Pre-Visit Materials

The Kipper Family Archaeology Discovery Center of The Oriental Institute
1155 E. 58th Street, Chicago, IL 60637
773-702-9507
http://oi.uchicago.edu
Hi! Welcome to the Archaeology Discovery Center of the Oriental Institute. I'm Geoff Emberling, Museum Director and Field Archaeologist. Inside this guide you'll discover what makes archaeology such an exciting science!

**Inside you'll find...**

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**To share with students:**

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**For teachers:**

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**LOCATION:** The Oriental Institute is located at 1155 E. 58th Street, Chicago, Illinois.

**NAME TAGS:** Every visitor must wear a name tag. Please provide these to your students on the bus. Using first names is sufficient.

**ARRIVAL:** Please refer to your confirmation sheet as to how to divide your group prior to your arrival. Staff from the Archaeology Discovery Center will greet your group in the main lobby. The Discovery Center and Museum are accessible to people with disabilities. Please let staff know of special needs in advance of your visit.

**CLOTHING:** Because you will be digging in sand, all visitors, including adults, should wear comfortable clothes. Long pants and rubber-soled shoes are required. Dresses, short skirts, leather-soled shoes and high heels are not appropriate.

**CHAPERONES:** You must provide one adult for every ten children.

**CAMERAS:** Photography, including flash, is allowed - but no tripods please.

**RULES:** Food, gum, candy and beverages are not allowed in the Archaeology Discovery Center or Museum.
Let me tell you a little about the special place you'll be visiting and about your museum tour and tel experience.

The Oriental Institute was founded in 1919 by the man in the middle of this picture, an Egyptologist named James Henry Breasted.

The goal of the Oriental Institute is to understand all we can about the ancient civilizations of the Near East...Egypt, Anatolia, Mesopotamia, Persia, Nubia, and Israel.

The Oriental Institute is one of the leading centers in the world that combines archaeology of the Middle East and the study of ancient written records as a way to understand the past.

For 99% of the human past there weren't any written records, so the only way we can know about people and civilizations is to dig up the remains they left behind. These remains - burials, temples, houses, even garbage - can tell us an incredible amount about people's lives and the development of cities and civilizations.

Today the Oriental Institute still runs seven or more archaeological excavations in the Middle East and conducts research here in Chicago.

During your visit to the Oriental Institute and its museum you will become an archaeologist as you tour the galleries and dig in the tel...

You will explore the science of archaeology and stratigraphy, the themes of agriculture, technology, writing, belief systems, trade, cultural interactions, conquest, and how everything changes over the course of time.
You'll be digging at a site that dates from 14,000 B.C. to 165 B.C., back to the time of ancient Israel. Can you find Israel on the map?
ARCHAEOLOGISTS DECIDE WHERE TO DIG BY USING A NUMBER OF DIFFERENT METHODS.

WE ARE LIKE DETECTIVES ... SOMETIMES WE DISCOVER NEW DIG SITES BY WALKING AROUND AN AREA, LOOKING CAREFULLY FOR CLUES. WE SEARCH FOR FRAGMENTS OF POTTERY, CALLED SHERDS, Lying on the ground.

THE SHAPE OF THE LAND TELLS A STORY TOO. HIGH MOUNDS OF EARTH, CALLED TELLS, RISE OUT OF THE FLAT LANDSCAPE. THE PRESENCE OF TELLS ARE SIGNS THAT SAY ANCIENT VILLAGES AND TOWNS MAY BE HIDDEN UNDER THE SOIL!

OFTEN, GRASS AND WEEDS OFFER GOOD CLUES TOO. THEY WITHER MORE EASILY IF THEIR ROOTS ARE SHALLOW...THAT MEANS THEIR ROOTS MIGHT BE COVERING RUINS!

WE CAN EXAMINE THE TOPOGRAPHY OF THE LAND BY FLYING OVER THE SITE IN AN AIRPLANE. WE ALSO MAP SITES AND MOUNDS WITH SURVEY INSTRUMENTS CALLED TOTAL STATIONS OR THEODOLITES.

GROUND PENETRATING RADAR CAN SHOW ARTIFACTS BURIED DEEP IN THE EARTH. OLD BUILDING RUINS MAY ALSO INDICATE THAT THERE ARE ARTIFACTS BENEATH THE SURFACE.

INFRARED PHOTOGRAPHY DETECTS TEMPERATURE CHANGES IN THE GROUND THAT MIGHT REVEAL RUINS. SATELLITE PHOTOGRAPHS ALSO HELP FIND ANCIENT SETTLEMENTS.

ONCE A DIG SITE IS FOUND, WORKERS MIGHT BEGIN DIGGING TEST TRENCHES OR A STEP TRENCH TO DETERMINE IF THE SITE IS WORTH THE TIME TO EXCAVATE.
Before you dig, let's discuss tels and stratigraphy.

A tel is a mound. It is created over time by the accumulation of layers of silt, soil, or other material. The existence of a tel means that humans may have settled in that spot. Tels typically contain artifacts and remains of human habitation.

Tels develop over long periods of time as a community goes through a process of destruction (by invasions, floods, or fire) and renewal (by rebuilding). Time passes and successive communities are built and destroyed, one atop another in layers, as newer settlements build upon older ones.

The different layers of a tel are called strata. Each stratum represents a culture at a different point in time. Artifacts found near the top of a tel are usually younger than artifacts that are found at the bottom of the tel.

Sometimes a step trench is dug into the side of the tel, creating a cross section or profile of the different strata.

The most important feature we have to help us date what we find is the stratigraphy of a site — the arrangement or sequence of the layers that we dig through. Pottery styles are key to establishing a stratigraphy and a way of dating a site. By studying the shape and style of potsherds, we can date pots just as we date cars and clothing styles. Written records, such as clay tablets, can also help us date a site with more precision.
What Do We Find On a Dig?

Here are some examples of artifacts you might find on your dig!

On one dig in Turkey, we found kitchen cooking pots and serving vessels thousands of years old! We also found a mortar and pestle, a flint and scraper, and a basalt grinding stone.

This Byzantine coin is from the 11th century AD. Finding pottery and coins tells us a lot about how people lived. Discovering foreign currency could tell us who traded with whom.

Here are some examples of artifacts you might find on your dig!

Bones, bones, bones! We are always finding animal bones...and human remains. Here we are examining a number of the bones we have found!

Here's an interesting photograph of an ancient burial. Are you able to find the group of bones that lie directly above the round skull? If you look very carefully, right above the man's skull, you will see another small skeleton and backbone near the top of this photograph... these are the remains of this man's best friend!

This man liked his pet dog so much that he was buried with it!

Both the man and his dog have been buried here with their belongings (notice the pottery) since 1800 B.C.

Art tells us a lot about a culture...what people looked like, what they did, believed in and more. This figurine of a Persian rider dates back to the 5th century B.C. What other type of art might you find on a dig, and what could it tell you about the culture that made it?

People long ago wore jewelry just like we do today. This silver Persian bracelet with a deer-head design on each end dates back to 500-400 B.C. This artifact tells us how people may have dressed and what materials they used everyday.

This little pot was a source of light in the ancient world. It's an oil lamp from the Hellenistic era. To use it, ancient peoples poured oil into the center and laid a wick into the small opening on the left. Light the wick, and you have light!
I'm a pick ax. Geoff uses me to loosen the soil when he digs.

We're shovels! Geoff uses us first to help remove the topsoil.

We're Geoff's clean-up crew. We scrape away the debris and soil that surrounds artifacts.

Hi! I'm a trowel!

I'm a whiskbroom!

I located my excavation site using my Global Positioning System or GPS device. Now my workers and I will use different tools to dig in the soil.

I'm a pick ax. He uses me to loosen the soil when he digs.

Don't forget about us! We are the special tools that are used to clean the tiny bits of soil and debris away from artifacts.
Hi! I'm a wheelbarrow and I help the workers haul the dirt away after it has been sifted.

I'm a screen! Workers use me to filter the soil so that they can find small pieces of pottery called sherds as well as things like seeds.

Look at all of the tiny objects I've found!

I'm a meter-long photo scale. Geoff uses me to show how large the features he finds are.

Hi! I'm a wheelbarrow and I help the workers haul the dirt away after it has been sifted.

I'm a meter-long photo scale. Geoff uses me to show how large the features he finds are.
Let me tell you what happens to an artifact once it's unearthed.

I analyze each group of artifacts by where and how they were found in the site and their positions in relationship to one another.

Artifact fragments are pieced together by a conservator who takes care of artifacts, or a "formatori" who pieces broken artifacts together.

I also examine each artifact carefully to see how it has changed and developed technically and artistically over time. As I analyze each group of artifacts, they may show me a relationship to other archaeological sites. For example, the same style of pot that shows up at surrounding sites might tell me one of several things...1) That the people living at those sites lived around the same time. 2) That they worked in the same manner (with clay, metal, cloth, etc.) 3) That they traded the goods they created with one another.

Artifacts are dated and coded with a tiny number. This code number is recorded into a catalog.

Finally, at the close of the dig season, I publish the records in a catalog. It is illustrated with drawings and photographs so that other scientists can use this information for their own research.

In order for me to analyze each artifact we find, workers put them into boxes or buckets and label each one with all of the details as to where it was found and what was found next to it.
AERIAL PHOTOGRAPHY: Aerial photography involves taking photographs of the ground from an elevated position or platform. Types of platforms include fixed-wing aircraft, helicopters, balloons, blimps and dirigibles, rockets, kites, poles and parachutes.

ARCHITECTURE: The style or method used when constructing buildings.

ARCHAEOLOGY: The study of the human past through its material remains, such as writing samples, dwellings, and a variety of artifacts (pottery, tools, jewelry, etc.).

ARCHAEOLOGIST: A person involved in the systematic recovery and study of tools, graves, buildings, pottery, or other remains of past human life and culture. Archaeologists keep records of their finds and interpret the evidence they collect.

ARTIFACT: Any portable object made, changed, or used in some way by people. An artifact provides evidence that humans have been present and have altered their environment. A clay pot, a comic book, and an iron spearhead are all artifacts.

BALK: The wall of a square being excavated.

CATALOG: To clean, number, organize, and store artifacts for study.

CHRONOLOGY: 1. The determination of dates and the sequence of events. 2. The arrangement of events in time. 3. A list or table of dates and events.

CONSERVATOR: A person whose job it is to take care of and repair artifacts and artworks.

CULTURE: All the behavior patterns, beliefs, arts, institutions, and other products of human work and thought characteristic of a community or population.

DEBRIS: The scattered remains of something that is broken and in ruins.

DIG: A place where archaeologists work to find artifacts and features by digging and revealing them.

DATING: Procedures used to determine the approximate date that an artifact was used or when it was buried.

EXCAVATE: To remove or uncover by digging or hollowing out.

EXCAVATION UNIT: A section of a site designated for excavation.

FIELD SUPERVISOR: A person who oversees an excavation.

GLOBAL POSITIONING SYSTEM (GPS): GPS uses satellite technology to enable a navigation receiver to determine its position on the Earth in latitude and longitude. GPS receivers do this by measuring the signals from three or more satellites simultaneously and determining their position using the timing of these signals.

GROUND PENETRATING RADAR (GPR): Radar signals that detect underground features.

INFRARED PHOTOGRAPHY: A type of photography that detects temperature changes caused by buried features.

ISRAEL: A country in the Middle East. Israel is 21,501 square kilometers (8,302 square miles) in size. Its borders are Lebanon to the North, Syria and the Jordan River to the East, Egypt and the Mediterranean Sea to the West. This is the area within which the Tel excavation experience at the archaeology discovery center of the Oriental Institute takes place.
**LOCUS:** Location where artifacts are found.

**LEVEL:** An excavation layer.

**METER STICK OR PHOTO SCALE:** A measuring stick one meter long that is used to show the size of objects in a photograph.

**MIDDLE EAST:** The area in Asia and Africa between and including Libya in the west, Pakistan in the east, Turkey in the north, and the Arabian Peninsula in the south.

**SCREEN:** A tool used to filter the soil away from small objects.

**SHERD:** A fragment of pottery.

**SITE:** A location where there are remains of human occupation or activity.

**STEP TRENCH:** A trench cut into the side of a tel or mound that shows the many layers of an excavation site.

**STRATUM (STRATA; PLURAL):** A horizontal layer of rock or earth of varying colors or texture (which can contain artifacts) that represent different time periods. The oldest layers of soil and artifacts are usually on the bottom of a tel, the most recent deposited at the top.

**STRATIGRAPHY:** The study of soil layers and the layering of deposits in archaeological sites.

**TEL (TELL):** A mound made by people which contains the remains of different ancient settlements, such as cities, buried in layers of earth.

**TEST TRENCH:** 1) A preliminary excavation made to obtain information about the content of a site. 2) The sand-filled hole where visitors dig for artifacts during their Archaeology Discovery Center experience.

**TOTAL STATION OR THEODOLITE (THEO-DA-LITE):** A total station is an optical instrument that is used to measure and record the location of objects. They are used by archaeologists and land surveyors, as well as by police, crime scene investigators, private accident reconstructionists and insurance companies to take measurements of scenes.

**TROWEL:** Small hand shovel used to scrape away debris from the surface of artifacts.

_Have fun on your dig!!!!!
Ancient Mesopotamia: This History, Our History. [http://mesopotamia.lib.uchicago.edu/interactives/DigIntoHistory.html](http://mesopotamia.lib.uchicago.edu/interactives/DigIntoHistory.html)

The Oriental Institute Website: Highlights of the Collection. [http://oi.uchicago.edu/museum/highlights/](http://oi.uchicago.edu/museum/highlights/)

The British Museum Website. [http://www.ancientcivilizations.co.uk/home_set.html](http://www.ancientcivilizations.co.uk/home_set.html)


University of Pennsylvania Museum of Archaeology and Anthropology website. [http://www.museum.upenn.edu/Canaan/Activities.html](http://www.museum.upenn.edu/Canaan/Activities.html)

Alexandria Archaeology Museum website. [http://oha.alexandriava.gov/archaeology/programs-activities.html](http://oha.alexandriava.gov/archaeology/programs-activities.html)

San Diego Archaeological Center website. [http://sandiegoarchaeology.org/FunForKids.htm](http://sandiegoarchaeology.org/FunForKids.htm)


Objectives:
• Understand that artifacts can offer information about people, places and societies.
• Discover the analytical approaches used by archaeologists.
• Discover the scientific techniques and tools that archaeologists use while excavating.

Materials:
Copies of all background sheets (Pages 3-8); "Dig Into History" supplementary worksheet (Pages 22 & 23); computers with internet access.

Suggested Procedure: (Note: If you only have one class period, finish with procedure #4; If you have two class periods, use the entire lesson, including procedure #5)

1. Pass out background info sheets to students.

2. Begin by asking students where they would dig if they were archaeologists and why.

(Continued on next page)
3. Next, review background info with the class on “What is a Tel?” Make sure students understand that the oldest artifacts are found in the deepest layers of a tel, and newer objects are found closer to the top. They should also be aware that a tel is what they will be digging in here at the Oriental Institute. The tel represents a site from ancient Israel.

4. Lead students in a discussion about different tools that an archaeologist might use for different situations. Use the “Tools of the Trade” background sheet as a guide.
   a. For example, you may ask the students what they would use to dig up a shattered vase without harming it. Some possible answers may be a toothbrush, paintbrush, dental tools, etc.
   b. Next, use the background sheet to discuss what tools archaeologists use most while digging.

5. After discussing background information, lead students to the computer lab and have them log on to the following website: 
   [http://mesopotamia.lib.uchicago.edu/interactives/DigIntoHistory.html](http://mesopotamia.lib.uchicago.edu/interactives/DigIntoHistory.html)
   This website contains a virtual game designed for our Mesopotamia resource center that guides students through the process of an archaeological dig in Iraq. An archaeologist named Fahima will give students background information on archaeology and will lead them through the processes of choosing a dig site, finding and cataloging artifacts, managing a dig team, and curating a museum exhibit. The game takes a full class period and is accompanied by the "Dig Into History" supplemental worksheet.

NOTE: use this website to introduce students to archaeology if you only have one class period.

(CONTINUED ON NEXT PAGE)
Evaluation:
For homework, have students make a list of five things in their bedrooms at home that could be clues about themselves for a future archaeologist.

- Have students imagine that an archaeologist finds the five items. Ask them to write a paragraph describing what the archaeologist might discover about the student.
- Back in class, students could exchange lists to see if they can tell to whom the five items belong.

NOW LET'S DIG!!!
Subject areas: Social Studies, Science  
Created By: Lauren Vander Pluym  
For Grade Level: 6 (Note: can be adapted for younger or older students)  
Meets Illinois State Goals: 3, 4, 5, 14, 15, 16, 17  
Time Needed: 5-6 class periods  
(if you only have your students one hour a day, this can be spread out over a week)

Objectives:  
• Understand that artifacts can offer information about people, places and societies.  
• Discover the analytical approaches used by archaeologists.  
• Discover the scientific techniques and tools that archaeologists use when excavating a site.

Materials: Copies of all background sheets for students (Pages 3-8); "Dig Into History" worksheet (Pages 22 & 23); chalkboard; and computers with internet access.

Additional Activity materials (Teachers may want to help supply these things for each group): Large cardboard boxes (one per group); Plastic garbage bags to line the boxes; Sand or soil to fill boxes; Paint brushes, trowels, any other digging tools; 6-8 artifacts per group.

Suggested Procedure:  
1. Begin by passing out the "The Oriental Institute" background sheet.

2. Ask the class why they think archaeology is important. Write possible answers on the board.  

(Continued on next page)
JUST A FEW MORE STEPS AND YOUR CLASS WILL BE ALL READY TO DIG!

Suggested Procedure (Continued):

3. Read the introduction background sheet together as a class. Is there anything else that you can now add to the board?

4. Next, ask students where they would dig if they were archaeologists and why.

5. Review “What is a Tel?” background sheet with the class. Make sure students understand that the oldest artifacts are generally found in the deepest layers of a tel, and newer objects are found closer to the top. They should also be aware that a ‘Tel’ is what they will be digging in here at the Oriental Institute.

6. Lead students in a discussion about different tools that an archaeologist might use for different situations. Use the “Tools of the Trade” background sheet as a guide.

   a. For example, you may ask the students what they would use to dig up a shattered vase without harming it. Some possible answers may be a toothbrush, paintbrush, dental tools, etc.
   b. Next, use the background sheet to discuss what tools archaeologists use most while digging.

7. After discussing background information, lead students to the computer lab and have them log on to the following website:
   http://mesopotamia.lib.uchicago.edu/interactives/DigIntoHistory.html
   (CONTINUED ON NEXT PAGE)
This website contains a virtual game designed for our Mesopotamia resource center that guides students through the process of an archaeological dig in Iraq. An archaeologist named Fahima will teach students background information on archaeology and will lead them through the processes of choosing a dig site, finding and cataloging artifacts, managing a dig team, and curating a museum exhibit. The game takes a full class period and is accompanied by the "Dig Into History" supplemental worksheet.

**NOTE:** If you have ONLY ONE CLASS PERIOD use this website to introduce students to archaeology

**8. ADDITIONAL OPTION FOR THOSE WHO HAVE MORE TIME:**

a. The day before the lesson, put students into pairs of 3-4. Have each group discuss who will bring the following materials for the next day *(YOU MAY WANT TO GIVE STUDENTS MORE THAN ONE DAY TO GATHER MATERIALS)._**EACH GROUP SHOULD BRING THE FOLLOWING:**
   * One large cardboard box
   * Plastic garbage bags to line the box
   * Sand or soil to fill boxes *(TEACHERS MAY WANT TO SUPPLY THIS)*
   * Paint brushes, trowels, any other digging tools *(TEACHERS MAY WANT TO SUPPLY THESE)*
   * 6-8 artifacts (Each student could bring in 2 objects. **NOTE:** Make sure students are aware that these objects could be damaged while digging, and they should not bring anything valuable.)

b. The next day, have students place their artifacts in the box and cover them with sand or soil. *(REMEMBER: Older items are typically found toward the BOTTOM!)*

(CONTINUED ON NEXT PAGE)
c. Have groups trade their boxes, or "sites." Excavate using tools and record which artifacts are found.
   * Have students record which objects they dig up by drawing pictures, taking measurements and describing characteristics.

d. Next, have students discuss what these artifacts could tell them about the people who "lived" at their "site."

e. Have each group set up a display of their artifacts.

f. Each group will take turns presenting the importance of their findings to their "colleagues."

**Evaluation:**

For homework, have students make a list of five things in their bedrooms at home that could be clues about themselves for a future archaeologist.

- Have students imagine that an archaeologist finds the five items. Ask them to write a paragraph describing what the archaeologist might discover about the student.
- Back in class, students could exchange lists to see if they can tell to whom the five items belong.

**NOW LET'S DIG!!!**
Hi, my name is Fahima Muhammed, and I am an archaeologist. I will be your guide as you learn about archaeology using this website:

Follow my directions on the screen and look for the answers to the following questions:

1. What do archaeologists study, and how do they do it?

2. What type of evidence do archaeologists search for on a dig?

3. Can you think of 3 things that this evidence could tell us about the people who lived there?

4. What is a tel?

5. Why do you think it is so important for archaeologists to keep detailed field notes? What else could you add to your field notes to remember information about your artifacts that is not done in the game?
6. Write down the catalogue information of one of your finds here:
   Site Found: 
   Area Found: 
   Age: 
   Made of: 
   Description:

7. List two things that this artifact could tell you about the ancient Mesopotamians:
   1. 
   2. 

9. Which quest did you choose? Have you found artifacts that support your quest? If so, which ones?

**Stop here if your class does not have enough time to play the "Curate a Museum Exhibition" portion of the game**

11. Why did you choose the artifacts that you did for your museum exhibit?

12. After you have finished curating your museum exhibit, **make sure to print** out your museum catalog and staple it to this worksheet. Find a classmate who has chosen one of the same artifacts that you have and compare your descriptions. Write down two similarities and two differences on a sheet of scratch paper. What do these similarities and differences in your interpretations tell you about the practice of archaeology?