



# CALIFORNIA STATE SCIENCE FAIR 2006 PROJECT SUMMARY

<b>Name(s)</b> <b>Kassandra G. Savage</b>	<b>Project Number</b> <b>J1920</b>
<b>Project Title</b> <b>Do Fruit Flies Have Food Preferences?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of the project Do Fruit Flies Have Food Preferences is to determine if the fruit fly has fruit food preferences if given the choice to choose between 7 fruits and a control if they all have the same size, shape, temperature, and moisture. The fruit food sources that were used for the experiment are the following: banana, papaya, pineapple, orange, watermelon, apple, cantaloupe, and none, the control.</p> <p><b>Methods/Materials</b> A maze-like structure was built out of eight clear plastic containers at one end attached to a larger plastic container by clear plastic tubing. Fifty fruit flies were gathered. Seven fruit food sources were cut up in the same size, shape, temperature, and had the same amount of moisture added to them. The temperature of the fruits was recorded using a thermometer and the moisture was added to the fruits with a tablespoon of water with a temperature of 40 degrees Celsius. Lastly, the time which was given for the fruit flies to travel through the maze-like structure was recorded using a stopwatch.</p> <p><b>Results</b> After doing 30 trials, the average number of fruit flies at each piece of fruit is as follows. A slice of banana had an average of 13.4 fruit flies attracted to it. The papaya had an average of 10.1 fruit flies attracted to it. The piece of cantaloupe attracted an average of about 5.3 fruit flies. An average of 4.9 fruit flies were consuming the pineapple. The orange had an average of 4.7 fruit flies attracted to it. The slice of watermelon attracted an average of approximately 4.4 fruit flies. The apple had an average of 4.2 fruit flies attracted to it. Lastly, the plastic container with nothing in it had an average of 3.3 fruit flies attracted to it.</p> <p><b>Conclusions/Discussion</b> The hypothesis was if various fruit food sources are tested, a slice of banana will attract more fruit flies than slices of papaya, cantaloupe, pineapple, watermelon, orange, apple or none, if they are all similar in size, shape, temperature, and moisture. After running 50 fruit flies through a maze-like structure consisting of clear plastic holders with fruit at the end, connected to a base by clear tubing, the results showed that a slice of a banana attracted more fruit flies than plastic containers holding the other options. The hypothesis based on fruit flies being attracted to bananas more than other fruits was supported significantly enough to show their fruit food preferences.</p>	
<b>Summary Statement</b> The project Do Fruit Flies Have Food Preferences is based on which fruit food source the fruit fly prefers if given eight plastic holders containing fruit with the same size, shape, temperature, and equal amount of moisture added to them.	
<b>Help Received</b> Father helped cut holes on the sides of the plastic containers in order to attach them to the base with clear plastic tubing.	