Lab Instructions: Making Peanut Milk (Student)

Allergy Alert: This lab requires working with peanuts. You MUST inform your teacher immediately if you have even a slight allergy to peanuts, nuts, etc.

Background Information
The peanut was easily grown in southern soil as well as soil in the Belgian Congo. No other source for milk was available in the early 20th century in the Belgian Congo, a country in central Africa, due to an illness plaguing the cattle and goats. The peanut is nutritional, especially high in fat and protein. The peanut is tasty while being economical to grow. The peanut has the double benefit of enriching the soil along with providing nutritious food for people. George Washington Carver created hundreds of products from the peanut, the sweet potato, the soybean and many other plants.

Experimental Question
Can the peanut be used to produce a dairy substitute that would be nourishing and appetizing for people of the southern United States and for people of the Belgian Congo?

Hypothesis (your answer to the experimental question above):

Materials
- shelled raw peanuts
- mortar and pestle
- mason jars or science bottles (with lids)
- water
- strainer

Procedure

1. Crack and remove the peanut pod. If desired, remove outer skin (reddish-brown part) away from peanuts and compost. (Skins are bitter but add color.)
2. Put raw peanuts into the mortar bowl.
3. Grind the peanuts with the mortar and pestle until they are a fine, moist flour.
4. Pour the peanut flour into a mason jar.
5. Add 2 parts very HOT water to 1 part peanut flour OR bring the water/peanut flour mixture just to a boil while stirring constantly (remove, cool, and then strain).
6. Seal the jar with the lid.
7. Shake the jar vigorously until a white substance forms.
8. Strain and watch the oils (creams) rise to the top.
9. The white substance is peanut milk.
10. Waft the top of the jar to smell the milk.

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Analysis

1. Does the product you made look like milk? If not, what is different? If it does, explain how.

2. Does the product you made smell like milk? If not, what is different? If it does, explain how.

3. Do you think that the peanut milk will taste like peanuts?

4. What would be a reason that peanut milk could be preferable for a consumer?

5. What are some pros and cons of peanut milk?

6. George Washington Carver was a big fan of finding alternative uses for crops such as peanuts, soybeans and sweet potatoes. What is something that you use daily that you didn't know may be made by one of these crops?

Conclusion

7. Go back to your experimental question. How would you answer the question now that you have completed the lab?