



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

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| Name(s) Quinn A. Vosmera | Project Number 31256 |
| Project Title Go Green with Glue | |
| Objectives/Goals My objective was to determine if natural glue would be as strong as synthetic glue for general purposes. My hypothesis was that hide glue would be the strongest glue when I compared natural glues to synthetic. Abstract Methods/Materials Four different glues were tested: hide glue(natural glue), gorilla glue, wood glue, and elmers glue(all synthetic glues). Five different trials were done on each glue. The test boards were pine cut into a top board 6 inches long and a bottom board 4 inches long. The top board had a 2 inch whole drilled through the center and the bottom a 1/2 inch whole. A specific amount of glue was applied between the two boards and clamped for 24 hours. Then weights were attached to only the bottom board to determine how much weight each glue could withstand before breaking. Results The results of my investigation showed it was difficult to weaken the bonds of any of the glues. Three different testing trials were done on the boards with increasing weights as well as reducing the amount of glue used. The maximum weight used was 184 pounds. One of the hide glue samples broke and two of the wood glue samples broke Conclusions/Discussion From this investigation I learned that there was little difference between the four glues and their weight tolerance strength. The natural glue did almost as well as the synthetic glues making it a contender for more use. Do not judge a glue by its container, label or marketing, consider what is good for the environment and your health. | |
| Summary Statement Testing the strength of natural glues verses synthetic glues | |
| Help Received mother helped type report and put board together, dad helped cut and drill the boards and apply some of the weights | |