

# Rocket Data Sheet and Launch Record

Rocket Description		Recovery Information		Altimeter Two Data	
Owner:	Morgan & Lauren	<b>Ejection Occurred</b>		Apogee Altitude:	338 Ft
Rocket Name:	A&W	¨ During Ascent	¨ At Apogee	Top Speed:	83 mph
Type:	Modelrockets.us	¨ After Apogee	¨ During Descent	Burn Time (burn):	2.2 s
Length: (inches)	22.625 in	¨ Ejection Failure		Peak Acc (Pacc):	7.7
Diameter: (inches)	1.645 in	<b>Parachute Deployment</b>		Avg Acc (Aacc):	1.7
Fins:	3	¨ Full	¨ Partial	Coast Apogee (C2AP):	3 s
Listed Mass: (g)	70.9 g	¨ Did not deploy		Apogee to Eject (AP2E):	1.9 s
Date of Construction:	9/27/2013	<b>Parachute Descent</b>		Ejection Alt. (EALt):	286 Ft
Recommended Motors: (G only)		¨ Stable Descent	¨ Tangled lines	Descent Speed (dESc):	11 mph
C6-3, C6-5		¨ Some swaying	¨ Sprial descent	Flight Duration (durA):	24.3 s
Center Gravity(CG):		<b>Reason for Recovery Failure</b>		<b>Altimeter Data Analysis</b>	
Center Pressure(CP):		¨ Damaged Chute		Unfortunately, our apogee altitude was rather low along with our top speed. However, the burn time was average along with a successful apogee to ejection time. The flight duration was shorter than most because it did not go as high. With a C6-5 engine, our coast to apogee should have been near 5 seconds, however ours was only three. This will be a contributing factor to some of our final results.	
Estimated Cd:		¨ Tight Upper Body tube			
Predicted Altitude:	380 Ft	¨ Improper setup			
<b>Prediction Notes</b>		¨ Chute Separated			
Although the prediction spreadsheet says 530 feet, none of last years rockets were near that. Therefore, we totaled the apogee altitudes and used their average as our predicted altitude.		¨ Motor Ejected			
		¨ Unplanned Separation			
		¨ Other			
		<b>Descent Speed</b>			
		¨ Slow	¨ Average speed		
		¨ Very fast	¨ Ballistic		
<b>Launch Information</b>		<b>Landing</b>			
Date:	10/9/2013	¨ Soft	¨ Water	<b>Post Launch Information</b>	
Time of Launch:	4th period	¨ Tree	¨ Caught on Wire	<b>Rocket Damage</b>	
Location:	CHS	¨ Hard	¨ Crash	-No Damage	
Rocket Mass:	85.6 g	¨ Landed on Building		¨ Scuffed Paint	
Motor:	C6-5	<b>Recovery</b>		¨ Launch Lugs	
Motor Mass:	25.1 g	¨ Full Recovery	¨ Lost	¨ Engine Stuck	
Motor Mass:	25.1 g	¨ Not Recoverable	¨ Parts lost	¨ Fins Damaged	
Altimeter Mass:	6.7 g	Distance & Direction from pad:		Describe any damage to the rocket:	
Liftoff Mass:	117.4 g	500 feet north from pad.		No damage was done during the flight.	
Wind Direction:	N	<b>Recovery Notes</b>		<b>Flight Grade</b>	
Wind Speed:	15 mph	The parachute ejected successfully, just shortly after apogee. It had an average descent speed and landed softly on the grass without any damage. It was recovered several hundred feet from the launch pad.		¨ Excellent	
Igniter:	Estes	<b>Ignition</b>		¨ Good	
No. of tries to ignite:	1	¨ Successful	¨ Blow Out	¨ Poor	
		¨ Caught on clips	¨ Motor Failure	<b>Rocket Project Suggestions</b>	
<b>Trajectory</b>		<b>Lessons Learned</b>		We need to double check that all parts of our rocket are secure before gluing because we had a gap between our fin and body tube. This may have prevented our rocket from going as high because the air resistance could have slowed it down.	
¨ Straight-Up	¨ Spinning	Wind is a major contributing factor for the rocket. It is often more beneficial to launch your rocket into the wind, if there is any. This prevents a trajectory that is parabolic or L-shaped rather than directly upward.			
¨ Corkscrew	¨ Non-vertical	<b>Launch Notes</b>			
¨ Into the wind	¨ Unstable	The rocket went sideways (south, into the wind) although we had angled it to the north. This affected our overall altitude because it did not go straight up into the air.			