

Name _____ Period _____ Assignment # _____

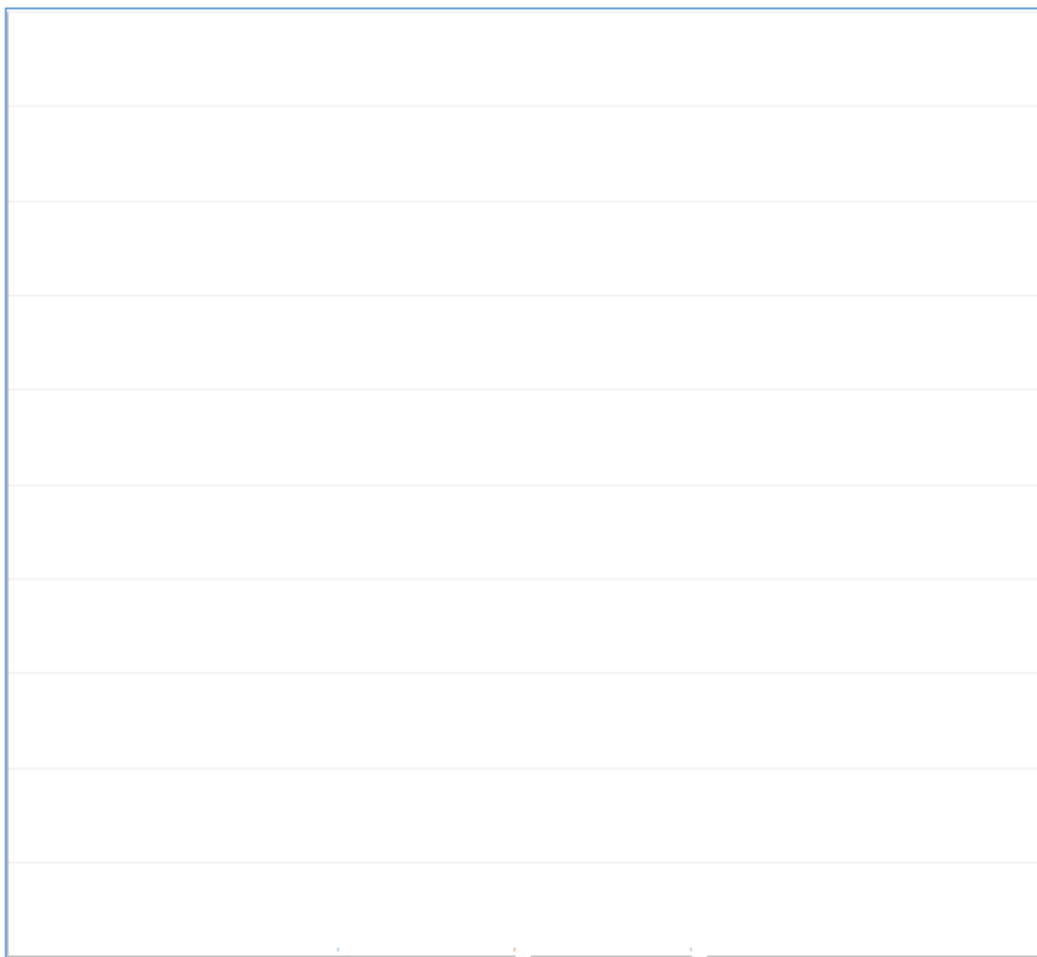
Artificial Selection Guided Practice Parental Generation Data Analysis

- 1) Sketch the box and whiskers plot for the class data (label the y-axis with appropriate title, units, and intervals)

Assume our experimental results will demonstrate the theory of artificial selection.

- 2) Sketch your prediction for what the box and whiskers plot will be for the offspring of the top 10%
- 3) Sketch your prediction for what the box and whiskers plot will be for the offspring of the bottom 90%

Class data height Pre-selection and Post selection



Pre-selection Post selection Top 10% Post selection Bottom 90%

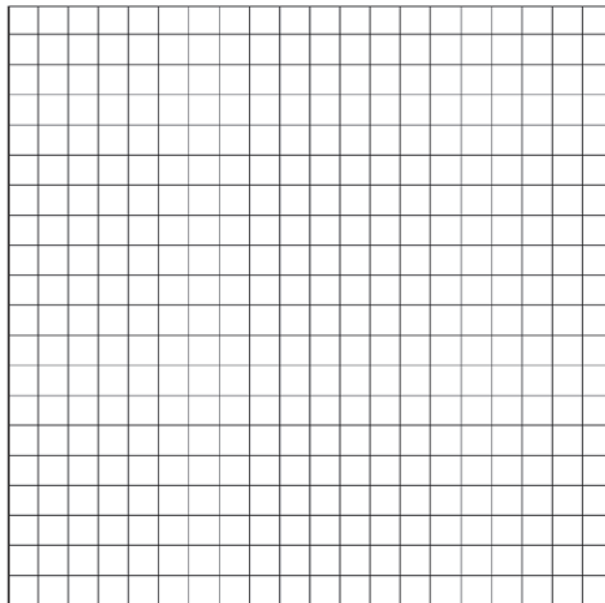
- 4) Justify your predicted graph above. A justification has 3 components: scientific knowledge and/or theory; 2) specific data from your analysis related to the knowledge; and 3) an explanation of HOW the data supports the knowledge.

You must include knowledge from your *Quantitative Analysis Reference* section, “What is a box and whiskers plot?” and your explanation must be informed by the “What is the empirical rule?” and “How are graphs with standard error bars interpreted” sections.

- 5) Create a bar graph showing the mean for the class data with error bars indicating ± 2 SEM (label the axes with appropriate title, units, and intervals)

Assume our experimental results will demonstrate the theory of artificial selection.

- 6) Create a bar graph showing the predicted mean of the offspring of the top 10% ± 2 SEM
7) Create a bar graph showing the predicted mean of the offspring of the bottom 90% ± 2 SEM



- 8) Justify your predicted graph above. A justification has 3 components: scientific knowledge and/or theory; 2) specific data from your analysis related to the knowledge; and 3) an explanation of HOW the data supports the knowledge.

You must include knowledge from the following sections of your *Quantitative Analysis Reference*: “What is the empirical rule”, “How are graphs with standard error bars interpreted” and “How are graphs with standard error bars interpreted.”