

**[First paragraph is assumed to be introduction but your option to name it. General paper rules: Indent the first 5 spaces in the first line of a new paragraph. Double space, set square 1 inch margins, and use #12 fonts. Bold type is my interjections and not part of paper.]**

**Double Space with #12 font**

**Square 1 inch margins: top, bottom, left, and right**

Balsa Wood Glider Contest

**Indent 5sp**

The purpose of this project is to incorporate classroom knowledge in the design of a balsa wood glider. The goal is to design and build a glider with the longest range. Since first announced at the beginning of the term I have spent several months researching the glider project with frequent trips to the Internet. As much as some things have changed, some things have remained unchanged since my childhood. Paul Guillow of Massachusetts from 1926 still makes simple model basal gliders and rubber band powered planes just like those I bought at the corner store in the 1960’s (Guillow, n.d.). **[In-text citation in APA format required for each reference. This is a required in-text reference to credit your sources of material. The author and date of publication should be indicated in parenthesizes separated by a comma. If there is no author, use the title of the publication. If no date is available use the letters n.d. for no date.]**

A multitude of plans are available on the Internet. In making several trial models, I have learned, much to my surprise, looks can be deceiving in a plane’s actual performance. A vintage sailplane plan may or may not translate well to an actual model that flies well. Simpler gliders often follow traditional plans. NASA has a website dedicated to model gliders to spawn the interest of younger generations (*NASA X-gliders*, n.d.). In my search of the Internet, I have found a vintage design the MiniGraupner available at http://www.airfieldmodels.com/ gallery\_of\_models/ miscellaneous/graupner\_mini/index.htm (*Graupner Mini, A Free Flight Balsa Wood Glider*, n.d.).

I have learned through trial and error the significance of lightweight but sturdy construction, the importance of establishing a forward center of gravity, and the merits of wing dihedral and angle of attack to maximize glider performance. I’m also a convert to the use of superglue /cyanoacrylate over older glues such as Testors or Ambroids. I also found there were glues that were good fillers to seal and reinforce joints. Since joints can be weak links in glider construction, most websites recommended either balsa wood reinforcing strips in each joint or filler glues that can be sanded.

Glider Project Summary

This project was a good “hands-on” experience. I learned some of the same things that the Wright brothers experienced in their quest to build a working glider. It was an intimidating project initially, but as I got into the details, I found that this project to be very possible. My confidence level rose with each section completed. In the end, I felt this was a rewarding experience that increased my confidence, research skills, writing, and construction handicraft.

**Remainder of this document is tips, examples, and instructions**

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**Quotations**

**Quotes are good but use them sparingly. When you quote another author, use a block quote for more than 40 words (about 2-1/2 lines of text) and cite the quotation in-text with author and date (and a page number if available). Include the reference on your reference page. For less than 40 words quotations, just place the quotation in quotation marks and include it in the normal text with a citation at the end.]**