WARNING: If you click the "Back Arrow" you will have to re-start at the very beginning.

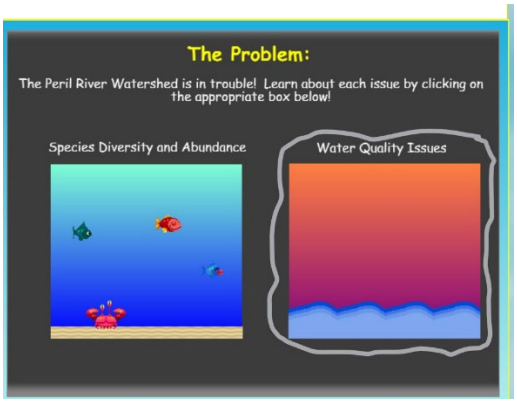
ECODETECTIVES—Peril River

/36 NAME: _____ HR ___

https://biomanbio.com/HTML5GamesandLabs/EcoGames/ecodetectiveshtml5page.html

Click "start a new game"

Click on "water quality issues"

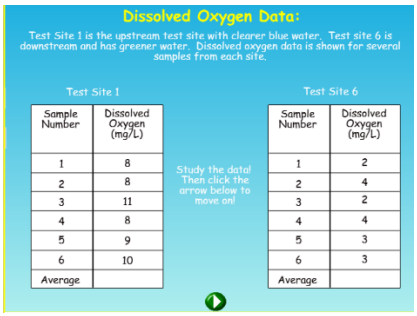


The Problem

Read through each page thoroughly / carefully before moving on. Be careful not to click the "back arrow" because you will be forced to restart at the very beginning. Answer the following questions:

1. Citizens are complaining about the water quality in what area? _____ _____.
2. The clear sample of water is from where? _____
3. The green sample of water is from where? _____
4. Which sample contains more algae and bacteria? _____
5. What is making the water green? _____
6. Oxygen found dissolved in water is called? _____ _____. Oxygen is important to aquatic organisms.

WARNING: If you click the "Back Arrow" you will have to re-start at the very beginning.



7. These charts show the amount of _____ _____ in the water.

8. (Circle the correct answer) Where is "Test Site 1" from? Upriver or Downriver

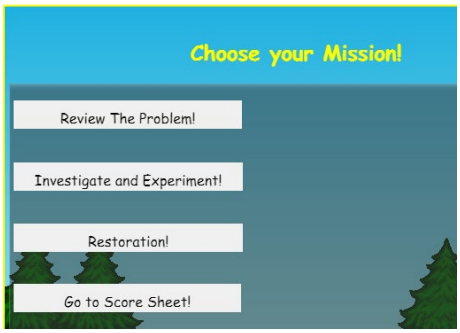
9. (Circle the correct answer) Where is "Test Site 6" from? Upriver or Downriver

To find the average for Test Site 1 you add all the Dissolved Oxygen (mg/L) data from Test Site 1 and then divide by 6. Do the same for Test Site 6.

10. (Circle the correct answer) Where in the stream is there more dissolved oxygen? Upriver or Downriver

11. (Circle the correct answer) Where is the best place to go fishing? Upriver or Downriver

Investigate and Experiment! Again, if you click the "Back Arrow" you will restart.



You already know the problem, so click the second box, "Investigate and Experiment!" You will be investigating all three hypotheses and answering questions.

Hypothesis 1: Nitrates

12. Where are 3 places nitrates can be found? _____, _____, & _____ (3 pts.)

13. Excess nitrates can cause _____ to bloom and grow too much, eventually leading to excessive growth of _____ and _____ oxygen levels in the water. (3 pts)

14. Nitrate levels where highest after? (Circle the correct letter)

A. The Factory
B. Paradise Organic Farm
C. Big Sky Ranch
D. The Power Plant

WARNING: If you click the "Back Arrow" you will have to re-start at the very beginning.

Hypothesis 2: Acids

15. Acids _____ the pH and can be harmful to living things.

Click "yes" and continue the investigation.

16. Neutral water has a pH of _____.

Hypothesis 3: Pesticides

17. Pesticides are used to _____ pests that can damage _____ or other property. (2 pts)

18. Pesticide concentrations where highest after? (Circle the correct letter)

A. The Factory

B. Paradise Organic Farm

C. Big Sky Ranch

D. The Power Plant

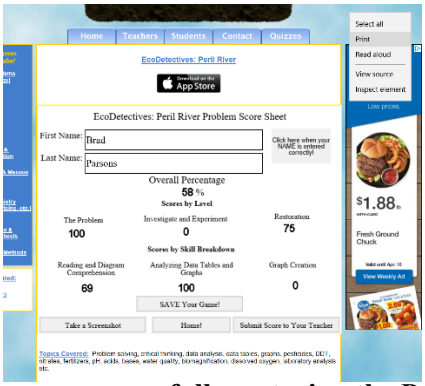
19. Which animal has the highest concentration of DDT in their tissue sample? _____

20. This is an example of Biomagnification. The DDT moves up the food chain. Complete the food chain: (2pts)

_____ → fish → _____

Restoration

Complete the restoration of the Peril River, and at the end you will receive a score sheet. Type your first and last name. Show your score to your teacher and have them sign on the line below. The signature and score needs to be written in ink. (10) pts



_____

Teacher signature

_____

My score

Congratulations on successfully restoring the Peril River!