Name:_____
Date:_____ Period:___

Lab: Fish Behavior

Prelab:

1) The purpose of this lab is to observe fish behavior patterns in response to various stimuli. Why do you think knowledge of fish behavior (in aquaria or in the wild) may be important? How might this knowledge be used?

Setup:

a) Each student will have a specific task. Student 1 will be introducing stimuli and keeping time. Student 2 will be observing respiration. Student 3 will be observing the tank from above and be responsible for the location of the fish on the letter grid. Student 4 will be observing the tank from the side and be responsible for the location of the fish on the number grid.

b) Place the letter grid on the bottom of the fish tank and the number grid on the side. These will be used to determine the location of the fish within the tank. Allow the fish to acclimate to its conditions for at least two minutes. Minimize your movement around the tank and try not to hit the table or disturb the tank in any way. In order to set a baseline, record the location (grid letter, then number) and respiration (number of breaths) of the fish every 15 seconds for two minutes. Record that information in the table below.

c) Place one drop of food coloring into grid A1 of the tank. Immediately begin recording the location and respiration of the fish every 15 seconds for two minutes. Record that information in the table below. If the food coloring has not dispersed evenly in this time, gently swirl the water to disperse it. Allow at least two minutes for the fish to recover.

d) Place one flake of fish food into grid A1 of the tank. Immediately begin recording the location and respiration of the fish every 15 seconds for two minutes. Record that information in the table below. Allow at least two minutes for the fish to recover.

e) Select another fish to add to the tank. Make sure you can tell the difference between the two. Place the second fish into grid A1 of the tank. Immediately begin recording the location and respiration of <u>your original fish</u> every 15 seconds for two minutes. Record that information in the table below.

f) Put all fish back into the classroom tank and rinse out the tanks.

Data:

	Baseline			**Food Coloring**	
Time (sec)	**Grid Location (ex. A1)**	**Respiration (breaths/sec)**	**Time (sec)**	**Grid Location (ex. A1)**	**Respiration (breaths/sec)**
15			15		
30			30		
45			45		
60			60		
75			75		
90			90		
105			105		
120			120		

	Food			Second Fish	
Time (sec)	**Grid Location (ex. A1)**	**Respiration (breaths/sec)**	**Time (sec)**	**Grid Location (ex. A1)**	**Respiration (breaths/sec)**
15			15		
30			30		
45			45		
60			60		
75			75		
90			90		
105			105		
120			120		

Analysis:

2) Why was setting a baseline important for this lab?
3) What was the effect of food coloring on the fish?
4) What was the effect of flake food on the fish?
5) What was the effect of a second fish on the original fish?
6) At which point did the fish exhibit the most movement within the tank?
7) At which point did the fish exhibit the slowest respiration?
8) At which point did the fish exhibit the fastest respiration?
9) Describe several sources of error in this experiment.
10) How might these sources of error be minimized in future experiments?
11) Describe two additional experiments you could perform with this setup.
12) Hypothesize what the results might be of the two experiments you described in question 11.