



**CALIFORNIA STATE SCIENCE FAIR  
2009 PROJECT SUMMARY**

<b>Name(s)</b> Christa G. Watkins	<b>Project Number</b> <b>J1409</b>
<b>Project Title</b> <b>Equine Magnetic Orientation</b>	
<b>Objectives/Goals</b> The object is to determine if horses are magnetically oriented animals.	
<b>Abstract</b> <b>Methods/Materials</b> To study to prove the hypothesis, Google Earth satellite images were collected and the horse's direction in them were analyzed. From here the amount standing on the North/South axis was discovered. There were approximately 135 horses tested in 13 fields from BHS (British Horse Society) certified stables in Greater London and Bexley Kent. The overall percentage of horses standing North/South by taking the overall majority of all of the herds and making a percentage of dominance from that.	
<b>Results</b> A rounded 76% (76.92307692) of the spreads studied had a majority of horses standing on a North/South axis. This shows that they have a magnetic orientation, causing them to automatically, and most likely subconsciously, stand North to South when grazing and resting. The other approximate 23% (23.07642307) was made up of East/West majorities and ties between North/South and East/West.	
<b>Conclusions/Discussion</b> In the wake of the discovery that cattle and deer are magnetically oriented, this experiment found the equally important discovery that horses are magnetically oriented as well. There needs to be more discoveries of large magnetically oriented animals so that it will capture the interest of other scientists, that are not specifically working in magnetoreception, so that further research on this topic can made. There is great speculation on what being magnetically oriented is and what effects it may have, which is why a greater knowledge of magnetoreception is needed. The horse discovery, while important, is a small step in fully understanding this newly discovered and mysterious behavior.	
<b>Summary Statement</b> This experiment has found that horses are magnetically oriented animals.	
<b>Help Received</b> Parents edited research project; Mrs. Gillum (teacher) advised throughout project.	