Objective/Purpose: In this activity students are given the opportunity to make their own fossil and to learn how archaeologists dig for fossils. Students will learn how to make a fossil on their own and also will have a chance to dig for fossils. They will learn how fragile fossils really are. They will have a chance to work hands on with their own fossils and see different types of fossils that archaeologists in a field sight might find. They will learn hands-on what fossils look like and the difficulties that archaeologists face when digging for real fossils.

QCC Standards:
1.) Discusses how fossils are formed. Discusses how fossils are uncovered. Investigates fossils.
2.) Uses tools.
3.) Communicates findings.
4.) Keeps records.
5.) Uses mathematical reasoning and computations

Time Requirement: 
Dig and Making of the Fossil - 1 hour
Opening Fossil and Recording Observations - 1 hour
Communicating Findings - 30 minutes

Materials:
1. Chips Ahoy Cookies
2. Toothpicks
3. Paint Brushes
4. Plaster of Paris
5. Water
6. Plastic Spoons and Knives
7. Measuring Cup
8. Plastic Bowls
9. Chisel
10. hammer
11. Materials to fossilize: shells, dog bone treats, and leaves
12. Writing Journal

Procedure: Before you begin the activity it is important that you teach the kids a lesson about how a fossil is formed and the job of a paleontologist. This lesson involves two different activities. For the first activity you should give each of the students a chocolate chip cookie, a toothpick, and a paint brush. Tell the kids not to eat the cookies, and tell them that they can have a cookie if they listen and follow directions during the activity. Next, you should write on the board a chart like the following:

<table>
<thead>
<tr>
<th>Money Spent:</th>
<th>Money Earned:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Cookie = $5</td>
<td>Unbroken Cookie = $20</td>
</tr>
<tr>
<td>Each Tool = $2 x 2 tools = $4</td>
<td>Each Intact Chip = $1</td>
</tr>
</tbody>
</table>

Explain to the students that each cookie costs $5 and each tool costs $2. If the kids at the
end of the lesson return an unbroken cookie, minus the wholes where they dug out the "fossils" or chips they will receive $20 and for each chip they will receive $1. If the children choose to work with partners explain to them that they will have to subtract more money from their earnings at the end. The more people in the group the more money they must subtract for tools, but they will also the opportunity to earn more money at the end. The group or individual with the most money at the end wins the game. You can play the game for a prize, but probably to be fair you will want to just play it for fun, because some cookies have more chips to begin with. The kids will have to use multiplication, addition, and subtraction in order to figure out their total earnings. Allow the children about 20 minutes for the dig and about 5 minutes to figure out how much money they have earned.

For the second activity give each of the students a bowl, preferably disposable, and a plastic knife and spoon. Use the measuring cup and put about a 1/4 cup of plaster of paris into their bowl, and about 1/8 cup of water into each bowl. Tell the kids to mix the plaster until it is thick and creamy. Hand each of the students one thing to fossilize such as a dog bone treat, shell, or a leaf. Have the kids place their item into the plaster. Encourage them to not get the plaster on their hands. Have them cover their fossil completely so that it can no longer be seen. There should be a thick covering on all sides of the item. Allow the plaster to dry over night and then the next day help the kids to break open their fossil. Before opening the fossil ask the children to record their predictions about what the fossil will look like. The teacher or you should be the one to use the chisel and hammer. Place the chisel near the fossilized item and use the hammer to break the fossil apart. Allow the children to examine their fossils and write down their observations on what it looked like. Afterwards have the children do a show and tell where they read their predictions and observations to the class and show the class their fossils.

**Assessment:** A good way to assess how much the children learned would be to ask the students questions about the job of a paleontologist and to have each of the kids explain to you how a fossil is formed.

**Teacher Preparation:** You should try this experiment before doing it with your class. Prepare a fossil yourself and figure out the best way to break it apart. That way you will be better able to help your students during the activity.

**Background:** I used information that I found on the web to create this activity. For the chocolate chip cookie fossil dig I used the experiment that I found on [www.LessonPlansPage.com](http://www.LessonPlansPage.com). For the fossil making procedure I adapted the lesson plan that I found on [www.glc.k12.ga.us](http://www.glc.k12.ga.us).