Name: ____________________  Sorting Buttons

Background
- The Earth is one great big mixture of *Solids, Liquids,* and *Gases.*
- *Matter* is everything around you. All *matter* is made up of *atoms* and *molecules.* *Matter* is anything that has mass and takes up space.
- Anything you can combine and take apart easily and does not change is a *mixture.*
- A *physical property* is a way to describe the way something looks using your five senses.

Prelab Questions
1. Explain what can you do if you do not like the tomatoes in your salad:

Objective
How many different ways can you separate the buttons?

Safety
- Do not taste the buttons or put anything in your mouth.
- Small buttons could be a choking hazard.
- Place the buttons back in the container when you are finished.
- Wash your hands thoroughly when completed with the activity.

Procedure
1. The Materials Handler will collect the buttons and an empty egg carton.
2. Separate your buttons by color using the sections of the egg carton or put them into separate piles your table. Count and record the number of each color in your data table below.
3. Separate your buttons by shape using the sections of the egg carton or put them into separate piles your table. Count and record the number of each shape in your data table below.
4. Separate your buttons by the number of holes using the sections of the egg carton or put them into separate piles your table. Count and record the number of each button with each number of holes in your data table below.
5. If you have extra time put the buttons back in the cup and then decide how else you could separate the buttons. What are the categories? Create a new data table for this physical property and record the number of buttons.
6. When you are finished, return the buttons and egg carton.
7. Wash your hands with soap and water.
8. Use the data from each data table to create a bar graph for each physical property.
Data

<table>
<thead>
<tr>
<th>Color</th>
<th>Red</th>
<th>Blue</th>
<th>Yellow</th>
<th>Purple</th>
<th>Pink</th>
<th>Orange</th>
<th>green</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shape</th>
<th>Circle</th>
<th>Triangle</th>
<th>Square</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of holes</th>
<th>Zero</th>
<th>One</th>
<th>Two</th>
<th>Three</th>
<th>Four</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis
Create a bar graph for each of the physical properties, using the data from the data tables above.

**Color:**

![Bar graph for color]
**Shape:**

**Number of Holes:**

**Conclusion**
Explain the meaning of a *mixture* and what you learned today: