THE GARBAGE PROJECT
ADAPTED FROM THE “STUDIES IN ARIZONA HISTORY” TEXTBOOK

Archaeologists learn about the past by studying artifacts. Many times, the items left behind are from ancient garbage piles. By using the same techniques and examining modern trash, we can learn about modern society.

OBJECTIVES
• to show students how deductive reasoning works in studying artifacts
• to illustrate that different assumptions can change interpretations and that removing key pieces of evidence can change interpretations
• to enable students to gain an understanding of why archaeologists are tentative in their conclusions
• to show students that the garbage they leave behind contains artifacts that can be analyzed just as archaeologists analyze other artifacts from the past

STANDARDS ADDRESSED
Grades 4–5 1SS-E1 (PO2), 1SC-E1 (PO3, PO4), 2SC-E4 (PO1), 2SC-E5 (PO1, PO2, PO3)
Grades 6–8 1SC-E3 (PO2), 2SC-E4 (PO1), 2SC-E5 (PO3)

MATERIALS
• paper grocery bags, two per household
• items from the Household lists
• Household lists can be copied and handed out to the student groups instead of collecting the items.
   However, using real objects increases the amount of information students will have for analysis and increases the interest and level of involvement of the students.
• paper and writing instruments for students to record their findings

TIME
The lesson can take as little as 50 minutes and as long as 90 minutes, depending on extensions and involvement of the group.
Archaeologists learn about the past through the study of artifacts. Often this involves sifting through ancient garbage. We can learn about modern societies using the same techniques. The University of Arizona has an ongoing program called The Garbage Project, directed by Dr. William Rathje, that has studied landfills from different cities. In this lesson students will have an opportunity to analyze fictitious, but feasible, household items and draw conclusions about human behavior based upon their observations. In this exercise there are no right or wrong answers, just logical deductions.

Like detectives, archaeologists use clues from artifacts to reconstruct human behavior. By studying garbage, we can apply the same reasoning to the study of modern societies.

**Lesson Setup**

1. Collect all items listed on the Household List. Substitutions can be made. All items must be emptied and cleaned. Make sure all can rims are free of sharp edges.
2. On the day the project will be done, distribute items into four paper grocery bags marked with “household number 1–4 A.” (1A, 2A, etc.)
3. In four separate grocery bags, place the remaining two household items that will be introduced after each group makes the first conclusions. Make sure to mark the bags “household number 1–4 B.” (1B, 2B, etc.)
4. Divide the class into four groups. If the class is large, you can duplicate the households. Instead of four groups, you would have eight. It doesn’t matter that the households are duplicated. Different groups will come to different interpretations and conclusions.

**Lesson Outline**

1. Ask students “How do archaeologists know what they know?” List their answers on the board for the entire class to see. Discuss each answer as it is given.
2. Ask students to consider why one archaeologist may come to a different conclusion than another if examining the same artifacts.
3. Bring in one item with which the students are not familiar (such as a grapefruit spoon, a tool, an old TV channel dial, etc.). The item can be broken, old or new, or just unfamiliar to the students. Pass the item around the classroom. After everyone has had a chance to view and touch it, have students discuss the artifact. What are some of their conclusions, assumptions, and interpretations? How are they making their interpretations? On what evidence are they basing their conclusions?
4. Read and/or discuss *Motel of the Mysteries*. You can also use excerpts from the book to illustrate misinterpretation of evidence. If the book is unavailable to the class, be sure to illustrate how analysts, when assuming too much, can easily misinterpret information that leads to wrong conclusions.
5. Instruct the students about what is going to happen. Each group will receive one household bag. As a group, the students must make interpretations and come to conclusions about the people of the household. Questions to consider are:
   a. What can students deduce for absolute certainty about their household?
   b. Can students tell the age, gender, and number of household occupants?
   c. Is it possible to figure out the social status (including occupation and education level)?
   d. Are the occupants poor, middle class, or wealthy?
   e. What other information can students deduce from the household items?

6. Ask students to record the reasons for their deductions. Are some items more helpful in determining the answers than others?

7. Have students break into their pre-assigned groups.

8. Each group should choose a spokesperson to report on the findings of the group.

9. Allow groups ample time to analyze the artifacts in their bag. The teacher can determine the proper amount of time by circulating around the classroom and listening to the group discussions.

10. Once the interpretation phase is over, ask the spokesperson from each group to go to the front of the class. The spokesperson should introduce the items from the household bag and show the class each item. The spokesperson should report the group’s interpretations and conclusions. A class discussion should follow regarding the group’s interpretations. Does anyone have anything to add? Does anyone question any of the group’s interpretations?

11. Continue until all groups have reported their findings.

12. Once spokespeople return to their groups, hand out the second part of the household bags. The two remaining items must now be figured into the group’s original interpretation of the first bag of household artifacts. Repeat the reporting step, as the spokesperson reports on how/if the additional items changed their interpretation and why. Have the added items changed any of the original interpretations? Make the analogy between the missing information and the damage pothunters do to archaeological sites. When evidence is missing, it is impossible to know the entire story.

Use the following page as a handout (if not using real objects for the activity) or use as a list in order to locate objects for each household.
HOUSEHOLD #1
1. broken hearing aid or hearing aid batteries
2. diet soda can
3. large enchilada sauce can
4. small green chili can
5. plastic tortilla bag, preferably brand name (not hand-made)
6. broken Barbie doll
7. baby food jar with small screws in it
8. action figure toy
9. sawdust (can be placed inside a Ziploc bag)
10. computer floppy disk

HOUSEHOLD #1 ADDITIONS
1. Wall Street Journal
2. empty pill bottle labeled Nitroglycerin Tablets

HOUSEHOLD #2
1. plastic name badge on pin
2. pizza box
3. used lipstick: the most “in” color
4. hair spritz or hairspray
5. macaroni and cheese box
6. toy bear losing stuffing
7. worn women’s tennis shoes: Size 7
8. SunTran bus passes/transfers
9. empty vitamin bottle
10. cat litter bag

HOUSEHOLD #2 ADDITIONS
1. baby diaper
2. People magazine in Spanish

HOUSEHOLD #3
1. wine bottle
2. steak bones
3. recipes clipped from a magazine
4. used deodorant container
5. empty film cans
6. Sports Illustrated
7. used deck of cards; preferably partial deck
8. empty cigar box
9. photographs of a basketball game

HOUSEHOLD #3 ADDITIONS
1. worn, run pantyhose
2. African American hair braid and extension conditioner

HOUSEHOLD #4
1. brown rice box
2. empty can of water chestnuts
3. soy sauce bottle
4. worn sandal
5. plastic water bottle
6. worn cloth shopping bag
7. hair tie
8. empty vitamin bottle
9. empty package of garden seeds

HOUSEHOLD #4 ADDITIONS
1. Consumer Reports magazine
2. broken high-heel shoe