Fins:

Rocket Description

Owner:	Tanner, Chris Desti
Rocket Name:	Nutech
Type:	Sumo
Length: (inches)	39"
Diameter: (inches)	4"
Fins:	4
Listed Mass: (g)	907g
Date of Construction:	4/1/2016
Recommended Motors: (G only)	
RMS(G64-4, G71-4, G76-4) SU(G38-4, G40-4, G77-4, G78-4, G79-4, G80-7	
Center Gravity(CG):	26.25"
Center Pressure(CP):	29.5

Building Notes

building was fine, all parts attached, package did not have any missing parts. The rocket went together smoothly, had a

Estimated Cd:	0.34
Predicted Altitude:	840'

Prediction Notes

We chose .34 for the Cd because it was in the middle of the other flight's Cds. Also, with that Cd it gave us a very good prediction altitude which is 840 ft. We chose 840 ft because again it was in the

Launch Information

Date:	5/3/2016
Time of Launch:	9:10 AM
Location:	SW of school in the
Rocket Mass(g):	1035
Motor:	G76-4
Motor Mass(g):	143
Altimeter Mass(g):	9.9
Liftoff Mass(g):	1187.9
Wind Direction:	Blowing West
Wind Speed:	10 mph
Igniter:	first fire
No. of tries to ignite:	1

Ignition

¨ **Successfull**	¨ Blow Out
¨ Caught on clips	¨ Motor Failure

Trajectory

¨ **Straight-Up**	¨ Spinning
¨ Corkscrew	¨ Non-vertical
¨ Into the wind	¨ Unstable

Launch Notes

set up was good, all connections were working, launched on 1st attempt, fast takeoff, very loud (thought it was louder than other sumos)

Recovery Information

Ejection Occurred

¨ During Ascent	¨ At Apogee
¨ **After Apogee**	¨ During Descent
¨ Ejection Failure	

Parachute Deployment

¨ Full	¨ **Partial**
¨ Did not deploy	

Parachute Descent

¨ Stable Descent	¨ Tangled lines
¨ Some swaying	¨ **Sprial descent**

Reason for Recovery Failure

- ¨ Damaged Chute
- ¨ Tight Upper Body tube
- ¨ Improper setup
- ¨ Chute Separated
- ¨ Motor Ejected
- ¨ Unplanned Separation
- ¨ Other _____

Descent Speed

¨ Slow	¨ **Average speed**
¨ Very fast	¨ Ballistic

Landing

¨ Soft	¨ Water
¨ Tree	¨ Caught on Wire
¨ **Hard**	¨ Crash
¨ Landed on Building	

Recovery

¨ **Full Recovery**	¨ Lost
¨ Not Recoverable	¨ Parts lost

Distance & Direction from pad:

East about 300 ft on the football practice fields

Recovery Notes

landed on the fin and the nose cone bounced hard, chute didn't deploy all the way so it was coming down a little fast than average, the fin was lose when recovered

Post Launch Information

Flight Grade

- ¨ **Excellent**
- ¨ Good
- ¨ Fair
- ¨ Poor
- ¨ Rocket cannot launch again

Describe any damage to the rocket:

The flight was excellant. The only bad thing was the altimeter. When recovered, the fin was lose because the fins hit first on the ground and bounced hard. Also, when looked at after the shock cord was stretched out and only holding on by a few strings. It about tore in half. Otherwise all the stickers and paint were still on and no damage to the body.

Altimeter Two Data

Apogee Altitude:	-
Top Speed:	-
Burn Time (burn):	-
Peak Acc (Pacc):	-
Avg Acc (Aacc):	-
Coast Apogee (C2AP):	-
Apogee to Eject (AP2E):	-
Ejection Alt. (EALt):	-
Descent Speed (dESc):	-
Flight Duration (durA):	-

Altimeter Data Analysis

Altimeter was jammed into the nose cone. The hole wasn't big enough so we jammed it in and then had to cut it out. We believe it didn't work because when we pushed it into the nose cone, the pressure changed and set it off. The data we received was inaccurate. As we

Prediction vs Actual Analysis

We didn't get the right data so we can't compare anything. It looked roughly around 800 ft which is close to our prediction which was 840 ft. We launched into the wind causing the rocket to fly straight up. It was also calm the time we launched so I don't think anything really affected the altitude.

Lessons Learned

We learned that we should all agree on a design and not do anything another group member doesn't know about before doing it because if someone does the other members get upset. The building process is a long, thought out process that needs to take time. If you do it too fast then you might mess something up. You need to exactly what to do before you do it so you don't glue something on where it's not suppose to. The prediction process also needs to be thought out. There are a lot of variables that can affect your prediction so making sure all them are correct will help you. Making sure all the connections are correct when launching will allow your launch to go smoothly. We made sure of that and we were done in 10 or less minutes. As a class we learned is we need to take care of all the equipment and cameras when launching and recovering because some to those things can be broken.

Rocket Project Suggestions

We think that we should do more of the building of the rocket. Like give us the directions and let us go rather than going step by step as a class. I think it's more beneficial as a student to learn the building and launching process. Even setting up the rocket on the rocket rally