Making a frequency distribution (histogram)

You can do this “by hand” as follows.

1. The horizontal axis is for your data, arranged in increasing order. For example, 1 cm, 2 cm, 3 cm,……10 cm.
2. Your vertical axis is the number of individuals in each of the classes on the x axis. For example, 1 plant, 2 plants, etc.
3. In this example, there are 24 plants in your population, plus the 2 parents. Parent 1 is 4 cm; Parent 2 is 9 cm.
4. Your data: 1 plant is 2 cm, 3 plants are 3 cm, 6 plants are 4 cm, 2 plants are 5cm, no plants are 6 or 7 cm, 3 plants are cm, 7 plants are 9 cm, 2 plants are 10 cm.

Parent 1 Parent 2

10

#

plants

9

8

7 \*

6 \* \*

5 \* \*

4 \* \*

3 \* \* \* \*

2 \* \* \* \* \* \*

1 \* \* \* \* \* \* \*

1 2 3 4 5 6 7 8 9 10

centimeters

You can make the graphs in Excel….instructions are at the “Readings” for the section on Mendelian genetics.

Assessment of the “shape” of the distribution and the positions of the parents will start to lead you to formulating hypotheses regarding the number of genes determining the trait. By showing the values of the parents on the graph, you can start to make inferences about inheritance and develop hypothesis. In this case, one might say “all plants that are 2 cm – 5 cm are short and all plants that are 8 cm – 10 cm are long”. You will then have 2 classes and can proceed to a chi square test…..