CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)
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Project Number
J1525

Project Title
The Effect of Filters on Telescopic Views of the Moon

Abstract

Objectives/Goals
Objective/Hypothesis: The objective was to determine which telescopic filter provided the clearest view of the surface of the moon. The hypothesis was: The Moon (polarized) filter would provide a clearer view of lunar surfaces than any of the other filters.

Methods/Materials
Materials and Methods: Five Orion filters were used to control the variables of shape, size, and weight and allow color as the independent variable. All the filters were made with Hoya Optical glass and coloring. One filter was polarized, the rest were red, green, blue, and yellow. A five point Likert rating scale was developed to evaluate the clarity of the view produced by each filter.

Results
Results: After numerous trials, the Moon (polarized) filter produced the clearest views of the surface of the moon when compared to the views using the red, green, blue, and yellow filters.

Conclusions/Discussion
Conclusion: When viewed through a telescope, polarized filters permit a clearer view of lunar surface features than colored filters do. The results support the hypothesis that the Moon (polarized) filter provides the clearest view of lunar surfaces.

Summary Statement
My project is about studying the surface of the moon through various filters to learn about the effects of filtered light on observation.

Help Received
Advice and consultation from Mr. Kinney, science teacher; help with layout from parents.