

Force and Motion

Assignment #5 Bottle Rockets

NAME: _____

Date due: _____

Instructions: Answer the questions in the spaces provided. Use all of your knowledge about force and motion to support your answers.

Data collection: (remember to always include units with all measurements)

Size of bottle used: _____

Amount of water	Distance travelled approx.	Calculations of % of bottle filled with water	% of bottle filled with water
0 ml		$\left[\quad \quad \quad \right] 100 =$	0%
		$\left[\quad \quad \quad \right] 100 =$	
		$\left[\quad \quad \quad \right] 100 =$	
		$\left[\quad \quad \quad \right] 100 =$	

1. What is the optimal **percentage** of water to put in your bottle rocket to have the most success?

2. Calculate how much water (in ml) that means you must put in your 2L pop bottle.

3. Why do we put fins on our rockets?

4. What is aerodynamics? (You may have to look this up.)

5. List 4 areas that aerodynamics is important. (Example: The shape of a car for better gas mileage)

6. Explain why you need to put a weight in the nose of your cone.
