

Activity 16A- Variations great and small

Diversity (variations) within a species can help populations survive environmental changes. Diversity within a species can be monitored genetically, or it can be demonstrated by measuring individuals within a population. In this investigation, you will design an experiment to measure a characteristic in two populations—plant seeds and humans.

Question: Are there measurable differences in size among individuals of the same species?

Hypothesis: Make and record a hypothesis about how a characteristic might be distributed throughout a population.

Procedure: With your class, design an investigation to determine the variation in the mass of plant seeds and a second investigation to determine the variation in the length of the human thumb or the width of the human hand. Record the steps in your procedure below:

Variables: Identify the variables that you will control to ensure that your data are reliable.

Data Tables:

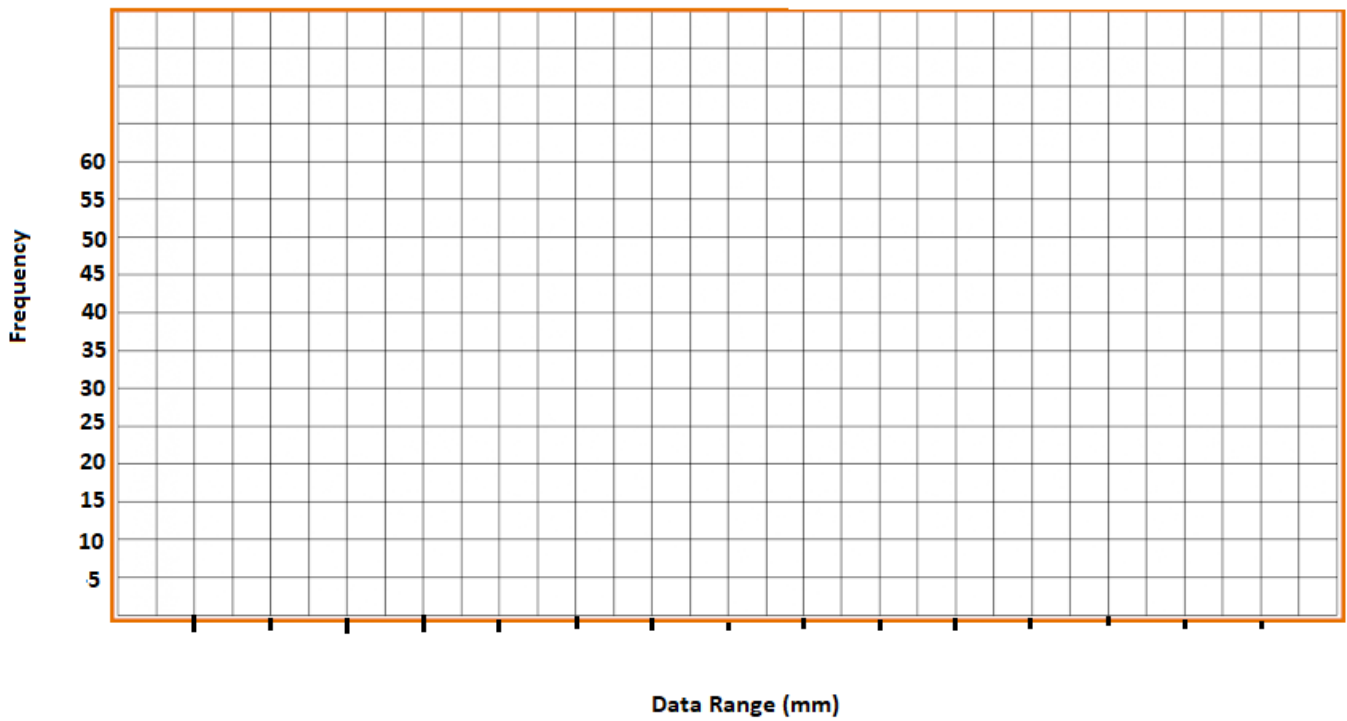
Title:

Data Range (mm)	Frequency

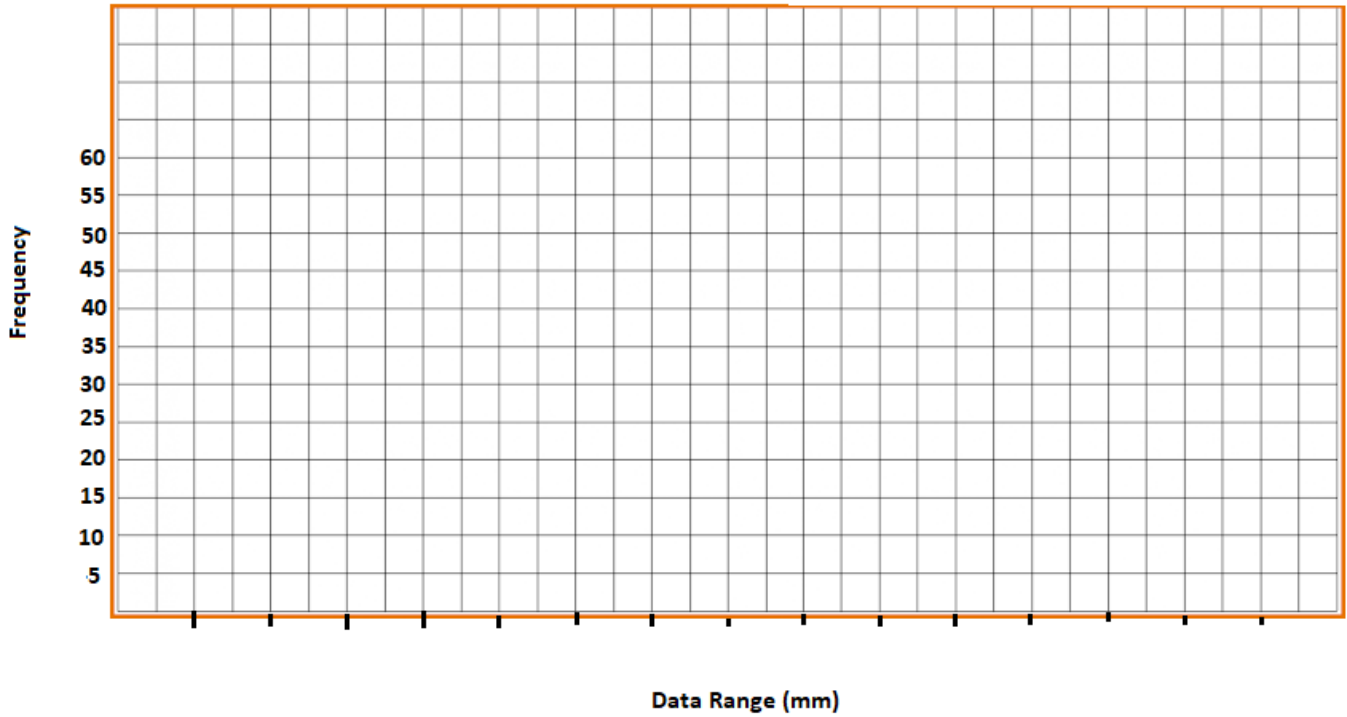
Title:

Data Range (mm)	Frequency

Title: _____



Title: _____



Analysis:

1. Identify the range of the data that you collected for each investigation.

Conclusions:

2. What can you conclude about the variations within a population? Is there a “typical” length or mass? Or is the frequency the same for each data range?

3. Would you get a greater or smaller variation in the range of data if all of the individuals sampled came from the same parents—for example, if all of the seeds you measured originated from the same plant?

4. What advantage would size (either large size or small size) have to the population studied? (For example, what advantage would large size have to a seed?)
