

Lesson Plan

Grade 9 Academic

Lesson: 37

Unit/Chapter: Investigating Relationships

Topic: Reasoning About Data

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▣ *homework check:* NPM 9 p. 349 #2 – 5, 7, 9 (use 2008 as year one)

▣ *note:* Reasoning About Data

When you make a hypothesis or conjecture about a relationship, you can use data to support or refute your belief by examining the trends or patterns in the data. Your examination might concur with your original hypothesis which requires statements of such in your conclusion. Your hypothesis may not be supported by the graph or equation of the data and requires reevaluation as part of your conclusion. Likewise, if there is no support of any trend whatsoever, your conclusion must also include these observations. Conclusions made from small amounts of data may not be valid. The larger your data set, the more likely that a valid conclusion can be reached.

▣ *homework assignment:* Cagey Problem

## A Cagey Problem

You are a designer working on the design of a home for a small hamster. You have to determine the best dimensions for the base of a rectangular home that will maximize the base area.

**Note:** the perimeter of the base is limited to 250 cm due to the high price of the fasteners that secure the top to the base. You are to investigate the problem and:

1. Form a hypothesis about the dimensions that will maximize the base area being sure to include why you believe this to be true.
2. Collect and organize the data needed to support or refute your hypothesis. Include charts, graphs, equations, and clear mathematical computations as part of your report.
3. As part of your conclusion, prepare a recommendation for the best dimensions of the cage. Include your supporting evidence and ensure your charts and graphs have appropriate titles and units.

**PAY CAREFUL ATTENTION TO THE RUBRIC!**

*\*did you include application of the processes with a broader view of the task?*

*\*did you gather data that is appropriate and connected to the problem, including significant and extreme cases*

*\*did you form a viable hypothesis and was that hypothesis defended or refuted?*

*\*did you create models that include charts, diagrams, graphs, and equations?*

*\*did you select the most appropriate tools for the task in a logical sequence?*

*\*does your conclusion have a direct connection to the problem with evidence of reflection?*