FLINN SCIENTIFIC

Name_____

Post-Lab Analysis

1. Copy the class data table onto a separate sheet of paper.
2. Using graph paper, compare each detergent's effectiveness by making a graph of the amount of liquid added versus the amount of liquid present after 24 hours. Do not forget to graph the control data, add labels, descriptive title, and a key or legend.

Post-Lab Questions

Answer the following questions on the same sheet of paper used for the *Pre-Lab Questions/Activity*.

Class and individual group data will be needed to answer them.

1. Why were only drops of water added to one of the cups?
2. *a.* Based on the results, what do you believe is the primary ingredient in gelatin?

   b. If the primary ingredient listed in 2*a* was not what you said, how would that affect the lab results?
3. *a.* Was the group's prediction correct? (Refer to *Pre-Lab* Question #3.)

   b. How do the actual results compare to the prediction? Be specific.
4. From the class data, which detergent(s), or other substance used, affected the gelatin the most?
5. From the class data, which detergent(s), or other substance used, affected the gelatin the least?
6. Do the individual group's results differ from the class results? Briefly explain.
7. Compare the ingredients of the detergents that affected the gelatin the most. Are there any ingredients that are common to each of them? If yes, list them.
8. Was there an ingredient that the most effective detergent(s) did not list?

   a. If yes, which one(s)?

   b. How do you explain the effectiveness of that/those detergent(s) in the absence of that ingredient?
9. Compare your group's results to a group that changed one of the variables in the experiment: pH, temperature of the gelatin, added a substance other than detergent, or changed the detergent's concentration.

   a. How does the final *pH* and *Amount of Liquid after 24 hours* differ?

   b. Propose two logical explanations for the differences.

In summary:

10. Which type of organic substance in gelatin must also be found on or in "dirty" clothes? Support your answer using data from the experiment!
11. Name one factor (see Question #9 above) that appears to affect the ability of enzymes to "do their job." Support your answer with data.
12. *a.* Where do the enzymes used in many of today's detergents come from?

    b. Why are these organisms able to produce these enzymes?
13. List three sources of error that did, or could have, affected the results.