Modeling Electrophoresis Mini-Lab

Problem: What is the relationship between DNA fragment size and rate of travel in an electrophoresis gel?

Hypothesis: WRITE ONE and create a graph of what you expect the relationship between fragments size and rate of travel to look like.

Materials:
People
Desks
Stop watch

Procedure: WRITE ONE (in paragraph form, not step by step). Include a description of what is represented by the people and the desks.

DATA:
Collect class data

DATA PROCESSING:
- Find rate for each trial. Rate = distance / time. Show one example calculation. Put into a second data table.
- Calculate the average rate for each number of people. Show one example calculation.
- Calculate the standard deviation for each average. Show one example calculation.
- Summarize processed data (mean and SD) in a table (either the same table as your rate, or a new table).
- Read about ANOVA in your student guide. Then, use an online ANOVA calculator to perform an ANOVA test. Write the "p" value in your lab book.

DATA PRESENTATION:
Graph mean rate of travel and fragment size.
HINT: MV goes on the x-axis.
Remember a title.
Use the correct type of graph.
Be sure to include the SD as a bar above and below each mean.

CONCLUSION:
- Answer the problem question.
- Was your hypothesis supported
- Use data to explain how you know the answer to the PQ.
- Explain why an ANOVA test was performed and what your "p" value indicates about the data.