# Force and Motion

Assignment #5 Bottle Rocket Project

NAME:_____ Date Due: _____

| Instructions: You are to create a water bottle rocket, with a parachute, from a 2l pop bottle. |
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Simulator site: http://www.grc.nasa.gov/WWW/K-12/bottlerocket/br2d_b.swf

Process:

- You will be given 1 to 2 days of in class instruction to create your rocket Bottle rocket.
- Day 1 you will be given a demonstration of what the launch day will be like and you will figure out the optimal amount of water to put in your bottle. You will be given the rest of that day to work on your rocket. You must bring a 2L pop bottle on this day.
- Day 2 you will make your parachute retrieval system. You must bring a garbage bag on this day.
- Day 3 will be the launch.

Evaluation

1)Upon completion of your rocket on the due date you will receive 55%.

2)You will obtain a mark out of 10% for your in class efforts and use of knowledge. *(You are to apply what we have learned this far to making your rocket. As well you can't achieve the full 10% if you don't bring your materials or do little work during class. Even if you still get it done on time, you did not use the class time wisely.)*

3)You will get 1% for every second that your rocket is in the air to a maximum of 35%. From my research it is possible for your rocket to be in the air as long as one minute or as short as 5 seconds. Your time will depend greatly on the success of your parachute. I suggest that you research different methods to make sure that your parachute opens and the ties don't get tangled. (For example using straws around the string)

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| ❑ Rocket was not completed on time = 0% | | ❑ Rocket was completed on time = 55% | **/ 55%** |
| ❑ Class time was used poorly<br>❑ 0-3%<br>❑ comments on class time use | ❑ **Most** of class time was used efficiently<br>❑ 4-7%<br>❑ comments on class time use | ❑ **All** class time was used efficiently<br>❑ 8-10% | **/10%** |
| | | ❑ Time in air | **/35%** |
| | | | **/100%** |