

## Investigation 4.A: Variations Great and Small Answer Key

### Answers to Analysis Questions

1. You should identify the variables you measured, the units you used to measure the variables, and the maximum and minimum measurements you got.
2. You are analyzing two traits so you will draw two conclusions. Concluding statements should refer back to observations and calculations, and have a quantitative component. For example, “It was found that bean seed lengths range from 2.3 cm to 4.3 cm, with seeds equally distributed through this range.” Typically, results will show a range of traits (i.e., hair colour, stem length in leaves, etc.; some traits will have only two variations (i.e., earlobes, no earlobes). You can construct a graph showing a frequency distribution curve.
3. You should expect to see a smaller variation in the range of data if all the specimens come from the same parent.
4. Size will have advantages in some species. For example, a large seed will be advantageous in times of drought or when soil nutrient conditions are poor. A larger seed will be able to provide more nutrients to a sprouting plant, allowing quicker growth, and sustain it for a longer period of time if the plant is under stress. Your response should be logical and specific to the measured characteristic, state advantages (or disadvantages), and provide an explanation.