



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

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Project Title Saddle Sore: The Pressure War	
Objectives/Goals This project was designed to prove whether a certain types of English saddles are better for a horses back by distributing the riders weight most evenly, and if so, which ones are best.	
Abstract	
Methods/Materials	
Methods	
<ol style="list-style-type: none">1.Cut pressure sensitive paper to size and shape of saddle panles2.Tape pressure paper to saddle panels to prevent paper from slipping3.Place saddle on horses back and sit for ten seconds.4.Remove carbon paper layer from pressure paper so as to reveal results5.Repeat these steps with all twelve saddles reccord and compare results.	
Materials	
<ol style="list-style-type: none">1.Three dressage saddles2.Three multi-purpose saddles3.Three close-contact saddles4.Three air filled saddlees5.Pressure gauge6. One square inch metal disc7.Transparent graphing paper8.Sharpies9. Rubbing alcohol10.Fifteen sheets of 28cmx48cm pressurex sensor film11.One horse12.One rider	
Results	
Air sadles created the least amount of pressure points, followed by the close-contact saddles, then the multi-purpose saddles and finally the dressage saddles, which actually created the most pressure points.	
Conclusions/Discussion	
The air in the panels of the air saddles moved away from pressure creating an even contact over the horses back. The close contact saddles are light weight and designed to allow the horse to jump (move in vertical direction) as well as doing lateral work (move in horizontal movement). The designer of this saddle	
Summary Statement	
This project explores the weight distribution and pressure points created on a horse's back by different saddles.	
Help Received	
Neighbor helped find the most effective way to construct our graphs. Iron Horse Saddlery and Calabasas Saddlery supplied saddles we tested. A friend supplied the pressure gauge.	