ANALYSIS QUESTIONS

These can be cut and provided for students to analyze and answer.

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| 1. How could the size of each bean reflect the interaction between the environment and the genetics of the bean? |
| 2. Why even under ideal environmental conditions can the beans not change their size? |
| 3. An example of “natural selection” may be a drought when smaller beans die faster than larger beans (which have greater water reserves). What effect would this selection have on the next generation (population) of beans? |
| 4. If a group of early humans (hunter/gatherers that did not cultivate beans) preferred smaller beans over larger beans, what would happen to the future population of beans? |
| 5. In modern agricultural societies, we cultivate plants that offer us desired characteristics. This process of “artificial selection” is often seen in mono-cultured crops. What is the long term effect of selecting for specific traits? |
| 6. The process of choosing certain characteristics is called selection. Selection can be “natural” (naturally occurring processes) or “artificial” (caused directly by human intervention). Using the beans in question 3 or 4, explain why the bean population would change in size after 10 years. \*(HINT: would the large beans be able to reproduce after they are eaten?) How would the graph compare to the original graph you made? |
| 7.  What does the standard deviation tell you about your data? (optional) |