Balloon Rally Experiment Data

My Name:		**Date:**	
My Partner's Name:		**Hour:**	

Lab Title:

Got Gas? Hot Air Balloon Rally

Problem/Situation: You are cordially invited to enter a hot air balloon of your design in our annual "Got Gas?" Hot Air Balloon Rally. We are looking for balloon designs that maintain flight as long as possible and will provide riders with a smooth launch and landing. At the end of the rally, please prepare a multimedia presentation illustrating the highlights of your balloon design, flight time, and ride description. These will be displayed after the rally in our exposition building for hot air balloons. A brochure is also required showcasing your knowledge about the scientific principles of your hot air balloon.

Construct a hot air balloon that maintains flight and provides a smooth launch and landing for its riders.

Hypothesis: In what ways will density of matter affect your hot air balloon?

Prediction Statement/Goal: What goals do you want to set for the construction of your balloon? Consider materials of the balloon and the scientific principles involved for flight to happen.

Experimental Design: How will you organize and test the construction of a hot air balloon?

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Materials: Brainstorm a list of materials you could use for the three parts of a hot air balloon. Consider the density of the materials. Decide on your materials and turn in a list to your science teacher.

Procedure: Construct your balloon either using the pattern given in class or find/design your own. Begin construction. Calculate the density of every single piece of material used and input the data into a chart or spreadsheet. Complete a test flight, evaluate your balloon's performance, and then redesign your balloon if necessary. Draw illustrations and take digital pictures of the process.

Results: You will need to record data for flight time, launch, and landing results. Take digital pictures. Use a spreadsheet and attach printouts. All participants will need a copy of your materials and flight information for your balloon. Include the mass, volume, and density of each material and flight time.

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Data Table:

Graph:

Analysis: Analyze your results as well as use the materials data from other participants. Use a spreadsheets to record class data.

Conclusion: Make final conclusions about the design of hot air balloons. Be scientific in your explanations.

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