

Name: _____

Date: _____



OBSERVING THE BEHAVIOR OF FRUIT FLIES ATTRACTED TO DIFFERENT ODORS

Fruit flies use their sense of smell to find food. In this experiment, you will observe how fruit flies respond to different odors. You will compare how many flies are attracted to each odor over a set amount of time.

WHAT YOU WILL LEARN

You will learn how animals use their senses to make choices and how to observe and record behavior in a fair test.

QUESTION

Which odor will attract the most fruit flies?

HYPOTHESIS

I think _____

will attract the most fruit flies because _____

MATERIALS

- Fruit flies (20–30)
- 3 small containers or bottle caps
- Cotton balls
- Vinegar
- Ripe banana
- Sugar water (1 tsp sugar in 2 tbsp water)
- Masking tape
- Marker
- Clear tray or shallow box
- Timer

EXPERIMENT SETUP



SAFETY NOTE: Do not release fruit flies outside. Dispose of them responsibly after the experiment.

PROCEDURE

1. Place the 3 containers in the tray, spaced evenly apart.
2. Soak a cotton ball with vinegar and place it in one container.
3. Mash a small piece of ripe banana and put it in the second container.
4. Soak a cotton ball with sugar water and place it in the third container.
5. Mark each container: Vinegar, Ripe Banana, Sugar Water.
6. Place the tray on a table in a quiet area.
7. Release the fruit flies in the center circle.
8. Start the timer for 5 minutes.
9. After 5 minutes, count how many flies are in or on each container.
10. Record your results in the data table.
11. (Optional) Repeat 2 more times and calculate the average.

KEEP IT FAIR!

- ✓ Use the same number of flies each trial.
- ✓ Use the same amount of each odor.
- ✓ Keep the containers the same distance from the center.
- ✓ Run the test for the same amount of time.
- ✓ Do not touch or tap the tray during the test.
- ✓ Test in the same location.

DATA TABLE

Trial	Number of Fruit Flies Attracted to Each Odor		
	 Vinegar	 Ripe Banana	 Sugar Water
Trial 1			
Trial 2			
Trial 3			
Average			

ANALYSIS & CONCLUSION

1. Which odor attracted the most fruit flies on average?

2. Which odor attracted the fewest?

3. What does this tell you about how fruit flies use smell?

4. If you did this experiment again, what would you do differently?



THINK FURTHER: What other odors could you test? How might the maturity of the banana or the strength of the vinegar change the results?