The Science of Rocketry

Hejtmanek, William (School: Milnor High School)

Rockets, they're fairly interesting to me, so, I've decided to test multiple variables that effect rockets such as: Fin Structure/Shape, Payloads, Engines, Aerodynamics of the Rocket, Weather/Wind. I will see how these effect trajectory and altitude. Firstly, I would construct the rocket, then I would go out into the testing field and then apply the testing equipment (Altimeter and Payloads) I would launch and follow the rocket then recover them. I would take the data from the equipment and analyze how it all affected each other. Results showed that rockets with more weight had lower altitude, vice versa. However, once a stronger engine was applied, it changed its altitude to greater extent, vice versa with smaller engines applied. Rockets with larger fins ultimately had less altitude due to more fin weight, and the pointier the tip of the rocket was, less drag was produced and vice versa. The trajectory normally followed with the wind. I conducted multiple tests to see if my hypothesis was correct, and I have found that three different types of rockets do reach the altitude of roughly 1100 ft. with roughly 10g of weight. I also changed the weights between the tests and now have solid evidence that more weight means less altitude, vice versa. I have also tested with E6-12 engines resulting in greater height and C6-5 engines with less height. Leaving me to believe that my hypothesis is correct.

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