# In Class Glass Batch Formulation Spreadsheet

<table>
<thead>
<tr>
<th>Raw Materials</th>
<th>Cost</th>
<th>SiO2</th>
<th>Al2O3</th>
<th>Na2O</th>
<th>CaO</th>
<th>CO2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>$20</td>
<td>100%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>Soda Ash</td>
<td>$92</td>
<td>0</td>
<td>0</td>
<td>58.50%</td>
<td>41.50%</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>Limestone</td>
<td>$28</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>56%</td>
<td>44%</td>
<td>100%</td>
</tr>
<tr>
<td>Feldspar</td>
<td>$114</td>
<td>0.687023</td>
<td>0.194656</td>
<td>0.118321</td>
<td>0</td>
<td>0</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Batch Wt</th>
<th>Cost</th>
<th>SiO2</th>
<th>Al2O3</th>
<th>Na2O</th>
<th>CaO</th>
<th>CO2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>1299</td>
<td>$13</td>
<td>1298.8</td>
<td>0.0</td>
<td>0</td>
<td>0</td>
<td>1298.8</td>
</tr>
<tr>
<td>Soda Ash</td>
<td>505</td>
<td>$23</td>
<td>0.0</td>
<td>295.7</td>
<td>0</td>
<td>209.8</td>
<td>505.4</td>
</tr>
<tr>
<td>Limestone</td>
<td>357</td>
<td>$5</td>
<td>0.0</td>
<td>0.0</td>
<td>200.0</td>
<td>157.1</td>
<td>357.1</td>
</tr>
<tr>
<td>Feldspar</td>
<td>205</td>
<td>$12</td>
<td>141.2</td>
<td>40.0</td>
<td>24.3</td>
<td>0.0</td>
<td>205.5</td>
</tr>
</tbody>
</table>

Total Batch 2366.9032 Tons of Glass 1.0000 Pounds of glass 2000 Loss on ignition 15.5% Batch Cost $52.95

Calculated Glass Composition

<table>
<thead>
<tr>
<th>SiO2</th>
<th>Al2O3</th>
<th>Na2O</th>
<th>CaO</th>
</tr>
</thead>
<tbody>
<tr>
<td>72.00%</td>
<td>2.00%</td>
<td>16.00%</td>
<td>10.00%</td>
</tr>
</tbody>
</table>

Target Composition

<table>
<thead>
<tr>
<th>SiO2</th>
<th>Al2O3</th>
<th>Na2O</th>
<th>CaO</th>
</tr>
</thead>
<tbody>
<tr>
<td>72.00%</td>
<td>2.00%</td>
<td>16.00%</td>
<td>10.00%</td>
</tr>
</tbody>
</table>