

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