



Colorado Science and Engineering Fair

2024 Individual Project Abstract Form

Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.

Title of Project: Can Planaria distinguish one color from another?

Finalist's Name: Vivian Wolkow

School and City: North Middle school, Colorado Springs

Sponsor's Name: Tom Wolkow

Category: Animal Sciences (ANIM)

Division: Junior (6th - 8th grades)

Abstract (250 words or less):

Last year, I trained planaria to have a memory and then cut them in half to test if the tail remembered that memory. To give them a memory, I trained planaria on red paper in sugar water, which caused them to move fast. Afterward, these planaria moved faster on just red paper without sugar water. Therefore, I gave them the memory that red means sugar. Next, I cut them in half and let the tail regenerate for 2 weeks. Then, I put the tail half on red paper without 1% sugar water and saw that they went faster than regenerate tails harvested from control, untrained planaria. This showed that planaria memory is stored in their tails. Judges at the 2023 PPRESF said that the planaria I trained on red graph paper in sugar water may have remembered something other than color. For example, they may have remembered that the smooth surface of the petri plate meant that they were in sugar water. This year, I trained planaria in 1% sugar water on yellow graph paper. After training, I observed that planaria glided significantly faster in water without sugar only when placed on yellow graph paper, but not blue, green, purple, red, or white paper. I conclude that planaria can remember a specific color. Next year, I want to investigate how planaria stores a memory of color throughout their bodies.

I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.

Finalist's Signature: Vivian Wolkow

Date: 3-4-24

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES of all of these forms to your Regional Fair Director with you Finalist Verification/Permission Form. A signed copy of this form must be included in your notebook.