Lab #1: *Biology* (Chapter 1)
Baraminology

INTRODUCTION:

The objective of this laboratory is to introduce the student to baraminological categorization.

MATERIALS

- Lab notebook
- Writing utensil
- 10-12 chosen animal/plant candidates [from zoo, neighborhood, etc.]
- Internet for answering questions not readily known through observation

METHODS

1. Select a group of 10-12 similar plants (e.g., different types of fruit, grass, or trees) or animals (e.g., snakes and lizards, primates, canids, or birds) to study.

2. Select 1-2 "outlier" candidate(s), that is known with confidence not to be in the same "kind" as the rest of the chosen candidates (e.g., if the canids—dogs, wolves, coyotes, etc.—are chosen, select a cat as an outlier).

3. Make a list of 50 yes or no questions that would help to highlight continuity **and** discontinuity between kinds, especially the selected group and the outlier(s) (e.g., for cat/dog comparison: Is the candidate an omnivore? Does the candidate give birth to live young (as opposed to an egg)? Does the candidate have over 40 teeth? Is the candidate a pack animal? Does the candidate bark? Does the candidate meow? Does the candidate have pointy ears? Does the candidate have a nose width-to-head width greater than X? Does the candidate have retractable claws? Does the candidate have a distinguishing sense of smell? Does the candidate have a notably protruding maw?; Other examples of questions distinguishing mammals from other life forms: Does the candidate have fur? Does the candidate have scales? Does the candidate have four legs? Does the candidate have lungs? Does the candidate have blood? Does the candidate have ears? Can the candidate grow to be over 3 feet tall from toe to head? Can the candidate's hair grow to be over two inches in length? Etc.).

4. Answer each of the questions for each of the selected candidates.

RESULTS/DISCUSSION

1. Make a chart to illustrate how similar/different the candidates are to one another.

   - For each candidate, count how many traits it shares in common with each of the other candidates.

   - Select one of the candidates and sort the other candidates in order from highest to lowest in how similar they are to the selected candidate.

- Draw a large box with a row and column for each candidate (e.g., if there are 13 candidates, there should be 13 rows and 13 columns).

- On the x-axis (from left to right), label the columns with the sorted candidates from step (b), from most similar to least similar.

- On the y-axis (from bottom to top), label the rows with the same sorted candidates from step (b).

- Starting with the first row (bottom), fill in the similarity numbers that candidate shares with each of the candidates listed in the columns (NOTE: the first box—bottom left—is a comparison between the first candidate and itself, which will be a perfect match).

- Continue the same process for each of the other rows.

- Color the entry boxes according to similarity. For example:

  * If a candidate shares at least 80% of its characteristics with another candidate (i.e., 40 out of 50 questions), color the entry box red.

  * If it shares 60-79%, color the entry box red-orange.

  * If it shares 40-59%, color the entry box orange.

  * If it shares 20-39%, color the entry box yellow-orange.

  * If it shares 0-19%, color the entry box yellow.

2. Are distinct "groups" of candidates visible on the chart? If not, more specific questions may need to be considered. With a perfect set of questions, distinctions should be visible, helping to highlight the biblical "kind" being represented.

3. Using the information from your chart, draw a Creation "orchard" illustrating the candidates that were studied in this lab and how they might fit in the orchard. Note that each "tree" in the "orchard" represents a kind, while the branches of the tree represent varieties within the kind. Also note that some of your species may group incorrectly without more traits being considered, but draw your orchard based on the data in your chart.

4. What factors are you controlling in your "kind" determination that could affect whether you have, in actuality, determined true created kinds?

5. What could you do to help make better distinctions in "kinds" and more accurate groupings?

6. How might we know with virtual certainty which animals are in the same kind? Did your questions take advantage of that knowledge? Were your results affected by your consideration of that knowledge?

7. Might some of the distinct groups you discovered be a single group in actuality? Might one of your groups actually be a group with multiple kinds within it? Why might those scenarios occur and what could you do to fix that problem?