Initial Separation Processes of the Soybean

Name: ______________________
Date: ______________________

Get a set of bottles (8) that represent the different portions of soybean processed. Line up the bottles with the part of the process shown below. Answer the questions found on the back of this sheet.

- Soybeans
- Preparation
  - Crude Soybean Oil
  - Degumming
  - Degummed Soybean Oil
  - Lecithin
- Protein
- Carbohydrates
- Soybean Meal
- Refined Soybean Oil

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1. Based on the background information provided on this pie chart, if 1000 kg of soybeans were processed, how many kilograms of each part would be produced? Place quantities and calculations on the flow chart on the previous page.

2. Calculate the value of the raw soybeans compared to the sum of the value of all of its component part after the first step of processing and then after the third step of processing. Assume the market value of the component parts. and compare the overall value added to the soybean. Show all of your work below.

<table>
<thead>
<tr>
<th>Initially</th>
<th>Initial Value</th>
<th>After 1&lt;sup&gt;st&lt;/sup&gt; step of processing</th>
<th>Value after 1&lt;sup&gt;st&lt;/sup&gt; step</th>
<th>After 2&lt;sup&gt;nd&lt;/sup&gt; Step of processing</th>
<th>Value after step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Soybeans</td>
<td>Soybean Hulls</td>
<td>Soybean hulls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude Soybean Oil</td>
<td>Degummed Soybean Oil</td>
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<tr>
<td>Soybean Meal</td>
<td>Lecithin</td>
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<td>Soybean Protein</td>
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<td></td>
<td>Soybean Carbohydrates?</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
3. Does this value-added constitute the profit made from processing the soybean to this point? Why or why not?

The items above are sold on the commodity market and pricing/value is actually a bit more complex than this initial look. If time permits, visit: http://www.extension.iastate.edu/grain/topics/EstimatedProcessedValue.htm
Jot down some of the factors that go into determining the value of some of these component parts.