Lesson Overview: Many cultures have utilized clay containers for cooking and storage for thousands of years. Often different cultures have distinctive ceramic styles. Archeologists use pottery as an important clue to the past. Archeologists can often learn information about ancient trade routes, cultural sophistication, religious concepts, and even diet and food, based on pottery found at archeological sites. Not all Native American cultures in Texas developed pottery, so if pottery is found, it can be an important piece of evidence about the people who lived there in the past. If a pot is broken, archeologists reconstruct it by carefully piecing together the sherds. In this lesson students will simulate work in the ceramics lab by classifying pottery sherds and then trying to put history back together.

Objectives: Students will
- Analyze information by categorizing, comparing, and contrasting
- Compare ways of life of Native American groups in Texas and elsewhere
- Describe how technological innovations, such as the creation of ceramic pots, benefited people and society in ancient Texas
- Explain economic patterns of Native American groups
- Measure accurately in centimeters
- Record information visually and verbally

Texas Essential Knowledge and Skills (TEKS):
Social Studies, Grade 7
- Social Studies 113.23 (1A), identify the major eras in Texas history
- Social Studies 113.23 (2A), compare the cultures of Native Americans in Texas
- Social Studies 113.23 (20A), compare types and uses of technology, past and present
- Social Studies 113.23 (21B), analyze information by comparing, and drawing inferences and conclusions
- Social Studies 113.23 (22D), create written, oral, and visual presentations of social studies information

English Language Arts and Reading, Grade 7
- English Language Arts and Reading 110.23 (11D), connect, compare, and contrast ideas
- English Language Arts and Reading 110.23 (15A), write to record, develop ideas and to problem solve

Mathematics, Grade 7
- Mathematics 111.23 (9), solve application problems involving estimation and measurement.
- Mathematics 111.23 (13A), identify and apply mathematics to everyday experiences
- Mathematics 111.23 (14A), communicate mathematical ideas using appropriate units
**Materials:**
Unglazed clay flower pots from a gardening store, or old ceramic plates from a thrift shop, Goodwill, or your neighbor’s yard sale (enough to give a bag of sherds to each group of 3-4 students); a shoe-box filled with sand or fine dirt for each group; Elmer’s Glue; Pot Diameter Chart and Pottery Sherd Data Sheet for each group; small brown paper bag to hold sherds for each group.

**Activity:**
Step 1: The teacher needs to break the plates or pots ahead of time into 4 -8 smaller pieces. Wrap ceramic piece with a towel and break over the edge of table or over an object placed on a table top. AVOID using a hammer, as this will cause ceramics to splinter and make gluing difficult. Utilize both glazed and unglazed pots and plates to represent different cultures. Place the sherds from several different ceramic plates together in a small brown paper bag (with site location and number if you’d like). You may want to have one entire plate within one bag along with several "dummy" pieces from other pots in order for the students to classify which sherds belong to which ceramic piece.

Step 2: Introduce the long history of ceramics to students. Have students brainstorm about the uses of ceramics today (e.g., plates used to eat from, cookie jars, flower pots, etc.). Introduce the idea that many native cultures utilized pottery to cook and store food and seeds. Point out that archeologists can learn much from reconstructing broken pottery. Archeologists can use the style of pottery to determine which cultural group may have occupied the site and with whom they may have traded.

Step 3: Inform the students that an archeologist has uncovered these pottery sherds at a "pretend" archeological dig and that now, as laboratory archeologists, they must help learn about who might have lived at the site in the past.

Step 4: Divide the class into small groups and allow students to sort and classify the sherds of pottery. Students record the total number of sherds on the Pottery Sherd Data Sheet. Students trace the sherds on the data sheet in order to record size.

Step 5: Students estimate the size, or diameter, of the plate or the diameter of the pot opening by placing a rim sherd (those from the edge of the pot or plate) on the Pot Diameter Chart. Place the sherd on its rim (finished edge) and move until it fits the curve of one of the circles. The number on that circle is the estimated diameter for the complete pot or plate.

Step 6: Students glue the pieces of ceramics back together. Simply stick one sherd into the box of sand with its broken edge exposed, and put glue on the exposed edge. Then fit the proper sherd on top and hold until it is firm enough to stand by itself. This way the student need only hold onto the piece for a short period of time, thus making the gluing easier. Sherds may be partly buried to make them stand up for gluing.

**Closure:** Students display their newly constructed ceramic pieces and make a short written report of the data that was collected during the analysis process. The report should include the number of sherds found and a hypothesis about the culture that made the pots. The report and the
data sheet can be posted next to the reconstructed ceramics.

**Extension:** ART—Students construct their own pots by utilizing the rolled-clay method, which involves rolling clay into long strips and then stacking the strips to form containers.

**Artifact Analysis Form**
In most parts of the United States, the Smithsonian Trinomial System is used to clearly record and identify archeological site. The first two numbers in the system represent the state. Texas is number 41 in this system. This is followed by two letters that are the abbreviation of the county, such as TV for Travis. This is followed by the number assigned to each archeological site in the county as sites are located and recorded. For classroom purposes, your room number can be used in this space.

**Put the following information on the outside of the paper bags.**

- Site number: 41 TV 200 (or your room number)
- Date of excavation (date material was found) 9-29-04
- Names of excavators (or students’ names) Jane Smith, Billy Jones
- Lot number (assign a specific number for each group) #101
Pottery Sherd Data Sheet

Name: __________________________        Date: __________________________

Total number of sherds: __________

Color of sherds: __________

Glazed or unglazed (circle one)

Did you find any sherds that are from the edge (rim) of a plate or the opening of a pot? Yes       No

Estimated size of the diameter of the plate or of the pot’s opening (see Pot Diameter Chart): _____

___________ cm

Actual size (after reconstructed): _______________ cm

Drawings of sherds – actual size
(make the drawing as accurate as you can)
Pottery Diameter Chart (to measure rim or edge sherds in centimeters)