Sudsy Cells Worksheet

Type of Soap: ____________________________

Pre-Lab Questions

1. What is the control for your experiment?

2. Hypothesis:

Results

Draw a picture of the Petri dishes after incubation:

CONTROL

With SOAP

Number of colonies on your Petri dishes:

CONTROL: _______________              With SOAP: _______________

1. What number of colonies was removed by the soap? ____________

2. What percentage of colonies was removed by the soap? ____________
Name: _______________________________ Date: __________________________

Class Results Record the class results in the table below.

<table>
<thead>
<tr>
<th>Groups</th>
<th># Colonies Removed by Soap</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bar Soap</td>
<td>Liquid Hand Soap</td>
<td>Anti-bacterial Soap</td>
<td>Hand Sanitizer</td>
</tr>
<tr>
<td>Groups 1-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groups 6-10</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Groups 11-15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class average</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Removal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Which soap worked the best for removal of bacteria?
   ________________________________________________________________

2. What are some sources of error that might have affected this experiment?
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

3. Engineers design different surfactants (soaps) for different situations. Using the soaps we tested today; write a design for a new soap for each of the following situations. You may mix soaps together in your new design.
   - For young children to use after playing on the playground.
     ________________________________________________________________
     ________________________________________________________________
   - To help clean up an oil spill of the coast of California.
     ________________________________________________________________
     ________________________________________________________________
   - For a doctor to use before a medical procedure.
     ________________________________________________________________
     ________________________________________________________________

4. Engineers also need to consider the effects that their products have on others. Think about the surfactants that you used today. What are some impacts those surfactants may have on the environment, animals or humans?