

WHO IS IT FOR?

- ◆ Young Scientists . . .
- ◆ Evolving Mathematicians . . .
- ◆ Emerging Linguists . . .
- ◆ Sprouting Historians . . .
- ◆ Budding Artists . . .

TARGETED LEVEL:
(Fourth Grade)

THE CHALLENGE:

The students will . . .

- ⇒ begin to develop an understanding of the importance of measurement as it relates to archaeology.
- ⇒ map and measure their excavation units and they will also measure their finds.
- ⇒ classify objects based on given information.
- ⇒ interpret and use charts, graphs, and pictographs.
- ⇒ construct reasonable explanations and draw conclusions using given information and prior knowledge.

SAFETY ISSUES & CONCERNS:

- * Students should not place tools anywhere other than where directed.
- * Students need to demonstrate care with sharp objects (hammers, stakes).
- * Students need to demonstrate care while moving within the dig site.

WHAT'CHA NEED? (per group)

1. An open area outdoors.
2. Meter stick or measuring tape
3. String
4. 20 Stakes
5. Hammer
6. Compass
7. Paper
8. Pencil

**TIME NEEDED FOR
the pre-visit activity:**
Minimum of 45 minutes.

Middens

Pre-Visit Activity

Before archaeologists can study artifacts, they must first find them! It is true that sometimes artifacts are randomly found lying on the ground, or just below the surface. More commonly, however, archaeologists must excavate (a method of systematic digging and recording) to find the artifacts they are looking for. Excavation is the primary technique used by archaeologists who are attempting to uncover artifacts from the past.

When the students come to the Elm Fork Education Center (EFEC), they will be laying out a grid system on the site. Grid systems allow for systematic digging and provide consistency in the recording of where artifacts are located within a dig site.

This *pre-visit* activity was designed to allow the students the opportunity to learn and practice the process of laying out a grid.

****Background information on Middens can be found on the first page of the *On-Site Activity*.**



WORDS TO KNOW?

1. Archaeology
2. Archaeologists
3. Artifacts
4. Excavation
5. Excavation Units
6. Features
7. Grid

DID YOU KNOW . . .

Systematic digging and recording of artifacts is vitally important because archaeological excavation destroys ancient sites?

When an excavation unit is excavated, one wall is usually left in place so that it can be drawn in profile?

Features are cultural remains more complex than a single artifact. Examples of features include fire hearths, cooking pits, burial sites, etc.

EXTRA STUFF?

Related books/stories and on-line sources:

Barrett, Katherine, 1992, *Investigating Artifacts*. Lawrence Hall of Science, Berkeley, CA.

Wheat, Pam and Whorton, Brenda, *Clues From The Past*. Hendrick-Long Publishing CO, Dallas, TX.

Hermion, Roger H., 1988, *Field and Lab Handbook*. Southern Texas archaeological Association, San Antonio, TX.

Hester, Thomas R., Robert F. Hizer and John A. Graham, 1975, *Field Methods in Archaeology*. Mayfield Publishing Co., Palo Alto, CA.

TEKS

CONNECTIONS:

Science TEKS - Fourth Grade:

- 4.1 (A) - Students will demonstrate safe practices during field and laboratory investigations.
- 4.2 (B) – Students will collect information by observing and measuring.
- 4.2 (E) – The students will construct simple graphs, tables, maps, and charts to organize, examine and evaluate information.

Ready, Set, Go . . .

PROCEDURES:

1. Inform the students that they will have the opportunity to interact as archaeologists while at the Elm Fork Education Center and that one of the key jobs an archaeologist performs is that of an excavator.
2. Discuss with the students the need archaeologists have for systematic digging and recording (excavation) of artifacts. *You may want to leave this discussion open-ended, as you will finish the discussion after the students have experienced mapping a site.*
3. Take the students outdoors to an open space in the schoolyard.
4. Inform the students that they are in charge of creating a 12-block grid, with each square or block being exactly 1-meter square.
5. Allow one student to volunteer to use the compass to make certain that the grid is oriented North.
6. Assist the students as they insert their first stake - this stake will represent the **point of origin**.
7. Encourage the students to use the meter stick or the tape measure to measure 1 meter (still heading North) from the first stake. Place another stake at this mark.
8. Continue to insert stakes along this line at each meter, until there are a total of five stakes in the ground.
9. Once the Northern line has been finished, bring the students back to the original stake - the point of origin- and have them lay a line of stakes, again at one meter each, along an Eastern line. There will only be three stakes added along this line. (Making a total of 4 stakes, including the original stake, along this line).
10. When the students have finished the Eastern line, have them form another Northern line of stakes, starting one meter from the last stake they placed on the Eastern line; they will continue to lay the stakes at one meter intervals.
11. When the students have finished this Northern line, have them place two more stakes along the line that forms the top of the box.
12. The students now have the perimeter set for their entire dig site. The next steps entail outlining the individual *excavation units*.
13. Have the students place stakes (along a Northern line) at one-meter intervals from the second stake on the Eastern line.
14. The students will place four stakes along this line.
15. Have the students place stakes (along a northern line) at one-meter intervals from the third stake on the eastern line.
16. The students will place four stakes along this line.
17. At this time, the students will have placed a total of 20 stakes.

TEKS
Continued

Denton ISD Science S.P.O. Fourth Grade:

S2.2 - The student will demonstrate safe practices during lab and field investigations by following written or oral directions when using science equipment, pushing up sleeves and protecting hear and clothing during lab activities, and choosing appropriate safety rules to implement and appropriate equipment to use.

Psst. . .

Attached you will find an example of a 12 square Grid Sheet.

Procedures continued . . .

18. The students will now take string and will wrap the outer stakes to from a box.
19. Finally, the students will wrap the stakes on the inside of the box to form the individual squares or *excavation units*.
20. At this point, divide the class into teams of two and allow them to make observations within their *excavation units*.
21. ***Inform the students that since the *excavation units* are small, there are only room for one team member at a time to actually be digging. The other team member will perform the task of recording the observations made by the excavator.
22. Allow the students the opportunity to draw the grid site.
23. Encourage the “excavators” to make observations about the items that they see within their *excavation unit*. They may have the opportunity to observe clumps of grass, paper, flowers, rocks, glass, etc.
24. Encourage the “recorder”, who is standing outside of the grid itself, to draw the objects found within the proper *excavation unit*, on their grid sheet.
25. Return to the classroom and discuss the *Site Mapping* experience with the students.

Assessment:

Teacher observation
Excavation Charts
Grid Sheets

The Bottom Line: Mapping a site allows archaeologists to systematically excavate and analyze artifacts left from the people who came before.

Name _____

Date _____

The Grid Sheet

