points along the eastern horizon in its complicated cycle. The northernmost rising happens only every 18.6 years. It is astonishing that the people kept such perfect track of the moonrises, over generations, in order to build the Octagon to perfectly mark them. You may want to show the scene again after explanation. Then choose:

13. *Moon*: Some meanings of the moon for Eastern Woodlands Indians.

Finally, from the Culture menu select:

14. *Preservation*: Why earthworks need to be preserved

Explain that Indians feel the same; select:

15. *Native Preservation*: A Miami leader explains why preservation is a must.

Related Classroom or At-Home Activities

1. Choose a wild animal (it can be a bird or reptile or fish, too) to think of as your “guardian spirit.” It must be one that lives in the Ohio Valley region. Write a paragraph about why you chose this animal to be your guardian spirit, and draw a picture of it. Think about how close to nature the people were who all had such guardian spirits.
2. Observe a moonrise. You can find one for your area from tables on the Internet, published by the U.S. Naval Observatory, at http://aa.usno.navy.mil/data/docs/RS_OneYear
Notice where the moon rises along the horizon. Write a short description of where the moon rose, using landmarks (roofs, trees, etc.) along the horizon.. Write your impression of the moonrise. Imagine how the earthwork builders felt about their most important moonrise.
3. Investigate the ancient earthwork nearest your home. Visit if you can, and read about it. A good place to begin is with the Internet site www.ohiohistory.org, where state monument earthworks are listed under “places.” For Chillicothe area sites, look at www.nps.gov/hocu, the website of Hopewell Culture National Historic Park. Find answers to these questions:
 - a. How far is the earthwork from my town?
 - b. What did the earthwork look like when it was built?
 - c. How does it look now?
 - d. What was the earthwork used for?
 - e. Who takes care of the earthwork today?
4. Every culture builds memorials. Visit one near you. It might be a grave, a statue, a marker, a building, even a town square. Be ready to explain how it memorializes a person or event. Consider how it is like the earthworks, and how it is different.
5. Mounds and earthworks were built by people carrying basketloads of earth. In a spot where it's permitted, time yourself as you dig enough earth to fill a large strong basket, or a bucket. Try to lift it: how does it feel? Imagine a small mound that might take only 200 bucketfuls of earth. How long would take you to build ? If everyone in your family helped, how long would it take? What does the effort tell you about the people who built the mounds?
6. Consider what your class can do to help others learn about and preserve the ancient earthworks. Share ideas, then pick one and act on it as a group..

TEXTS OF VIDEO NARRATIONS: PROGRAM PATH 4-5

1. The Great Valley

Two thousand years ago, long before the first Europeans settled in North America, rich lands just beyond the Appalachians were home to an extraordinary culture.

Among the tributaries of the Ohio River, Native people created not only mounds, but great temples of timber, earthen enclosures of vast size and precision, and objects of refined artistry – all reflecting the meaning of life in this bountiful region.

Welcome to the Great Valley of the Ohio. Travel these hills and rivers. Explore these earthworks, and discover this amazing ancient culture, now lying almost hidden under our busy modern world.

2. Mound City

This concentration of mounds is unique in the ancient Ohio Valley: Two dozen of them fill a fifteen-acre space, ringed by a low wall. The pioneers called it "Mound City." But to the people who built it, this must have been a place of reverent memory -- like Britain's Westminster Abbey, or the memorials along the Mall in Washington, D.C.

3. Buildings

All these mounds cover the floors and post holes of ceremonial buildings. The patterns show a variety of designs, though most often a rectangle with rounded corners.

Inside, fires burned in shallow clay basins. The ceremonies included the cremation of the dead. Objects were ritually killed to be left with them. The ash and remains were swept up, and placed carefully on the building floor, or on low earthen platforms.

In a final ceremony, each building was taken down or burned, and a mound was built over its remains and contents. While Mound City was in use, visitors would have seen functioning buildings here, and also those already memorialized under mounds.

4. Reincarnation

Why all this attention to the dead? Can we imagine what they were doing in these places, and why?
Doctor James Brown:

I think that it's logical to connect the dead and the ceremonies in some way. And there is a long-standing tradition found in the feast of the dead, and other kinds of ceremonies, for using the bones of the dead, the ancestors, so to speak, to draw off power and to re-create in name, and other ways, some of the powers of those ancestors among the living. So it's a way of validating the condition of the living, their standing, and some of their powers, by reference to the glories and honor of the ancestors--represented in the bones, in the mounds, and in the landscape.

American Indians have a tradition of ritual adoption: a newcomer is made part of the family -- even given the name of a relative who has passed away. Perhaps the ancient ceremonies of burial and mound building also signaled the rebirth of ancestral spirits in the bodies of newfound kin.

5. Pipes Mound

A large bag, left next to this clay basin, was filled with ashes, beads, some copper items, and about two hundred carved effigy pipes, all purposely broken. The pipe bowls portray a variety of animals, carved with accuracy, and great artistry. Three showed human heads.

In accord with American Indian tradition, the figures may portray personal guardian spirits; and deliberately destroying them was a way of releasing their powers.

Yet how would personal pipes end up together in this large collection, very much like another found at the Tremper Mound, forty miles to the south? Were they pilgrimage offerings? Tokens of community? Or were the ancients renewing life, by burying the pipe creatures in the earth, like seeds?

6. Turtle Pipe

The animals shown on the Mound City pipes are traditional figures in Eastern Woodland stories, creatures with their own will and power. Lenape storyteller Annette Ketchum:

The story I want to tell you is about why the turtle is so important to the Lenape people. And that's because, a long time ago, they lived by the ocean, by the big water. And one day, the water started to rise. And it was a large, large flood, it came higher and higher, pretty soon the people were just up to their neck, they just believed they were going to drown for sure. And they didn't know what to do.

And they cried to the Creator. And about that time, a large turtle came up out of the ocean; he says, 'Get on my back, and I will save you.' So all the people got on the turtle's back. And they swam around until the water went down, and then came back up to the shore and let them off. And they said, "Oh, thank you, Turtle. From now on, we will call ourselves Turtle people. And we will be known as the Turtle clan.

And to this day, we are still known as the Turtle Clan. And I'm Turtle Clan, so I especially like that story.

7. A Hopewell Settlement

The builders of the earthworks seem to have lived in tiny settlements like this: just a single extended family would build a house or two, maybe a storage shed. These were loosely clustered near established earthwork sites. For big ceremonies, or during earthwork building projects, there may have been many of these set up close to the earthworks.

It's interesting that "midden," their garbage, is the best evidence we have of settlement patterns and ways of life.

7a. Textiles

Pieces of cloth found under the mounds are remnants of a thriving textile tradition. The Hopewell made many kinds of fabric, from feather-light to rough and heavy, using plant fibers, animal hair, even downy feathers. They were sometimes printed or painted with precise designs that resemble the earthworks. Fibers were collected from wild plants, including common milkweed. Dr. Katherine Jakes, of Ohio State University:

...the outer layer of the plant stem is actually removed in the stripping process and instead we have bundles of very fine white fiber, and they're actually very strong. Some of the plants make really strong, fine, long fibers -- you can strip the fiber bundle across the whole length of the plant stem, six feet long, and these fine, strong, long fibers can be twisted together in some manner to make a yarn, and then the yarn can be used to make the fabric.

7b. Gardening

Squash was just one of several plants the people grew for food. In Hopewell times, they did more and more gardening, and oroled with several familiar species: sunflowers...and seed producing plants we think of as weeds today: goosefoot... sumpweed, knotweed, maygrass and little barley.

They probably cleared small areas for planting, then stored the seeds in pits or caches as insurance against later hunger. When the soil was used up, another plot was cleared; but second growth made the old plots good sources of berries.

All this gardening may have been barely noticeable in the forested landscape; yet these small fields, in various stages of regrowth, may have marked many acres around Hopewell settlements.

7c. Inside a House

Entering this house, it takes a moment to adjust to the darkness. The only light in the smoky interior comes from the hide-covered doorway, the central vent, and the flickering fire.

We know the shape of these houses from postmold patterns left in the ground. Between tall posts, the people wove thin branches, then plastered them with mud and clay to withstand the midwestern winters. They thatched their roofs and smoothed clay on their floors. Along the interior walls, benches were placed for storage, seating, or sleeping. From overhead poles, safe from pests, every kind of possession could hang: blankets, herbs, dried meat, clothing. Pots and baskets held the foodstuffs and equipment needed for daily life: from seeds and nuts, to bone picks to feather whisks.

The fire was for warmth or cooking, though much cooking was also done outdoors in earth ovens. In fact, the people lived more outside than in, using the yard for all kinds of crafts and tasks. But in winter, the warm fire drew families indoors, to hear again the old stories and songs, and to wait for the return of spring.

8. The Newark Earthworks

Newark, Ohio: with its Courthouse Square and leafy streets, this is a typical town of the American heartland. Seventeen centuries ago, this was a center for a very different culture. Here, American Indians built the largest geometric earthwork complex in the world. Enormous enclosures connected by walled roadways were spread across more than four square miles.

This was the most spectacular of many such earthworks, concentrated along the tributaries of the Ohio River, marking the people's beliefs, rituals, and sense of community.

Today only fragments remain, although here at Newark we can still walk among these vast shapes, and feel how they direct our eyes and footsteps.

9. Processions

The whole Newark complex was enclosed by elaborate walls. There seem to be only three entry points, all of them suggesting ceremonial approaches from water. Once inside, the people were channeled from one specialized enclosure to another. Archaeologist Brad Lepper:

So I think you could almost view the elements, the different functionally specialized yet integrated elements of this site as components of a gigantic ritual machine. And movement through that site, you know, would have been a way of power flowing through that; or the people moving through it, the pilgrims, the priests, the shamans, moving through that site, would in some ways be re-enacting some fundamental, cosmological cycles.

Dance and procession on specialized ceremonial grounds remain important features of American Indian rituals today.

10. The Octagon

This octagon and its adjoining circle are the most precise of all the remaining earthworks. They're a half-mile across, perfectly formed, and exactly level. The circle's diameter is one thousand and fifty-four feet, an interval that also perfectly constructs the Octagon.

The walls are just at eye-level, keeping us enclosed, and forming an artificial horizon. Even the gateways are visually blocked by these smaller mounds. Inside this huge, perfect work of geometry, our eyes are drawn across from one point to another, and on to the real horizon beyond.

Poles and banners probably marked the gateways. We can imagine grand processions approaching along these wide roadways.

11. Ceremonial Gatherings

The great earthwork complexes were places to gather. Since there were no large settlements, people must have come from great distances, both to build and to use them. They were probably celebrating events on their calendar, like the movements of the moon, or the harvest; and of course funerals and memorials for the dead, who were considered part of the ongoing community. Wise elders probably laid down judicial decisions, too.

The festivals were also a time for exchanging marriage partners, along with ideas on many subjects. And all such gatherings would have included a lot of feasting, dancing, and gift-giving.

So the huge shapes probably had special meanings, maybe symbolizing the different groups of people who assembled here, or their beliefs about the nature of the world, the earth and the sky, or death and the world of the spirits. They still convey powerful messages, about the earth, the heavens, order, and time.

12. An Architecture of Alignments

Two Professors from Earlham College went looking for astronomical alignments at the Octagon. Ray Hively is an astronomer, and Bob Horn is a philosopher:

Horn: *And so we went out to initially survey the site to find solar alignments.*

Hively: *And one of. . . We looked. . .*

Horn: *And to show how easy it was to find solar alignments.*

Hively: *Yeah, well that was the whole idea. We wanted to show students that we could find solar alignments anywhere we looked for them. So we surveyed the major symmetry axes, we surveyed the lines along the earthen walls, the lines between vertices and mounds, and I thought, well, we'll get a bunch of alignments to the solstice points from this. And the first shocking fact was that, in spite of some claims to the contrary, there were no solar alignments at Newark.*

So since it wasn't the sun, the next thing to try was, of course, the moon:

Hively: *And, uh, that's when I was shocked to find that the major symmetry axes of the circle-octagon combination, as well as 4 of the 8 walls, all align very precisely with extreme rise and set points of the moon, which illustrated very nicely the 18.6 year cycle in the motion of those extreme rise and set points.*

13. Moon

Nipahuma, our mother who goes by night, the first mother, the mother of all mothers, nurtured her children, and then when her purpose was complete she returned to the spirit world; but before she left she told first man and woman that she would never forget them. She continues to watch over us at night as the Moon. The children promised to remember Grandmother Moon whenever she appeared in the sky... --Lenape storyteller Hitakonanu'laxk.

Grandmother Moon holds an important place in the traditions of Eastern Woodland tribes. Her phases mark a lunar month, the basis for a natural calendar; and also the continuity of human life. Delaware Grand Council Chief Linda Poolaw:

But the moon is a woman...we identify her as 'she.' And in some beliefs that...one of the Canadian sisters has taught me that when our people go, our females, and that moon is full, they're dancing around the moon. And that's when we have our ceremony, and we talk to them, and we send them our prayers, so they can take them on to the Creator. But every time I see the full moon, I think about, you know, our ancestors, my mother and all of them, dancing around the moon. And that's a good thought, a good thought.

14. Preservation

In the mid-nineteenth century, the surveyors who made all the excellent drawings of the earthworks, were already regretfully noting their destruction. Squier and Davis, in 1847:

...the leveling hand of public improvement, and most efficient of all, the slow but constant encroachments of agriculture, are fast destroying these monuments of ancient labor, breaking in upon their symmetry and obliterating their outlines. Thousands have already disappeared, or retain but slight and doubtful traces of their former proportions.

What they called "public improvement," we call "development." And it continues to cut and obscure the hills and valleys of the region. Subdivisions, shopping malls, industries, and even schools, are still devouring the land in which the last traces of these ancient cultures slumber. And Ohio is far behind most other states in enacting any preservation laws to stop it.

Archaeologist Bill Dancey:

We are just slowly but surely destroying the archaeology of Ohio. I think the people of Ohio need to wake up to the fact that they have some of the most intriguing archaeological ruins of the entire Midwest, and they are the one state which is in the dark ages as far as historic preservation goes.

15. Native Preservation

Miami tribal official Julie Olds talks about why sites like the Ohio earthworks must be preserved:

Oh, yes. We have to preserve those areas. It's not a should, it's a have-to. And it's a have-to for native people and for non-native people. You know, in modern times, native people are oftentimes angered by the fact that the non-native community doesn't understand, does not have respect for, these things, these ceremonial things, the things of burial, all these things that are very very unique (I guess might be a word we could use) to native peoples, so it's important to preserve those things that teach that public about native people and about themselves really.

We have to preserve those things. It can't be looked at as though, "it's so old it doesn't matter any more," or "there is no tribe that's associated any more" or anything like that, we can't allow that!

As native people we have to step up and really support and demand the preservation and protection of these areas.