



**CALIFORNIA STATE SCIENCE FAIR  
2005 PROJECT SUMMARY**

<b>Name(s)</b> <b>Elizabeth H. Koo</b>	<b>Project Number</b> <b>J1812</b>
<b>Project Title</b> <b>Best Balancing Beam</b>	
<b>Objectives/Goals</b> I am trying to find out what shape has the least deflection using three pieces of lumber each 12 ft. long.	
<b>Methods/Materials</b> The materials are 3 pieces of lumber each 12 ft. long, measuring tape, Two concrete blocks, and screws.	
<b>METHOD</b> 1. First, I screw the lumber together to make a shape. 2. I will measure what are the inches before my dad stands on the beam. This number will stand for "A". 3. Then, my dad would get on the beam. 4. I will measure how much it deflects ten times on each shape. That number will stand for "B". 5. I will do the same with the other shapes. 6. I will take the average for "B" and minus it from "A". 7. That number will be the deflection for the shape. 8. The most stable and rigid balancing beam will be the one with the least deflection.	
<b>Results</b> I found out that the I shape deflected the less; only 1/16 of an inch. The worst shape were the three flat pieces. It deflected 4 6/16 of an inch.	
<b>Conclusions/Discussion</b> Screw helps the beam to deflect less because it makes the beam work as a single component. The point is, it is not what the material is but how i use it makes the difference.	
<b>Summary Statement</b> It is about using three pieces of lumber each 12 ft. long to makes a shape to see which one has the least deflection.	
<b>Help Received</b> My dad took me to Lowe's to buy the materials and helped me screw the shapes together. My mom helped me with my board.	