Name(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Investigation 8: **How Long to Topple Dominoes?**

**Worksheet 8.1 Design Your Own Investigation**

**Formulate a Statistical Question**

Brainstorm topics that interest your group and include two variables. The two variables should be quantitative and ones in which you anticipate a linear relationship.

**Statistical Question** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Get approval for your statistical question before moving on.

**Collect Appropriate Data**

Describe the data-collection process. Include possible complications and how these might be handled. Once the data-collection process is approved, collect and organize the data.

**Analyze the Data**

Data analysis should include a scatterplot, de­scription of the relationship between the two variables, interpretation of correlation coeffi­cient, linear model, and residual plot.

**Interpret the Results in the Context of the Original Question**

Interpret the analysis of the data in the context of the situation. Be sure to answer the statistical question and support the answer with the data analysis.

**Option 1:** Write and orally present a report summarizing your results. Your report and presentation should include the following:

* The statistical question investigated and why it was chosen
* A description of the population sampled
* A summary of the data collection
* The collected data, organized as appropriate
* Analysis and descriptions of the data, us­ing calculations, tables, graphs, and plots. Note any unusual results.
* Conclusions about the statistical question
* Recommendations for any follow-up stud­ies or questions that may be investigated

**Option 2:**Create a data visualization poster and orally present the poster summarizing your results.

The poster should include the following:

* The statistical question as the title of the poster
* The organized collected data—tables and graphs (at least two graphs)
* Conclusions about the statistical question

The oral report should include the following:

* Reason the statistical question was chosen
* A description of the population sampled