



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

**Your Name** (List all student names if multiple authors.)

**Candice L Wilkey**

**Science Fair Use Only**

**S1825**

**Project Title** (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9)

**Electromagnetic Fields vs. Dugasia dorocephala (EMF vs Planaria)**

**Division**

\_ Junior (6-8) X Senior (9-12)

**Preferred Category** (See page 5 for descriptions.)

**18 - Zoology**

**Abstract** (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.

**Objective:** This project was to determine if Electromagnetic fields (EMFs), found inside and around the home, can affect Dugesia dorocephala (Planaria). The hypothesis was that EMFs can effect a decrease in population, shorter life span, observable tumors, and failure of planaria to reproduce.

**Materials:** A total of thirty-six glass containers was utilized to house the planaria. Three were placed in each jar with 40 ml of clean bottled water. The jars were placed 1/3 meter away and 1 meter away from each EMF producer. Each time a producer was turned on the minutes and hours were logged for total exposure time.

**Results:** The amount of EMFs was not known until the end of the project to ensure the results of this experiment would not be biased. The Planaria had an immediate growth in population. However, in two to four weeks of exposure, their population deteriorated extensively. EMF exposure led to initial rapid reproduction, and with the increased reproduction it caused the planaria to be weakened. Perhaps weak cells caused the planaria to die quickly.

**Conclusion:** In conclusion, it is true that EMFs can effect a decrease in population, shorter life span, observable tumors, and failure of planaria to reproduce.

**Summary Statement** (In one sentence, state what your project is about.)

The affect of EMF's on Planaria.

**Help Received in Doing Project** (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.