

Think Like an Archaeologist

Cookie Excavation

Archaeology is the study of past people through the things they left behind. In this lesson, students will “excavate” chocolate chips from a cookie to understand how archaeologists carefully remove artifacts from the ground. As they excavate, students will map the locations of their chocolate chips on a grid. This lesson demonstrates how archaeologists destroy a site through excavation; once artifacts are removed, they can never be put back the same way. It also highlights the importance of taking meticulous notes and making maps to preserve the information from a site.

Time Frame: 30-60 minutes

Objectives:

- Students will learn archaeology is the study of past people through the things they left behind.
- Students will employ archaeological methods to study the past, understanding the same process is used whether examining artifacts from 50 years ago or 1000 years.
- Students will plot coordinates on a grid map

Relevant Standards:

3rd Grade: SS10.3.13.1 Identifying roles of archaeologists and paleontologists
SS10.3.1.2 Using coordinates to locate points on a grid

8th Grade: SS 10.8.1 Explain how artifacts and other archaeological findings provide evidence of the nature and movement of prehistoric groups of people.

Supplies: (one for each student)

1. Chocolate chip cookie or soft granola bar
2. Toothpick
3. Small plate or paper towel
4. Excavation Worksheet

Key Terms:

- Archaeology: The study of past human life through things people left behind
- Artifact: Something portable that was made or modified by humans
- Excavation: The scientific examination of an archaeological site through digging

Lesson Procedures:

1. Explain that archaeology is the study of past human life through the things people left behind, such as artifacts. One of the main ways archaeologists study the past is through excavation (use resources below to help support explanation of excavation, if needed).

Resources: [What is Excavation?](#) Blog Post
[What is Excavation?](#) YouTube Video



Note: This video is part of our series “Ask an Archaeologist,” which includes other short videos about key archaeological concepts

2. Give each student a chocolate chip cookie, a plate, a tooth pick, and a grid mapping worksheet.
3. Ask each student to set their cookie in the center of the left “excavation grid” and trace the outside of the cookie, marking their “site boundary.”
4. Find the top, bottom, left, and right side coordinates of the cookie “site boundary” and plot them on the right “excavation grid.” For example, if the top of your cookie is at E2, draw a point at E2 on the left grid. Use the points to sketch out the “site boundary” on the right grid.

If there are any chocolate chips on the surface of the cookie, find their coordinates and plot them on the grid on the right.

5. Tell students to “excavate” the chocolate chips from their cookie with the toothpick. Students should try to preserve the chocolate chips so they are whole. Make a pile of the chocolate chips, or “artifacts,” on the plate or paper towel.

Any time a student excavates a chocolate chip, they should first map the location on their excavation grid map to preserve its original context.

6. Once students have finished mapping their cookies, ask them the following discussion questions (either in pairs or as a class):
 - a. How many whole chocolate chips do you have?
 - b. What problems did you encounter trying to excavate the chips?
 - c. Did you have to sacrifice any chips in order to keep one whole?
 - d. Can you put the cookie back together? (They won’t be able to). This demonstrates how archaeology is a destructive process so you must carefully record as you excavate.

Note: If you get M&M cookies, the colors of the candy can represent different types of artifacts (for example, pottery, stone tools, animal bones, shells, etc.) The students can analyze their “site” by examining what types of activities occurred there.

Got any questions? Have feedback on the lesson? Want to find more opportunities in archaeology? Get in touch with us at cas@southalabama.edu or visit our [website](#).

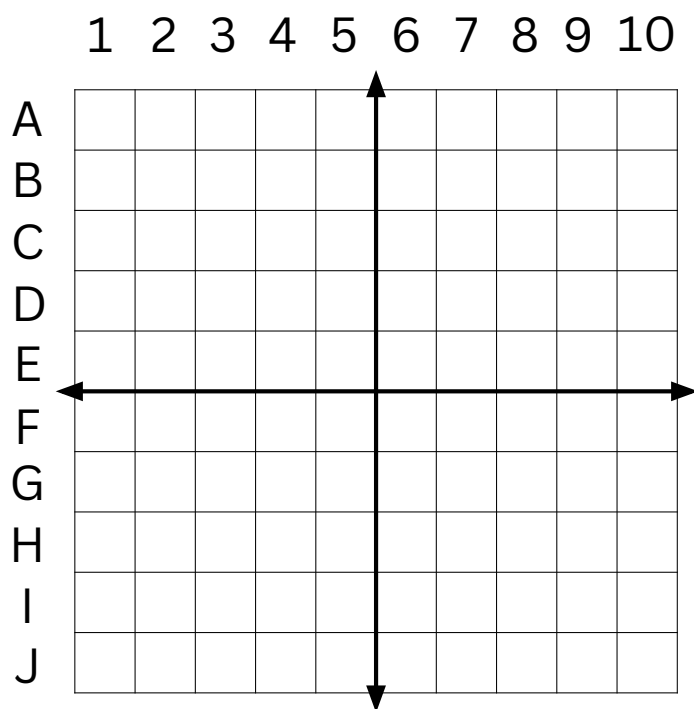
Think Like an Archaeologist

Cookie Excavation

Archaeologists *excavate*, or dig, to uncover evidence of past human life. Excavation is destructive. Once artifacts are removed from the ground, they can never be put back the same way. Archaeologists write notes, take photos, and make maps to record as much information as possible. Practice being an archaeologist by excavating chocolate chips from a cookie and mapping what you find on the Grid Map.

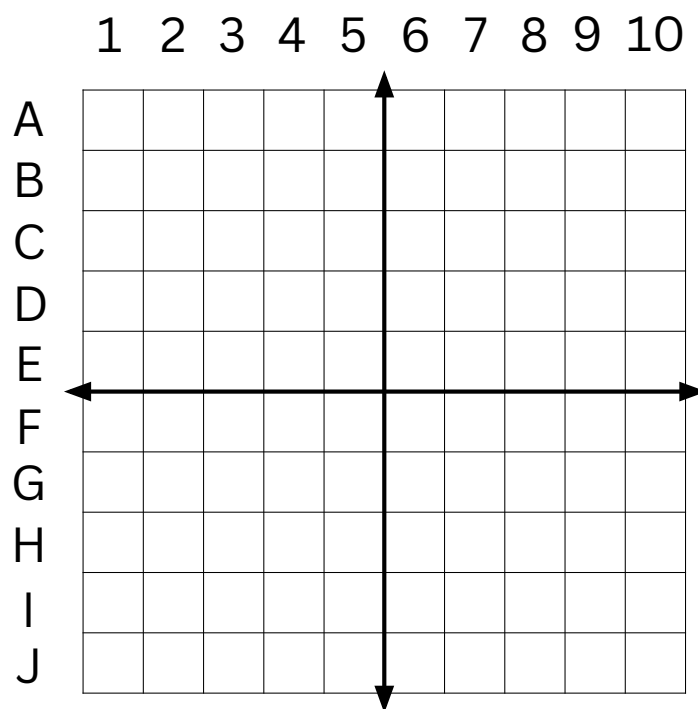
Excavation Site

(place cookie here)



Grid Map

(record your finds here)



Instructions:

1. Place your cookie on the Excavation Site grid (left side) and trace the outline.
2. Find the coordinates for the top, bottom, left, and right edges of your cookie and plot them on the Grid Map (right side). (For example, the top left corner of the Excavation Site grid is A1).
3. Use the four points to sketch the perimeter, or outside, of your cookie on the Grid Map.
4. Find the coordinates for each of the chocolate chips on the outside of your cookie and plot them on the Grid Map.
5. Use a toothpick to excavate the chocolate chips from the cookie. Try not to break the chocolate chips. Each time you find a new chocolate chip, plot it on the Grid Map before you excavate it.