

California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY



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

C. Peiran Lu

Science Fair Use Only

J1815

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

Breathing Rates of Aquatic and Air Breathers

Division

Junior (6-8) **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.

The science project on breathing rates of fish and humans was done in order to find the difference of the breathing rates between aquatic breathers and air breathers. Before the project started, some predictions had made due to previous research. The first prediction was that the breathing rates of fish must be higher than the breathing rates of humans. The second prediction was that the breathing rates of fish would be 20 times higher than the breathing rates of humans. When the project started, two sets of procedures had to be followed. In the procedure to test humans, a lung capacity tester had to be made and twenty-five people were asked to be tested for their lung capacity. They were also tested for their weights. In the procedure to test fish, an aquarium was prepared and twenty-five fish were bought. Each fish was taken out of the aquarium and weighted on a weight scale and it was also tested for its head capacity. After the experiments, the data that was gathered were graphed. These graphs proved that one prediction was right. The breathing rates of fish did have a higher breathing rate than humans. However, the difference was only four times higher not twenty times higher. This indicates that other factors, which were not included in this science project, caused the problem.

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

In order to compare the breathing rates between aquatic and air breathers which are affected by oxygen contents and other factors in the living environment.

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.

Parents helped to set up equipment.