



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Stephen T. Michal	Project Number J1815
Project Title Don't Be Blown Away: The Effect of Wind Pressure on Different Building Shapes	
Objectives/Goals The objective is to determine which building shape is least affected by wind	
Abstract Methods/Materials Three buildings were built with K#nex containing the same volume but with different shapes (triangular, square, and circular) and covered with paper. Using a blow dryer as a wind source, wind pressure measurements were taken at 10 cm intervals beginning at 100 cm and ending at 0 cm. The pressure was measured with a 100 sq cm sail pressing against an electronic scale. Each building was then tested at the same 10 cm intervals measured before. If the building fell over from the wind force, the distance from the blow dryer was noted. If the building didn#t fall over, the distance of zero was recorded. The square and triangular shaped buildings were tested on both a flat side and an edge.	
Results The triangular building never fell in any test. The square building fell when the blow dryer was at 20 cm while blowing against an edge and at 40 cm when blowing against a flat side. The circular building fell 20 cm from the blow dryer.	
Conclusions/Discussion The triangular building can stand up to the most wind pressure. Perhaps people in hurricane-prone areas, such as Florida, should build triangular buildings.	
Summary Statement My project is about comparing building shapes and how they are affected by wind pressure.	
Help Received Interviewed local civil engineer for wind load research and formula; father operated blow dryer during tests; used electronic scale from father#s company	