Archaeology Activity Guide

Introduction to the Archaeology Museum

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Archaeology Activity Guide:

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Introduction

This activity guide was developed for use in classrooms from the 5th grade on up. It allows students to explore the answers to three key questions:

- What is archaeology?
- What do archaeologists do?
- How did the things we see in a museum come to be there?

Archaeology draws upon knowledge of many disciplines, including geography, biology, art, mathematics, and geology. Because of its multi-disciplinary approach, archaeology is an effective teaching tool in developing critical thinking, problem solving and communication skills, and small group skills. It enhances cooperative learning.

This guide contains three activities that demonstrate principles of archaeology. **These activities prepare students for a visit to an archaeology museum.** The activities provide a context for the students by providing understanding of the how and why things come to be in a museum, and how things are interpreted.

Use these activities **before** a museum visit. Follow-up activities and discussion points are suggested for after the museum visit, to link the experiences in the activities with the experience in the museum. **This guide does not suggest activities to do while at the museum.**

The *Archaeology Activity Guide* provides a concept outline and activity plans for classroom use. Activities may be freely adapted to the age and skill levels of the students involved. The classroom teacher brings to the guide invaluable skills in adapting the presentation of this material to the specific abilities of the students.

The activities are presented in increasing order of conceptual and organizational complexity. **The activities may be used individually, sequentially, or in combination**. The first activity serves as a good conceptual introduction to the second or third. The teacher will bring their expertise in adapting the activities to the specific requirements of their classroom and students.

The chapter for each activity begins with a section of **Key Concepts** that highlight the main points to be learned through the activity. Step-by-step instructions for preparing and conducting the activity follow. An appendix contains project ideas and discussion points to use as a follow-up to the activity and museum visit.

The first activity, *A Pocket Museum*, is a good illustration of some of the issues of interpretation facing archaeologists. It introduces the idea of "artifact" and shows how the way that we interpret an object is influenced by its context. This activity is suggested as an introduction to either *Archaeological Survey* or *A Sandbox Archaeological Site.*

Archaeological Survey is a mapping exercise that uses familiar objects, viewed in a new light, to demonstrate the process of archaeological discovery and interpretation. Like *A Pocket Museum*, this activity requires relatively little teacher preparation time. It can be used in place of *A Sandbox Archaeological Site* if school resources, particularly time, are limited.

A Sandbox Archaeological Site is the most ambitious activity, and provides experience in excavation. Students excavate a mock archaeological site and use their interpretive skills to create a museum of their discoveries. This activity can consume class periods over several days. The sandbox activity is modular in its construction, offering the teacher several options, depending on the amount of time and class resources available.

Each activity requires role-playing by the students, in teams. After each activity, the teams report their results to the class. The report might take the form of a story (or stories) about the people who lived at the site. Base these stories on the objects discovered in the activity.

Acknowledgments

Creation of archaeology teaching materials for use by museums was first suggested to me by Martha Muhs, Coordinator of Public Programs for the Phoebe Hearst Museum of Anthropology, at University of California, Berkeley. The activity guide, in its present form, was created in partial fulfillment of the requirements for the degree of Master of Science in Arts Management at the University of Oregon. Margaret Pillsbury, a retired teacher and education consultant to the Hearst Museum, provided very valuable feedback during the early development of this project. The final draft of the activity guide was reviewed by, and benefited from the comments of two fine elementary school teachers, Fred Wilbur and Arvella Kokkeler. Patricia Krier, at the University of Oregon Museum of Natural History, has been enthusiastic and helpful in her encouragement and advice. Finally, but certainly not least, I want to acknowledge the contributions made by Jane Maitland-Gholson, as my committee Chair, and Rogena Degge, whose advice and guidance have been invaluable.

Eugene, Oregon
May, 1996

Activity

1

A Pocket Museum

This exercise introduces the notion of "artifact" to your students, and gets them to look at objects in the same way that an archaeologist does. The purpose of the activity is to engage the students in the process of analysis. The answers that they come up with are not as important as the questions that they ask.

The activity should take one 45 minute class period.

Key Concepts

What are artifacts?

Artifacts are things made and used by people in an attempt to meet their needs, and then discarded, lost, or intentionally buried.

Artifacts do not tell us anything directly. They are evidence that can provide clues to the past. The archaeologist is a detective, asking questions about the evidence, and trying to piece together the clues to form a complete picture.

How do scientists & scholars learn about earlier human cultures?

The study of written records (history), myths, stories, and legends, and the objects left behind by those cultures.

Who are archaeologists? What do they do?

Archaeologists are scientists that study the objects left behind by people in order to understand their culture. They try to understand what people believed, and how they thought and behaved, by studying the things that they used in their everyday life.

Materials Needed

- Note cards or index cards—at least 1 per student. The students will use these to organize their "data."
- Found objects, selected from the classroom.

The Activity

1. **Discuss the Key Concepts above, briefly, with the class.**
2. **Have the students examine the classroom. Each student should select some small object in the room.**
3. **Have the students gather their objects and bring them to a large empty space (table, floor, whatever) in the room.** We should now have a large collection of diverse and interesting objects. For large classes, you might wish to divide the class into smaller groups of 10 to 15 students.
4. **Have the class pretend that they are archaeologists from another planet visiting earth for the first time.** They have found these objects laying in a field and have brought them back to their spaceship for study. They have never seen anything exactly like these objects on their own planet, although a few things might look familiar.
5. **Working in teams of 2 to 4, the alien archaeologists must try to decide what these objects are, and how (or if) they relate to one another.** Because the objects are very fragile and rare, **they may not be handled.**

Concept: ***Archaeologists begin their analysis of artifacts by trying to organize them in some way.***

You may wish to use the following questions to guide exploration:

- Should some objects be grouped together? Why?
- Can they be grouped by size, shape, color, materials they were made from, similarities and differences?

Concept: ***Archaeologists know that the form (shape) of an object depends on what the object was used for. Similar objects probably had similar functions.***

Objects are compared to known artifacts, as well as historical and contemporary objects.

What were these objects used for? Do the shapes of these objects give us a clue to what they were used for?

- ornaments or jewelry?
- symbols of rank, such as a leader or wealthy person might wear?
- tools – how were they used?
- weapons – how were they used?
- of unknown use?

Why do you think that?

Concept: ***Archaeological sites are formed by a number of processes.*** *What might those processes be (see page 31)? This will be explored in more depth in A Sandbox Archaeological Site.*

How did these objects come to be in the field where they were found?

- Were they thrown away? Lost?
- Left for some reason? What reason?

6. **Students will now organize and manipulate (arrange, rearrange, combine and recombine) the data.** Working in their teams, the students make an index card for each object in the collection. In trying to organize the collection, the students manipulate the cards, not the objects.

In working through the problem, it might be helpful for the students to devise a system of symbols to represent each of the objects. Encourage the students to find other ways to organize and manipulate their data.

Concept: ***Analysis includes interpretation.*** *As we think about the things that we have found, we begin to give meaning to the objects.*

How we understand something is based on ***what we already know.***

7. **If you were going to display these objects in a museum, how would you arrange them?** What would you say about these objects to visitors? What stories do they tell?

8. **The teams should make notes and drawings of their work. The conclusions that they reach can be reported to the class as a story (or stories) about the people who lived at the site where the artifacts were discovered.** The stories should be based on the objects they studied.

Some ideas for **follow-up projects** and post-museum visit **discussion** can be found in the appendix on **page 22.**

Activity

2

Archaeological Survey

This activity uses familiar objects found in the school, viewed in a new way, to explore analysis and interpretation of artifacts in a manner similar to that used by archaeologists and museum curators.

This activity can be done in one 60-minute class period, with the debriefing taking 15–30 minutes on the following day.

Key Concepts

When archaeologists study artifacts, they ask several key questions. These questions will be the basis for an archaeological survey of the school or classroom, and the questions or boldface key words **should be written on the chalkboard.**

Key Questions

- **Where** was the artifact found?
- What other artifacts were found **near** it?
- Are those artifacts **similar or different** from each other? How are they similar or different?
- What clues can we find about how the objects were **used**, and how the people who used them lived day by day?
- What clues can we find as to how the artifacts were **valued** by the people who used them?
- How can the objects be **grouped** together?

? Do any of the ways that the objects can be grouped suggest any **stories** about how the people who used the objects lived?

This activity uses a mapping exercise as the means for exploring these questions. Mapping is also an important skill used by archaeologists. Prior to beginning this activity, students should have familiarity with mapping skills, including the use of grids, and the concept of scale.

Materials Needed

- grid paper
- rulers
- tape measures

The Activity

1. **Review, with the class, the Key Concepts section from Activity 1.**

2. **Divide the class into teams. Each team will survey a specific part of the classroom or school.**

   Option I Classroom Survey: The easiest option is to assign the teams a portion of the classroom to map.

   Option II School Survey: It will be more interesting if teams can be assigned to survey different parts of the school, such as the gym, cafeteria, offices, and so on. Of course, pre-arrangements need to be made with the people who work in those places will be essential.

   Option III Neighborhood Survey: The truly adventurous teacher might take the class out into the community. This assignment might be given as homework for students in the upper grades.

In all cases, the students should pretend that they have never before seen this place, and have never before seen the objects that they discover.

3. **The teams should draw a map showing the location of the objects found in their survey area.** If possible, the students should take representative "sample" objects from the survey area back to the classroom. If they do this, they must make careful notes of where the object was originally located, so that it can be returned.

4. **Using their maps and any notes that they made, the teams analyze their "finds" using the questions written on the chalk board (see page 7).** Do the students see any patterns, and what do these patterns suggest to them about the people who live at the site?

5. **Reporting their results:** Have the students invent a story (or stories) about the people who lived at the site they surveyed. These stories should be based on the objects that were discovered.

Some ideas for **follow-up projects** and post-museum visit **discussion** can be found in the appendix on **page 22**.

Activity

3

A Sandbox Archaeological Site

This activity will provide your students with insights into how archaeological sites are excavated and studied by Archaeologists. It also explores issues of interpretation, and the how and why things are in museums.

PART I

During the excavation phase, students work in teams to uncover the artifacts left behind by an unknown culture. They learn that the material remains of a culture can provide valuable clues for reconstructing a picture of the past.

PART II

The students analyze their finds, and try to come to an understanding of how the objects might have been used by the culture that created them.

PART III

Students continue their work in trying to understand their discoveries by creating a museum exhibit where they offer their interpretation of what they have found.

Materials Needed

- **Artifacts** to be buried, such as
  - pottery, that may be broken during the activity,
  - pottery fragments, trinkets, bric-a-brac,
  - wooden or stone tools small baskets, ornaments, bones.

These artifacts can be created by the students as part of an art class project. You may wish to have them recreate artifacts of a specific culture studied in social studies class.

- **Excavation Team Task Cards** for each member of the excavation team (see page 25 for master forms that you may duplicate).
- **dirt, gravel, sand, mulch, peat moss, or leaves** to form the layers (strata) of the site. The site is constructed by alternating layers of dirt, etc., and artifacts. Dirt of various consistencies and colors will add verisimilitude, and will make identifying the various layers easier when the students dig down through them. Separating layers of dirt with leaves, grass clippings, etc., can achieve the same effect. Note that the leaves and other biological material constitute a layer of excavation.
- **containers to hold the artifacts and dirt for the archaeological site.** A single large site to be used by the entire class can be created, or you might create smaller sites for individual teams. Smaller sites are more manageable, but large sites involve a greater degree of teamwork and greater "realism."

Large Site Option

Creating a single large site (or 2 sites for a large class) requires a wading pool, appliance box, or some similar large container. Refer to the table on the next page for size guidelines.

- Each student team (2 to 3 people) will excavate a square ranging from 1′x1′ to 2′x2′.

# of Students	# of Squares (teams)	Minimum Site Size
13-15*	5	2′ x 3′
16-18	6	2′ x 3′
19-21	7	2′ x 4′
22-24	8	2′ x 4′
25-27	9	2′ x 5′
28-30	10	2′ x 5′
31-33	11	2′ x 6′
34-36	12	2′ x 6′
37-39	13	2′ x 7′

Small Site Option

Smaller single sites may be created, one for each team. A shoe box is too small. A cardboard box, of 18 to 24 square inches, is ideal. Have the teams obtain their own boxes from local stores.

- tools
  - trowels and tablespoons for excavation.
  - toothbrushes for artifact cleaning.
  - sifter for sieving dirt.
  - trays to store recovered artifacts.
  - string and yardsticks or rulers for grid and measurement.
  - Buckets, bags, or tubs—somplace to store the excavated dirt.

Time requirements: three 30 - 60 minute class periods.

* Most classes will not be evenly divisible by 3. In that case, you will have one or two teams of 2 persons. Combine the jobs of the map maker and curator.

This activity can be combined with other curricular areas, such as math (grids and scale), art, and writing. If time is a concern, a single layer of excavation may be used.

Part I Preparation: Creating the Site

Students will be assigned to excavate a particular square in the large site, or a particular box if using smaller, individual sites. Although in a "real world" situation some or even many squares might not contain artifacts, for our purposes care should be taken that some artifacts will be found in each square. (Please see *Cultural Formation Processes* on page 31, for notes how things become buried.)

Option I: teacher created site

In this option, the teacher, perhaps with the help of parents, creates the site. Most of the site is created outside of class time, with the last few artifacts and final layer of dirt added in class, as part of a discussion of how archaeological sites are formed.

THE RECIPE

Think of this as similar to making lasagna or a layer cake.

1. **Place a layer of dirt at the bottom of the site box**.

2. **Scatter various artifacts randomly over the first layer**. Use just enough pieces that each grid section will have one artifact.

3. For our purposes here, artifacts that are simpler in form or function should be placed in the lower layers, with complexity increasing as we move up the layers. The lowest layers are the oldest deposits, with each

subsequent layer representing a relatively more recent society.*

4. **Cover the artifacts with another layer of dirt, leaves, etc.** This layer should be of different composition or color from the layer beneath it so that students can easily distinguish them.

5. **Place another layer of artifacts, and cover it with dirt.** Repeat this process to create additional layers. The number of layers you create will depend on the amount of time available to the class for excavation. Make at least two layers of artifacts

6. **Cover the last layer of artifacts** with dirt, leaves, etc.

OPTION II: STUDENTS CREATE THE SITE

This option can be a very exciting extension to the activity, that allows integration of the activity with a unit studying an another culture, and with activities in other classes, such as art. In this option, **students create a site to be excavated by another team.** This option works particularly well when using several small sites.

Prior to setting up the excavation, students might create tools, art, or other things similar to that used by the culture they are studying. This can be the basis for discussion of how those people used their tools, and why they might have created their art or what the meaning of the art might be.

As part of the creation of the excavation site, students could role-play living at that site, using the tools, etc. Objects would be lost,

* We are assuming, in this activity, that each culture occupying the site was more "advanced" or complex that the preceding culture, and thus produced more complex artifacts.

thrown away, and re-used for other things. (See Appendix on page 31 for more information on site formation.)

The student-created sites will follow the same basic recipe as the teacher created site (page 13).

Part I Activity: The Dig

Key Concepts

Discuss the following with the class. If you have already done activities 1 and 2, then this discussion need only be a brief review. **Refer to *Key Concepts* on page 3.**

Who are archaeologists? What do they do?

Archaeologists are scientists that study the objects left behind by people in order to understand their culture. They try to understand what people believed and how they thought and behaved by studying the things that they used in their everyday life.

Since most of the things left behind by people in the past have become buried, archaeologists must dig them up to study them. Where artifacts were buried and how they became buried give archaeologists important clues to the past.

What is an archaeological site?

An archaeological site is a place that has the material remains of a human culture.

For an optional discussion of how an archaeological site is discovered, see *Archaeological Sites* on page 35.

The students will form teams of 2 or 3 people to excavate their newly discovered archaeological sites. Discuss the roles of the excavation team members with the class. (You may elect to have team members change roles with each layer of the dig so that

everyone has a chance to experience each task. This will require 3 layers of excavation.)

MAP MAKER

The map maker is responsible for drawing a map of the site, and recording on the map the location of each object the team finds. Each layer will have its own map.

EXCAVATOR

The excavator carefully removes dirt until an object is uncovered. The excavator must take particular care to remove dirt **one layer at a time**. The excavator also sifts through the dirt so that tiny fragments are not lost.

CURATOR

The curator cleans the objects, numbers them, and groups similar objects together. The curator works with the map maker to keep the records of the dig. The curator is responsible for safely storing the objects.

Cooperation between teams

It is perhaps inevitable that a certain competitiveness may develop. Teams will need to work together at the borders of their squares so as not to "damage" the adjacent dig. Artifacts do not respect borders. It may be quite common that an artifact will overlap two or more squares. That fact needs to be recorded on all affected maps, but the artifact must become the responsibility of one curator. Develop with the class some strategies for handling these problems.

The Activity

1. **Pass out Excavation Team Task Cards to each team**. Each team should be given a unique identifier: a name, number, letter, etc.

2. **Large site option:** Mark off each site into equal sections using string. Number or name the sections, and assign a section to each team.

3. **The dig begins.** Buckets, bags, or tubs should be handy to store the excavated dirt. It is a good idea to review the following steps with the students before turning them loose. (This information is on their task cards in abbreviated form.)

   - **The map maker makes a map of the site they are excavating.** The map need only be of the section that a team is working on. A master map of the entire site will be constructed by the class, later.

   - The excavators use their spoons to **remove the first layer of dirt.** By digging downward slowly, and across the layer, they will be **careful** not to dig below the first layer.

   - Excavators may use a kitchen sieve for each spoonful of dirt to make certain no small objects slip by.

   - When an object is found, care must be taken not to damage it, so the excavator should use a brush to brush away remaining dirt covering the object. **When an object is uncovered, the map maker and curator are called in.**

   - **The map maker determines the location of the object by measuring from the string grid lines, or from the edge of the box.** The map maker then draws the object on their map in its correct location. (Note: the precision expected here will depend on the mapping skills of the students. Younger students might simply place the object in its approximate location.) The map maker need not draw an exact picture of an object. Symbols can be used.

   - **The curator assigns a number to the object, and keeps a written record describing the object.** The curator

carefully removes the object, cleans it with a brush, and numbers each one.

- **This process repeats until all the dirt from the first layer is removed**. You will know when you have reached the next layer when the color or consistency of the dirt changes.

- Team members may now switch roles and continue through the next layer. **A different map should be kept for each layer, and the curator must make careful note of which layer an object came from**.

4. **Once a team has completed their excavation, they should clean up excess soil and put away their tools and artifacts.** (If two teams finish early they may want to compare their finds.) Explain that in the next session the class will discuss what has been found at the dig sites.

Part II: Understanding What We Have Found

Materials Needed

- Large maps of each dig site. This can be a large sheet of paper with a rectangle and grid drawn on it. The rectangle grid should be in scale with the dig site. For clarity, a separate map should be used for each layer of excavation.

(Suggestion: preparing these maps could be an activity for a math class.)

Role Playing

Map makers draw the locations of their team's artifacts on the large site maps.

Curators bring out their collection of artifacts, keeping artifacts from different layers separated. Each layer represents a particular culture or time period.

Using the maps and actual materials, have the students discuss and explore the following questions. (Students should write their observations and interpretations on the chalkboard.)

- ? How are the artifacts alike, and how are they different?
- ? What are all of the possible ways that the artifacts might be grouped? (Note that artifacts are <u>already</u> grouped by layer.)
  - location
  - where it was found
  - relationship to other objects
  - size
  - shape
  - color
  - possible function
  - as pieces of a larger object

- Do any of the groupings suggest how the artifacts might have been used, or how they were valued by the people who used them?
- Do any of the groupings suggest any stories about how the people lived who used the objects?
- Is there anything that we use today that is similar to any of the recovered objects? Does that give us any clues to how the people who used the objects might have lived?
- What can we learn by comparing artifacts found on different layers?
- Was it difficult telling one layer from another?
- Do you think any objects from one layer might have been mixed in with another layer?
- Which artifacts are older?

Have the students individually focus on a single artifact or group of artifacts, and prepare a report on it. The report should include a visual component such as a picture of how people might have used the artifact, or drawings comparing similar artifacts. These reports might be presented to the class, or compiled into a booklet about the dig.

Part III: Creating an Exhibition

In this session, students will create an exhibit of the objects they have discovered in their dig. This exhibition can have several facets, and the teacher should select those activities best suited to the skills, interests, and time available to the students.

Restoration

As an art class project, some of the pottery fragments can be pieced together to reconstruct the original pot.

Exhibit Design

Option I

The students construct a "story" about the culture they have excavated. This does not need to be anything elaborate, but can simply be about how the objects relate to one another, or how they might have been used in everyday life. They then select those objects that best illustrate the story. (Not all objects excavated have to be displayed.)

Option II

The students may wish to display all objects arranged in one of the groupings they discussed in Part III.

Option III

The students may wish to display only certain types of objects, such as only pottery pieces, or only stone tools.

The students arrange their selected objects in the classroom exhibit space. They make index card "labels" to be placed with the objects. The cards might include explanations of what the objects are, or why we see them arranged as they are.

Public Programs

Museums often present other activities to accompany their exhibits. The students might create skits, lectures, demonstrations, or booklets related to their exhibit. **This could be a great Parent's Night activity, or something to share with other classrooms!**

Appendix

1

Follow-up Projects

This section contains project suggestions that can be used to link the activities with other curriculum areas, and to assist in making the connection between the activities and the museum visit. These projects can be used after the activity or after the museum visit.

After the activity . . .

Have the students tell stories based on what they discovered in the activity. The stories might take the form of:

A creative writing assignment.

An art project showing how the discovered objects were used.

A dramatic presentation.

An exhibit of the objects found in the activity (see *A Sandbox Archaeological Site* on page 21 for some ideas).

(for Activity 2 or 3) A mapping exercise for math class.

After the museum visit . . .

Discuss with the students some of the artifacts they most enjoyed seeing during their trip to the museum. Things they should consider include:

If Activity 1 was used:

1. How were objects grouped together in the displays?
   - By the way they had been used?
   - By what they were made from?
   - By size or shape?
2. What story was told by the way the objects were grouped? *(Teacher's note: A "story" is not always discernible in a museum exhibit.)*
3. Could the objects have been grouped differently? How would this have changed their story?

If Activity 2 was used:

Discuss with the students some of the artifacts they most enjoyed seeing during their trip to the museum. Use these questions as the basis for your discussion:

Key Questions

- **Where** was the artifact found?
- What other artifacts were found **near** it?
- Are those artifacts **similar or different** from each other? How are they similar or different?
- What clues can we find about how the objects were **used**, and how the people who used them lived day by day?
- What clues can we find as to how the artifacts were **valued** by the people who used them?
- How can the objects be **grouped** together?
- Do any of the ways that the objects can be grouped suggest any **stories** about how the people who used the objects lived?

If Activity 3 was used:

Have the students compare the "museum" they created with what they experienced on their field trip.

Cultural Stewardship

As you debrief the activity with your students, several important points should be discussed:

Discussion Point

1. The students should now understand of the complexity of, and precision needed in conducting an archaeological dig. Emphasize that archaeologists are scientists with many years of training. Amateurs digging up a real archaeological site can accidentally destroy important information, and **it is against the law to excavate many archaeological sites without a permit**.

Discussion Question

2. You are an archaeologist and you have uncovered a human burial site. What should you do?
   - Re-cover the site with dirt and leave it undisturbed.
   - Make careful records (photos, maps, etc.) of the burial, and then remove the bones and graves good for study and display in a museum.
   - re-cover it.
   - Remove the bones and grave goods (objects buried with the body) for study in a lab, then rebury everything when you are done studying them.
     - Would you rebury them in the same site or find a new site? What if the site was in the way of a new hospital?

Discussion Question

3. Pretend that you have uncovered a Native American burial site? You think that you know which tribe the burial is from.
   - Should you try to contact living members of that tribe for permission to dig up and study the remains?
   - What if you are not sure who performed the burial?

Discussion Question

4. Would your answers to these questions be the same if the burial sight belonged to your ancestors?

Excavation Team Task Cards

These pages may be duplicated and distributed to the excavation teams. They provide checklists of team tasks and the forms needed for record keeping.

Appendix 2

Team number _____

EXCAVATOR

Use your spoon to **remove the first layer of dirt.** Dig downward slowly, and across the layer. Be **careful** not to dig below the first layer.

Use a sieve for each spoonful of dirt to make certain no small objects slip by.

When an object is found, take care not to damage it. Use a brush to brush away remaining dirt covering the object. When an object is uncovered, the map maker and curator are called in.

When all of the dirt and artifacts from the first layer have been removed, begin work on the next layer.

Team number _____

MAP MAKER

Make a scale map of the excavation site. Make a new map for each layer that is excavated.

When an object is found:

- Measure its distance from the top, bottom, and sides of the section that your team is excavating.
- Mark the location of the object on your map. You may draw a picture of the object, or use a symbol. All objects of the same type should have the same symbol.
- Write the number of the object next to the picture or symbol. (Get the number from the Curator.)

Team number _____

CURATOR

When an object is uncovered:

- Assign a number to the object (begin with 1).
- Keep a written record describing the object. Use the form below.
- When the Excavator is done removing the dirt, carefully remove the object.
- Clean it with a brush.
- Write the object number on it with a marking pen.
- Record information about the object.
- Store the object on the tray provided by the teacher.

Team number _____

Artifact Inventory

Number	Layer	What does it look like?
1		

Appendix

3

Student Vocabulary List

archaeology	The study of objects left behind by people. Archaeologists try to understand what people believed and how they thought by studying the things that they used in their everyday life.
artifact	A thing that is made and used by people in an attempt to meet their needs, and then discarded.
cache	A hiding place for food, tools, treasures, etc.
culture	A set of learned beliefs, values, and behaviors that enables people to adapt to social and natural environments.
data	Items of information.
grave goods	Artifacts found buried with human remains. These objects may be things cherished by the deceased, or things intended for use by the deceased in the afterlife, or to protect the deceased.
salvor	Someone who helps in the salvage of a ship and its cargo.
site	An archaeological site is a place that has the material remains of a human culture.
strata	Strata is the plural form of **stratum**. Strata are layers of material, naturally or artificially formed. A chocolate layer cake has strata created by layers of cake and frosting.
stratification	Stratification is the process of creating layers of material using geological as well as human, animal, and other biological remains.

Appendix

4

Concept Outline

This outline is provided for the teacher's use. It can serve as the basis for classroom discussion, and as a resource for answers to students' questions.

Archaeology

What is Archaeology? Archaeology is the study of how people lived in the past by studying the things they left behind.

What do Archaeologists do? Archaeologists try to understand a group's behavior, technology, beliefs, and values by analyzing their material and biological remains.

Why is Archaeology important to us? It helps us to understand our own time and place in human history.

What is culture? Culture is a set of learned beliefs, values, and behaviors that enable people to adapt to social and natural environments. Not only does culture enable people to change their environment, culture itself responds to changes in the environment. Culture changes constantly, reacting to, and influencing, a variety of forces.

What are artifacts? Artifacts are produced by cultures. Artifacts are the primary clues archaeologists have in unraveling the mysteries of the past: social standing, trading patterns, hunting and butchering techniques.

Artifacts are the key

Artifacts are linked to behavior

Where things are found, and what other things they are associated with, provide clues to how people lived.

- Studying tools tells us how people worked.
- Studying animal bones and plant remains tells us what people ate.
- Studying grave goods tells us about their beliefs and values.

Key Questions

- ? Where was the artifact found?
- ? What other artifacts were found near it?
- ? Are those artifacts similar or different from each other? How are they similar or different?
- ? What clues can we find about how the objects were used, and how the people who used them lived day by day?
- ? What clues can we find as to how the artifacts were valued by the people who used them?
- ? How can the objects be grouped together?
- ? Do any of the ways that the objects can be grouped suggest any stories about how the people who used the objects lived?

The Archaeological Record: How Sites are Formed

THE CULTURAL FORMATION PROCESS

Archaeological sites are formed by "cultural processes," i.e., the things people do as they live their lives.

Artifacts have a life-cycle

1. Obtaining the raw materials: mining, food gathering, kill sites

2. The artifact is manufactured, such as a tool, or prepared for use, such as food, hides, etc. Stylistic and utilitarian factors combine in shaping the artifact. For instance, the way a tool will be used combines with social and ideological factors to determine it's ultimate form. A knife used in rituals, or worn by a leader as a sign of status, might have a different shape and more decoration than a knife used by a hunter.

3. The artifact is used. The way it is used will be reflected in wear, breakage, rarity, and association with other artifacts.

4. The artifact is worn out, re-used as something else, or thrown away. This is the point at which the archaeological record is created.

Human activities modify the archaeological record

Re-use or recycling involves making the object into a new product. This can happen when an item is not longer fit for its intended use, or when an object that has been discarded is found and re-used.

How do artifacts become part of the archaeological record? Cultural processes include cache, burial, loss, and abandonment. (See *How do artifacts become "buried?"* on page 35.)

THE ENVIRONMENTAL FORMATION PROCESS

Environmental processes cause the artifacts to become covered with dirt and debris. Note that cultural and environmental processes work together to create an archaeological site.

BIOLOGICAL AGENTS	PHYSICAL AGENTS
plants	**wind**
animals (people)	**water**
bacteria	**earth movement**
	glaciation

Stratification and the Law of Superposition

Later deposits are usually found on top of earlier ones.

Types of Archaeological Research

The goal of research is explanation. The archaeologist attempts to answer questions about what happened in the past, when it happened, where it happened, how it happened, and why it happened.

1. Research excavation – hypothesis testing.
2. Rescue excavation – sites threatened with destruction.
3. Salvage excavation – destruction of site has already begun.

Statement of hypothesis

The hypothesis is the question that you want the research to answer.

The Steps in Archaeological Research

1. Look for answers to questions.

- study existing collections of artifacts.
- oral history.
- library research.
- ethnoarchaeology – talk to members or descendants of the culture you are studying.
- testing. For instance, make stone tools using different methods and examine the resulting tools for similarities and differences with ancient tools. This can provide insight into how the old tools might originally have been made.
- excavation. Look for artifacts and other evidence of a culture.

2. Decide how to proceed.

Can the questions be answered by studying a collection, or reading in the library, or must a site be excavated? In an excavation, a plan must be made as to how the dig will be carried out.

3. Find an archaeological site.

Clues to archaeological sites can be found in a number of places and a number of ways:

- finding exposed artifacts laying on the ground or under water.
- unusual geographic features, such as mounds, depressions, or geometric features like concentric circles.
- roads or trails that come together at a particular spot.
- finding ruins or abandoned structures.
- clues from old maps or historic documents, legends, myths, stories.
- the presence of other archaeological sites nearby.
    - site survey – Usually there are neither the time nor resources to completely excavate a site, so the archaeologist must decide here the best places to dig might be.

4. Gather data.

- testing.
- excavation.
- recording: drawn, photographed, written.

5. Process and analyze artifacts

Artifact processing can include things such as cleaning, restoration (putting pieces back together), and cataloging.

When artifacts are analyzed, comparisons with artifacts similar in form, function, or place where they were found, may be made. The artifacts are analyzed in an attempt to understand the people who made or used them.

Analogy

The archaeologist relies greatly on analogy, which presumes that if two classes of phenomena are alike in one respect, they may be alike in other respects as well. The archaeologist often analogizes by comparing similar phenomena documented in living human societies, as well as with other archaeological discoveries

Two types of analogy are employed.

General analogy compares documented phenomena across many cultures, such as the suggestion that bones found in a pit are the result of human burial.

Specific analogy makes comparisons within a cultural tradition over a period of time. This is problematic because it assumes that nothing new has been learned. When using specific analogy three conditions must be satisfied:

1. the degree of continuity between the prehistoric and historic society used for the analogy,
2. existence within a comparable environment,
3. and existence of similar cultural forms having the same degree of overall cultural complexity.

Archaeological Sites

How is a site discovered?

- finding exposed artifacts laying on the ground or under water.
- unusual geographic features, such as mounds, depressions, or geometric features like concentric circles.
- roads or trails that come together at a particular spot.
- finding ruins or abandoned structures.
- clues from old maps or historic documents, legends, myths, stories.
- the presence of other archaeological sites nearby.

How do artifacts become "buried?" Cultural processes include:

- **cache** Something is buried for storage and then forgotten.
- **burial** Grave goods are included in a burial as part of the culture's mythology, or an indication of respect or status of the deceased.
- **loss**
- **abandoned** Something is broken or worn out and thrown away.

- Environmental processes cause the artifacts to become covered with dirt and debris.

Note that cultural and environmental processes work together to create an archaeological site.

Stewardship of Cultural Resources

1. The past is a shared heritage that is valued by different people for different reasons.
    - Societies have different approaches to ownership of the past.
        - Some people think that indigenous people are entitled to control or possess their own heritage.
        - Others place the value of mankind's common heritage above the interests of individual cultures.
    - Cultural property contributes to knowledge.
        - It forms part of a particular people's heritage and a part of the heritage of all people.
        - As a part of mankind's heritage it contributes to mutual understanding between nations
        - Cultural property is significant to the development and preservation of a people's identity.
2. Cultural resources provide us with a perspective on own time and place, and an understanding of cultural diversity.
3. Cultural and social trends partially define cultural resource issues. Contemporary issues include:
    - the rapidly changing nature of science and its applicability to archaeology.
    - Native American concerns.
    - sensitivity toward the treatment of human skeletal remains.
    - growing avocational (amateur) interest in the discipline.
    - curation of artifacts and samples.
    - trafficking in antiquities.
4. Cultural resources are subject to many destructive forces, human and natural.

5. Cultural resources can be protected and managed for a variety of uses.
6. Wise management depends on a broad knowledge of the resources that are present and an awareness of the questions that the past can help to answer.
7. Everyone can be involved in conserving and managing cultural resources, based on their values and behavior.
8. Individuals have an obligation to weigh the consequences and impact of their actions on the irreplaceable evidence of past cultures.

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Bibliography

Resources for Young Readers

The following books, and many others, are available at the Eugene Public Library. They are listed here only as additional resources. The teacher should first review these books before recommending them to students.

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