



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Katherine R. Hill	Project Number S1608
Project Title The Effect of the Centrifugal Force on the Geotropism of Lentils (Lens esculenta)	
Abstract Objectives/Goals The purpose of my project was to test if plants will respond to centrifugal force by deviating from their normal lateral growth and how will the magnitude of their response relate to the amount of centrifugal force applied. Methods/Materials Methods: <ul style="list-style-type: none">· Seeds were sandwiched between two glass slides containing cotton· Cotton within each assembly was soaked with water and kept moist throughout the experiment· Rotating seeds were placed on the rotating disk and controls were placed on a wood block· The slides were rotated on a circular disk, powered by a small motor, at two different distances from the axis of rotation.· The magnitude of the growth was checked & recorded daily· Angle of growth was marked daily on the outside of each glass slide with a permanent marker.· At the end of the rotation period, the resulting growth pattern was transferred onto tracing paper.· The angle of stem growth was determined using the "line of best fit" from the tracing paper. Materials: 1 Small motor, 1 Circular disk, 1 Box frosted glass slides, 1 Box non-frosted glass slides, Cotton balls, Water, Ruler, Protractor, Stopwatch, Lentil seeds, Syringe, Screwdriver, Small rubber bands, Large rubber bands, Parafilm, Permanent marker, Tracing paper, Wood spacers, Wood block Results The centrifugal force did affect the angle of plant growth and the magnitude of the centrifugal force was in direct proportion to the resulting angle of plant growth. Conclusions/Discussion My hypothesis was correct, plants grown with an amount of centrifugal force acting upon them will experience geotropism and their angle of growth will be in direct proportion to the amount of centrifugal force.	
Summary Statement To establish if the centrifugal force effects the geotropism of plants, and if so, determine the relationship between the magnitude of the applied force and the corresponding geotropic response.	
Help Received Grandfather helped build the rotating device.	