Rocket Data Sheet and Launch Record

Rocket Description	
Owner:	Austin Fleener, Eri
Rocket Name:	Carrot
Type:	Arcas
Length: (inches)	56 in
Diameter: (inches)	2.6 in
Fins:	4
Listed Mass: (g)	620 g
Date of Construction:	3/4/2016
Recommended Motors: (G only)	
G138-7T, G53-7FJ, G64-7W, G77-7R, G76-7G, G75-7M, G80-7T	
Center Gravity(CG):	39"
Center Pressure(CP):	46.75"

Building Notes

Motor Retainer glued to the tube, wouldn't unscrew. One wing didn't click all the way in.

Estimated Cd:	0.6
Predicted Altitude:	2200

Prediction Notes

Predict our rocket will get close to the predicted height, just with that high of altitude gets to were its hard to find because it goes so far. Might have trouble finding the rocket.

Launch Information	
Date:	May 3rd
Time of Launch:	9:43
Location:	South west corner
Rocket Mass(g):	624
Motor:	G138-7T
Motor Mass(g):	148
Altimeter Mass(g):	9.9
Liftoff Mass(g):	781.9
Wind Direction:	West
Wind Speed:	9mph
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

tilted the launch pad to a greater degree into the wind because we used the highest power engine. Which in turn lowered our altitude

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 of the pad about 300 yards

Recovery Notes

Our rocket landed in the 11th rough off the green. The chute deployed fully so the landing was so and landed in good area for a full recovery

Post Launch Information

Flight Grade

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

Describe any damage to the rocket:

Rocket had no damage, full recovery

Altimeter Two Data	
Apogee Altitude:	2300ft
Top Speed:	415mph
Burn Time (burn):	1.5s
Peak Acc (Pacc):	21.3g
Avg Acc (Aacc):	18.1g
Coast Apogee (C2AP):	9.8s
Apogee to Eject (AP2E):	-9.8s
Ejection Alt. (EALt):	18ft
Descent Speed (dESc):	0mph
Flight Duration (durA):	107sec

Altimeter Data Analysis

Our Coast Apogee, Apogee to Eject, Ejection Alt., and Desecent speed data from the altimeter were not accurate and didn't make sense with the flight. The coast to apogee may be close to correct but the chute popped as the rocket was past apogee so the time is incorrect with

Prediction vs Actual Analysis

Our prediction for our altitude was 2200ft, and it went 2300ft. Which is pretty close for this powerful of a rocket. Our altitude could've been a lot higher but the angle that we launched our rocket at was a way greater degree than any of the other rockets. The reason being that with it going so high the wind can and will push it more and making the recovery harder because it will go a farther distance away. This angle of the launch pad knocked off probably few hundred feet off our over all altitude.

Lessons Learned

Building? With our building I think we learned not to use so much glue on the engine cap because that caused the cap to be stuck and we had to have Mr. Duhrkopf fix that. Painting? So at first our orange paint was not the right color, which cause the rocket to be a really dark orange. I feel like we should have checked the color better. Another thing that I thought we should have done was make the stripes of the carrot first because that wouldn't have caused a lot of panick on our part. Predicting? I think our prediction of our rocket was fairly close to were it was suppose to be. Launching? There was really nothing that we thought was lessons learned. Recovery? During the recovery I think one thing that se learned was to make sure that we take out the altimeter.

Rocket Project Suggestions