Lab 1: Dune Buggy Challenge

Question:
How much time does it take a Dune Buggy to travel a specified distance?

Purpose:
To collect distance-time data for a Dune Buggy car in order to predict the time it takes the Dune Buggy to travel a specified distance.

A complete lab report includes a Title, Purpose, Data section, and Conclusion section. The Data should include a table with column headings for the two measured quantities. The Data should also a taped-in plot of the two quantities. And finally, the Data section should include a predicted time and a measured time. The Conclusion should include a **Claim** (that answers "the question"), **Evidence** (references to specific data in the Data section that supports your claim), and **Reasoning** (several sentences to a paragraph of writing in which you logically explain why the evidence provides support for your claim).

Lab 2: Bounce Height

Question:
How is the bounce height of a ball related to the release height of the ball?

Purpose:
To determine the type of relationship (linear, quadratic, inverse, or constant) that relates the bounce height to the release height.

A complete lab report includes a Title, Purpose, Data section, and Conclusion section. The Data should include a table with column headings for measured and calculated quantities. The rows of the table should include data for several trials (at least 5). The Data should also include a Logger Pro graph (taped in) with a linear or curve fit and associated equation. The Conclusion should include a **Claim** (that answers "the question"), **Evidence** (references to specific data in the Data section that supports your claim), and **Reasoning** (several sentences to a paragraph of writing in which you logically explain why the evidence provides support for your claim).

Lab 3: Paragraph Graphs

Question:
How is the width of a block of text related to the height of the text?

Purpose:
To determine the type of relationship (linear, quadratic, inverse, or constant) that relates the height of a block of text to the width of the text.

A complete lab report includes a Title, Purpose, Data section, and Conclusion section. The Data should include a table with column headings for measured quantities. The rows of the table should include data for the six paragraphs. The Data should also include a Logger Pro graph (taped in) with a linear or curve fit and associated equation. The Conclusion should include a **Claim** (that answers "the question"), **Evidence** (references to specific data in the Data section that supports your claim), and **Reasoning** (several sentences to a paragraph of writing in which you logically explain why the evidence provides support for your claim).

Lab 4: Stopping Distance

Question:
How is the stopping distance of a skidding car related to its pre-skid speed?

Purpose:
To determine the type of relationship (linear, quadratic, inverse, or constant) that relates the stopping distance of a skidding car to its pre-skid speed.

A complete lab report includes a Title, Purpose, Data section, and Conclusion section. The Data should include completed version of the provided table. The Data should also include a Logger Pro graph (taped in) with a linear or curve fit and associated equation. The Conclusion should include a **Claim** (that answers "the question"), **Evidence** (references to specific data in the Data section that supports your claim), and **Reasoning** (several sentences to a paragraph of writing in which you logically explain why the evidence provides support for your claim).

Lab 5: Does Mass Matter?

Question:
How is the period of a pendulum related to the mass of the pendulum?

Purpose:
To determine the type of relationship (linear, quadratic, inverse, or constant) that relates the period of a pendulum's motion to the mass of the bob.

A complete lab report includes a Title, Purpose, Data section, and Conclusion section. The Data should include a table with column headings for measured quantities. The rows of the table should include data for several masses (10 g to 500 g). The Data should also include a Logger Pro graph (taped in) with a linear or curve fit and associated equation. The Conclusion should include a **Claim** (that answers "the question"), **Evidence** (references to specific data in the Data section that supports your claim), and **Reasoning** (several sentences to a paragraph of writing in which you logically explain why the evidence provides support for your claim).