BOTTLE ROCKET LAB

PURPOSE and REQUIREMENTS

PURPOSE: To culminate the Physics learned in eighth grade science.

REQUIREMENTS: To create a bottle rocket out of a 2-litre soda bottle that will go high into the air once launched. [To have the victorious rocket amongst all eighth grade classes]

ASSIGNMENT: In a group of two, students will create a bottle rocket to be launched. Each group will set off their rocket 3 times in total, two for practice and alterations and the third for the final. Data on launches, triangulations, and graphing for the height the rocket traveled will be required for each launch. Reports, from each person, will be due after each launch to include all of the listed information gathered in the lab write-up format.

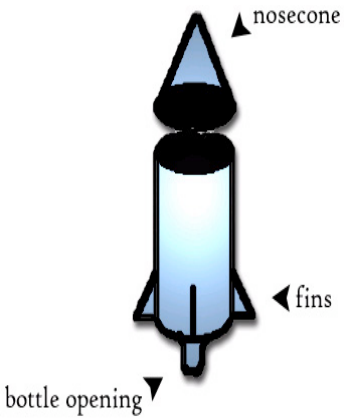
MATERIALS: 1 2-litre soda bottle with lid
paper, cardstock, cardboard material for fins and nose
duct tape to attach fins and nose
optional decorations to use on rocket
water to set off rocket

DATES: First Launch – May 21
Second Launch & First write up – May 26
Third Launch & Second write up – June 1
Final Lab Write-up – June 3

GRADING: Design & Creativity of Bottle Rocket
Lab Write-ups:

#1 [25 points]
Drawings of rocket
-parts labeled
-forces at work labeled
Drawing of flight
-N 3 laws shown & explained
-P & K energy shown
Height worksheet
Triangulation worksheet
Graph of Height

2 & 3 [15 pts each]
Drawing of rocket
-alterations explained
Height worksheet
Triangulation worksheet
Graph of Height


nosecone
fins
bottle opening