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Shannon the Water Warrior!

By Carli Entin

- Make a bar graph to see the results of a teenage scientist's water research

Shannon Babb, 18, was worried about the water near her home in Utah. She had heard that the Spanish Fork River and the Utah Lake it flowed into were very polluted. That could be dangerous for local wildlife, including Utah Lake's June sucker fish. "It's *only* found in Utah Lake," Shannon told *DynaMath*. "And it's an endangered species."

For six months in 2005, Shannon tested water from different places along the river. She found high levels of dangerous chemicals that caused low *dissolved oxygen* levels. That meant there wasn't enough oxygen in the water. Shannon told us, "Aquatic life needs oxygen to breathe, just like we do!"

Shannon's research won several awards. She also encourages people to be more careful about what they put in the water. For example, don't let detergents from washing your car go down a storm drain. Chemicals in cleansers can end up in the local river or stream and harm the fish and plants that live there.

Now, **make a bar graph** that shows the levels of dissolved oxygen Shannon found at seven points along the Spanish Fork River. The graph tells a story that might give the river a chance to recover!

Levels of Dissolved Oxygen Along the Spanish Fork River, July 2005

- Site 1: 6 parts per million*
- Site 2: 8 parts per million
- Site 3: 8 parts per million
- Site 4: 7 parts per million
- Site 5: 5 parts per million
- Site 6: 3 parts per million
- Site 7: 1 part per million

Source: Shannon Babb.

****"Parts per million" is a unit of measure that shows how much of an item is present in a sample of water.**

What to Do

The chart above lists the level of dissolved oxygen Shannon found at seven sites along the Spanish Fork River in July 2005. Answer questions 1 and 2. Then, use the chart and our instructions to make a bar graph.

1. If you label the horizontal axis of your graph with sites 1 through 7, what would you label the vertical axis? (Circle the correct answer.)

- A. Level of dissolved oxygen
- B. Month of the year
- C. Level of phosphorus and nitrates

2. How many bars do you need to show your data? _____

Now, complete your graph.

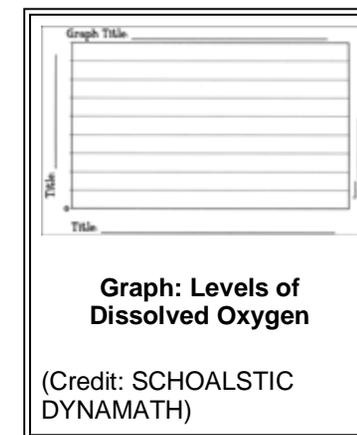
(See picture, "[Graph: Levels of Dissolved Oxygen.](#)")

- Label the horizontal axis "Test Sites."
- Use your answer from #1 to give a title to the vertical axis.
- Number the vertical axis 0 through 9.
- Draw the bars based on the data in the chart.
- Give your graph a title and list the source.
- When your graph is finished, answer the questions below.

3. A dissolved oxygen level under 7 parts per million can be unhealthy for fish and wildlife. In July of 2005, which sites showed an unhealthy dissolved oxygen level? _____

Think About It:

Shannon chose different types of sites: some at the start of the river, some near where a lot of people live, and one near several farms. Why do you



think she chose to test more than one type of site?

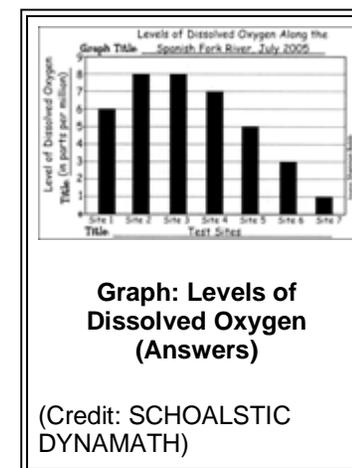
Answer Bank

Here is what the completed bar graph should look like:

(See picture, "[Graph: Levels of Dissolved Oxygen \(Answers\).](#)")

1. A
2. 7 bars
3. Sites 1, 5, 6, and 7

Think About It: Answers will vary. Possible answer: To see how different environmental factors affected pollution levels in the river.



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