

Rocket Data Sheet and Launch Record

Rocket Description		Recovery Information		Altimeter Two Data	
Owner:	Ashley and Lexi	Ejection Occurred		Apogee Altitude:	1991 ft
Rocket Name:	Laffy Taffy	• During Ascent	• At Apogee	Top Speed:	347 mph
Type:	Arcas	• After Apogee	• During Descent	Burn Time (burn):	1.16 s
Length: (inches)	56	• Ejection Failure		Peak Acc (Pacc):	15.8s
Diameter: (inches)	2.6	Parachute Deployment		Avg Acc (Aacc):	13.6s
Fins:	4	• Full	• Partial	Coast Apogee (C2AP):	9.4s
Listed Mass: (g)	620	• Did not deploy		Apogee to Eject (AP2E):	-9.3s
Date of Construction:	Spring 2016	Parachute Descent		Ejection Alt. (EALt):	33ft
Recommended Motors: (G only)	G53-5J, G64-7W, G71-7R, G76-7G, G38-7FJ, G40-7W, G77-7R, G78-7G,	• Stable Descent	• Tangled lines	Descent Speed (dESc):	0mph
		• Some swaying	• Sprial descent	Flight Duration (durA):	80.7s
Center Gravity(CG):	39" from nose	Reason for Recovery Failure		Altimeter Data Analysis	
Center Pressure(CP):	46.75" from nose	• Damaged Chute		Apogee? Apogee appeared to have happened after ejection and not before. Ejection? It appeared to have ejected much higher than 33 ft, so there may have been a problem with our altimeter near the end of our flight.	
Building Notes		• Tight Upper Body tube			
No issues while building.		• Improper setup			
		• Chute Separated			
		• Motor Ejected			
Estimated Cd:	0.538	• Unplanned Separation		Prediction vs Actual Analysis	
Predicted Altitude:	1850 ft	• Other		difference? why? wind? launch angle? Our prediction was much lower than it should have been because we originally predicted for a 7t and not a 10t. If we had for a 10t it would have been closer to 1900. We didn't consider wind speed when predicting, but if we had we would have predicted higher. I don't think the launch angle had much of an effect.	
Prediction Notes		Descent Speed			
The rocket may go slightly higher than expected because we made our prediction based on the -7T and not the -10T.		• Slow	• Average speed		
		• Very fast	• Ballistic		
		Landing			
Launch Information		• Soft	• Water	Building? Painting? Predicting? Launching? Recovery? Building the rocket was easier than we expected. If we were to do this again we would have managed our time better with painting and possibly have been more precise but overall we were proud of our design. We underestimated the altitute our rocket would go and this affected our predictions which we would have put more thought into if done again. We had no real issues with launching, but if we hadn't put a hole in our chute we probably would have. Our rocket was lucky to have landed where it did and that happened because we faced the rocket into the wind. Something happened with the altimeter during descent though and left us unsure on how the descent really went.	
Date:	5/3/2016	• Tree	• Caught on Wire		
Time of Launch:	11:10 a.m	• Hard	• Crash		
Location:	W of driving range	• Landed on Building			
Rocket Mass(g):	612	Recovery			
Motor:	G80-10T	• Full Recovery	• Lost		
Motor Mass(g):	120	• Not Recoverable	• Parts lost		
Altimeter Mass(g):	9.9	Distance & Direction from pad: east of the pad, about 300-400 yards			
Liftoff Mass(g):	741.9	Recovery Notes			
Wind Direction:	W	recovered in practice field to the right of the high school.			
Wind Speed:	13 mph	Post Launch Information			
Igniter:	Copperhead	Flight Grade			
No. of tries to ignite:	1	• Excellent			
Ignition		• Good			
• Successfull	• Blow Out	• Fair			
• Caught on clips	• Motor Failure	• Poor			
Trajectory		• Rocket cannot launch again			
• Straight-Up	• Spinning	Describe any damage to the rocket:			
• Corkscrew	• Non-vertical	the nose cone was slightly scuffed, but otherwise the rocket was intact			
• Into the wind	• Unstable	Rocket Project Suggestions			
Launch Notes		-nothing? we enjoyed the project and the worksheets greatly helped			
hole in parachute. no other issues otherwise.					