

Rocket Data Sheet and Launch Record

Rocket Description		Recovery Information		Altimeter Two Data	
Owner:	bve and dave	<u>Ejection Occurred</u>		Apogee Altitude:	1144
Rocket Name:	parental advisory	• During Ascent	• At Apogee	Top Speed:	202
Type:	arcas	• After Apogee	• During Descent	Burn Time (burn):	1.6
Length: (inches)	56	• Ejection Failure		Peak Acc (Pacc):	9.3
Diameter: (inches)	2.6	<u>Parachute Deployment</u>		Avg Acc (Aacc):	5.8
Fins:	4	• Full	• Partial	Coast Apogee (C2AP):	6.4
Listed Mass: (g)	620	• Did not deploy		Apogee to Eject (AP2E):	0.6
Date of Construction:	early march	<u>Parachute Descent</u>		Ejection Alt. (EALt):	1100
Recommended Motors: (G only)		• Stable Descent	• Tangled lines	Descent Speed (dESc):	12 mph
g55-5fj		• Some swaying	• Sprial descent	Flight Duration (durA):	67 sec
Center Gravity(CG):	38.5 from tip	<u>Reason for Recovery Failure</u>		<u>Altimeter Data Analysis</u>	
Center Pressure(CP):	46.75	• Damaged Chute		The apogee seems about right because we didn't expect our rocket to go too high. It was a bit lower than our estimation but that's alright. It's still within the 100-150 ft range so it's all good. The ejection also seems correct because the time from apogee to ejection seems like enough	
Building Notes		• Tight Upper Body tube			
process went smooth, no real issues other than the wrap not quite being the right circumference		• Improper setup			
		• Chute Separated			
		• Motor Ejected			
Estimated Cd:	0.315	• Unplanned Separation		<u>Prediction vs Actual Analysis</u>	
Predicted Altitude:	1370	• Other		I feel like our rocket didn't go as high as we wanted to because we had to adjust our launch angle according to the wind. If there was no wind and if we had shot it perfectly straight then it probably would have made it to our prediction. This slight change makes a large difference in scale.	
Prediction Notes		<u>Descent Speed</u>			
I based my prediction on what the spreadsheet estimated and what similar rockets have achieved in the past		• Slow	• Average speed		
		• Very fast	• Ballistic		
		<u>Landing</u>			
Launch Information		• Soft	• Water	Building a rocket is actually a lot cooler and a lot more fun than once previously thought. Painting a rocket is probably easier to do rather than using huge decals. Predicting was a lot easier just because there's such a large pool of data to collect from. Launching is a lot of fun and we learned about the different safety precautions to take before a launch.	
Date:	5/3/2016	• Tree	• Caught on Wire		
Time of Launch:	9:50	• Hard	• Crash		
Location:	West Side of the Dr	• Landed on Building			
Rocket Mass(g):	658	<u>Recovery</u>			
Motor:	G53-5FJ	• Full Recovery	• Lost		
Motor Mass(g):	60	• Not Recoverable	• Parts lost		
Altimeter Mass(g):	9.9	Distance & Direction from pad:			
Liftoff Mass(g):	727.9	East from the pad, in the middle of the practice soccer field (200 yds).			
Wind Direction:	Out of the West	<u>Recovery Notes</u>			
Wind Speed:	Around 3-5 mph	Recovery was so good that we can now display and or the shoot the rocket off again.			
Igniter:	First Fire Igniter	<u>Post Launch Information</u>			
No. of tries to ignite:		<u>Flight Grade</u>			
<u>Ignition</u>		• Excellent			
• Successfull	• Blow Out	• Good			
• Caught on clips	• Motor Failure	• Fair			
<u>Trajectory</u>		• Poor			
• Straight-Up	• Spinning	• Rocket cannot launch again			
• Corkscrew	• Non-vertical	<u>Describe any damage to the rocket:</u>			
• Into the wind	• Unstable	There were some slight tears in the decal on the nose cone, but that was not from the launch. They are from human error during transportation.			
<u>Launch Notes</u>		<u>Rocket Project Suggestions</u>			
David hooked up the cables to the battery and the rocket, and stood behind the table with me. He then grabbed the can of compressed air and sounded the horn to alert the others of the launch that was about to ensue. He counted down as I stood in anticipation to push the button. The moment came and I pushed the		It's a great project and as David says, "I can't honestly think of anything to change. I thought the project was awesome." After years of refinement, we believe that the art of the 'CHS Rocket Rally' has been perfected.			