

## Fish Health Data Sheet

### Field Study Section:

You are going to conduct a field study to see how fish habitat and contaminants both affect a fish's risk of being caught by a predator. There are 4 fish aquariums with different habitat in each. One tank has a contaminant.

1. Fill in for the two independent and one dependent variable.

Manipulated / Independent Variable #1:	
Manipulated / Independent Variable #2:	
Responding /Dependent Variable #1:	

2. State two field study questions, one for each independent variable (*How does the independent variable affect the dependent variable?*):

1.	
2.	

3. For each tank, what about the habitat will affect the amount of time it takes for the predator to capture the fish. PREDICT from # 1 - # 4, #1 the shortest to #4 the longest time to capture the prey. Sketch or note what is in aquarium A-D.

A	A) What is expected to affect catch time:		Observations:	
	Predicted order to catch:		Time to catch:	
B	B) What is expected to affect catch time:		Observations:	
	Predicted order to catch:		Time to catch:	
C	C) What is expected to affect catch time:		Observations:	
	Predicted order to catch:		Time to catch:	
D	D) What is expected to affect catch time:		Observations:	
	Predicted order to catch:		Time to catch:	

4. Describe your **procedure** – can include: logical steps, conditions to be compared, data to be collected, method for collecting, how often measurements should be taken and recorded, and environmental conditions to be recorded.

<b>Procedure:</b>

5. **Results:** record in boxes above.

**Discuss:** How close were your predictions for each tank? How might you explain any unexpected results? How many measurements do you think you should take? How can you better control the experiment? What else could you do to test for presence of contaminants in one of the aquariums?

**6. Write a Conclusion for this experiment.**

Answer the experimental **question**. Include supporting data from the Manipulated (Independent) Variable vs. Responding (Dependent) Variable table. Explain how these data support your conclusion. Provide a scientific explanation for the trend in the data.

<b>Question:</b> What is the effect of the different habitat types on the time to catch the fish?
<b>Conclusion:</b>

<b>Question:</b> What is the effect of a contaminant on the time to catch the fish?
<b>Conclusion:</b>

7. How would you use this information in the development planning of property that is located along or near a river or body of water?

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**Fish Health Glossary:**

Fish Health-  
 Lethal-  
 Sublethal-  
 Disease-  
 Adaptation-

Contaminant-  
 Acclimation-  
 Predation-  
 Behavior-

8. Identify the preferred habitat \_\_\_\_\_. What makes this habitat most suitable for fish?

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9. When a predator tries to capture a fish in tank **A**, what will make it difficult to do so?

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Predict the amount of time it will take the predator to capture the fish\_\_\_\_\_seconds

10. When a predator tries to capture a fish in tank **B**, what will make it difficult to do so?

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Predict the amount of time it will take the predator to capture the fish\_\_\_\_\_seconds

11. When a predator tries to capture a fish in tank **C**, what will make it difficult to do so?

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Predict the amount of time it will take the predator to capture the fish\_\_\_\_\_seconds

12. When a predator tries to capture a fish in tank **D**, what will make it difficult to do so?

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Predict the amount of time it will take the predator to capture the fish\_\_\_\_\_seconds

13. State the hypotheses for the fish tank experiment:

H<sub>0</sub>:\_\_\_\_\_

\_\_\_\_\_

H<sub>a</sub>:\_\_\_\_\_

\_\_\_\_\_

14. What can you conclude about appropriate habitat for fish based on these experiments?

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15. How would you use this information in the development planning of property that is located along or near a river or body of water?

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## **Anatomy section:**

Compete in the internal and external anatomy **Jeopardy!**

### **Internal Anatomy**

Kidney

Gills

Liver

Eggs

Heart

Esophagus

Swim Bladder

Urinary Bladder

Intestine

Stomach

Pyloric Caeca

Spleen

### **External Anatomy**

Head (eye, nostril and mouth)

Skin/Scales

Caudal Fin

Anal Fin

Pectoral Fins

Pelvic Fins

Adipose Fin

Dorsal Fin

Operculum

Lateral Line