



California Science Center  
**CALIFORNIA STATE SCIENCE FAIR**  
**2001 PROJECT SUMMARY**

<p><b>Your Name</b> (List all student names if multiple authors.) <b>Matthew A. Koskela</b></p>	<p><b>Science Fair Use Only</b></p>
<p><b>Project Title</b> (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) <b>Marigold Growth Under Varying Light and Nutrient Conditions</b></p>	<p style="font-size: 2em;"><b>J1612</b></p>
<p><b>Preferred Category</b> (See page 5 for descriptions.) <b>16 - Plant Biology</b></p>	<p><b>Division</b> <b>J Junior (6-8) J Senior (9-12)</b></p>
<p><b>Abstract</b> (Include Objective, Methods, Results, Conclusion. See samples on page 14.) Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.</p> <p><b>Objective:</b> My objective is to determine under what light and nutrient conditions marigolds would grow best. I believe that marigolds under florescent lights and fertilized water will grow best.</p> <p><b>Materials and Methods:</b> I planted the marigold seeds into six separate 10-pack seedling boxes, 2 seeds per cell. The soil was watered either with plain water or fertilized water. The seeds were all sprouted while under florescent lights. Once the seeds sprouted, they were thinned to one seedling per cell and moved the appropriate lighting conditions within the kitchen -- 2 seedling boxes were placed on a counter where they received only room light; 2 seedling boxes were placed on a south-facing windowsill; and 2 seedling boxes were kept under the florescent lights. The marigolds were watered regularly (one box in each light environment with plain water and one with fertilized water made with a diluted Miracle-Gro solution) and growth was measured weekly. Cells that never sprouted were not included in calculating the average growth.</p> <p><b>Results:</b> The marigolds grown in room light had all died by week 4. The marigolds grown on the windowsill using only sunlight grew better, but at a slower rate than those under the florescent lights. The plants grown under the florescent lights grew the best overall with the ones receiving the fertilized water growing by far the fastest and tallest.</p>	
<p><b>Summary Statement</b> (In one sentence, state what your project is about.) My project was to determine under what light and nutrient conditions marigolds would grow best.</p>	
<p><b>Help Received in Doing Project</b> (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4. Dad helped me plant the seeds and reminded me to keep the marigolds watered. My dad and brother helped me record the data as I measured the marigolds. My mom and dad showed me how to make charts and graphs using Microsoft Excel, typed some of the materials, and assisted with Internet research. My science teacher made recommendations for the display board.</p>	