**Title of Lab:** Soil Analysis Virtual Lab  
*(From: GVL)*

**Purpose(s) of Lab:** Soil can be examined for a variety of chemical and physical properties. In this lab you will solve a “mini-mystery” by observing chemical and magnetic properties of sand. Scenario: A body has been found by a busy highway…investigators have determined that this is a secondary crime scene. Your task is to analyze sand found on the victim to determine which of two beaches may be the primary crime scene.

**Materials:**

Go to: [http://school.cengage.com/forensicscience/#](http://school.cengage.com/forensicscience/#)

**Procedure:**

1. Open the site listed above.  
2. Click on launch…this will open a new window.  
3. Select Chapter 12.  
4. Click on “Interactivity” in the right hand corner.  
5. Simply follow the directions and answer the questions.

**Data:**

Sand Testing Results

<table>
<thead>
<tr>
<th>Beach Sand Sample</th>
<th>Sulfate Test (white ppt)</th>
<th>Chloride Test (white ppt)</th>
<th>Carbonate Test (CO₂ bubbles)</th>
<th>Magnetic Particles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beach 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beach 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victim’s Shoes</td>
<td></td>
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</tr>
</tbody>
</table>

**Conclusion:** Which beach is the primary crime scene?

**Questions:**

1. Which chemicals did you use to test for sulfates?  
2. What do you see if sulfates are present?  
3. Which chemicals did you use to test for chlorides?  
4. What do you see if chlorides are present?  
5. Which chemicals did you use to test for carbonates?  
6. What do you see if carbonates are present?  
7. What does the magnet show?