Rocket Data Sheet and Launch Record

Rocket Description

Owner:	Lindsey Smith and
Rocket Name:	The Beatles
Type:	Model Rockets.US
Length: (inches)	22.625 in
Diameter: (inches)	1.645 in
Fins:	3
Listed Mass: (g)	70.87 g
Date of Construction:	9/19/2014
Recommended Motors:	
B6-2, C6-3	
Center Gravity(CG):	15 and 3/8 inches
Center Pressure(CP):	

Building Notes

Paint cracked on nose cone and body tube. There was trouble getting fins to fit, had to sand some off.

Estimated Cd:	0.5
Predicted Altitude:	400 ft.

Prediction Notes

Company predicts 650 ft. the mass of our rocket compared to the masses of similar rockets and their heights shows that our rocket should be somewhere in between the company results and those who are similar to us

Launch Information

Date:	9/26/2014
Time of Launch:	4th period
Location:	soccer parking lot
Rocket Mass(g):	81.2
Motor:	C6-5
Motor Mass(g):	24.9
Altimeter Mass(g):	9.9
Liftoff Mass(g):	116
Wind Direction:	SSE
Wind Speed:	10 mph
Igniter:	Estes
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

Accurate launch. Didn't go as high as expected, or straight in the air, but nothing was broken and it only took one try to ignite it

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:

10 yards south-south east

Recovery Notes

Landed close to launch site. Parachute had deployment. The rocket landed a little hard.

Lessons Learned

Make sure to count down before launching

Altimeter Two Data

Apogee Altitude:	300 ft.
Top Speed:	89 mph
Burn Time (burn):	2.2 s
Peak Acc (Pacc):	7.5 g
Avg Acc (Aacc):	1.9 g
Coast Apogee (C2AP):	2.9 s
Apogee to Eject (AP2E):	.7 s
Ejection Alt. (EALt):	293 Ft
Descent Speed (dESc):	12 mph
Flight Duration (durA):	22.2

Altimeter Data Analysis

Ejection was pretty close to apogee

Prediction vs Actual Analysis

Our prediction was way off the actual number. I believe the direction and speed of the wind caused the rocket to not go as high. Also, the weight of the rocket initially would cause it to go slower.

Post Launch Information

Flight Grade

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

Describe any damage to the rocket:

No damage

Rocket Project Suggestions

Allow more time in class for rocket design. Go over launch procedures more thoroughly.