



Crystal Springs Live!





Thank you for choosing Crystal Springs LIVE!

Crystal Springs Preserve and WaterVentures Florida's Learning Lab are committed to bringing quality environmental education programs to teachers and parents. Our programs are aligned with NGSSS and SNF standards to align with topics taught in classrooms. Each program has been created with the student in mind and conveys important environmental topics in a fun and engaging manner. Additionally, supplemental activities, vocabulary lists, pre/post tests and more are offered to provide an all-encompassing program for students in and out of the classroom.

For those of you unfamiliar with Crystal Springs or WaterVentures, we invite you to explore our websites. (www.crystalspringsfoundation.org and www.waterventures.us). Crystal Springs Preserve is a 530-acre living laboratory that is dedicated to bringing directed learning opportunities to visitors through immersion into the pristine habitat of the preserve. WaterVentures was created to extend this learning throughout the state of Florida. As a high-tech mobile learning lab, WaterVentures brings those same fun and engaging environmental programs to schools free of charge. Both are devoted to inspiring guests to be responsible environmental stewards of Florida's precious natural resources.

We hope you enjoy our virtual programs and please do not forget to check out the offerings of Crystal Springs Preserve and WaterVentures!

Happy learning!

Crystal Springs Chemistry Pre/Post Test

1. What does abiotic mean?
 - a. A type of medication.
 - b. Living things.
 - c. Non-living things.
 - d. None of the above.
2. What does a turbidity test measure in water?
 - a. The color of the water.
 - b. The amount of particles in the water to see how much light is passing through.
 - c. How fast the water is moving.
 - d. None of the above.
3. What things can affect the turbidity of water?
 - a. Algae
 - b. Silt
 - c. Clay
 - d. Run off from pollution
 - e. All the above.
4. The cloudier the water, the higher the turbidity. What happens when light bounces off the particles in the water?
 - a. The water can cool quicker and affect the temperature of the water.
 - b. The water can warm faster and affect the temperature of the water.
 - c. There is no affect.
5. What does a salinity test of water measure?
 - a. The amount of salt in the water.
 - b. The level of acidity in the water.
 - c. The amount of saliva from animals in the water.
 - d. None of the above.

6. Where does all the salt in the ocean come from?
 - a. Rainwater running across the land picking up salt minerals as it travels to the ocean.
 - b. Freshwater rivers flowing into the ocean carrying small amounts of salt minerals that have been picked up along the way.
 - c. From salt seeping up from the core of the earth.
 - d. Both A and B

7. How does saltwater intrusion happen in the aquifer?
 - a. When too much groundwater is pumped from the aquifer.
 - b. When chemicals containing salt seep into the ground from fertilizers or pesticides.
 - c. Both A and B
 - d. None of the above.

8. What does a pH test measure in water?
 - a. The amount of hydrogen or hydroxyl ions in the water.
 - b. How acidic the water is.
 - c. How basic the water is.
 - d. If the water is neutral.
 - e. All the above.

9. The pH scale ranges from_____.
 - a. 1 – 16
 - b. 0 – 14
 - c. 0 – 20
 - d. 1 – 14

10. What pH number is considered neutral and where pure water should test?
 - a. 4
 - b. 6
 - c. 7
 - d. 10

Crystal Springs Chemistry Pre/Post Test Answer Key

- 1) C
- 2) B
- 3) E
- 4) B
- 5) A
- 6) D
- 7) C
- 8) E
- 9) B
- 10) C

PRE/POST EXHIBIT DATA SUBMISSION FORM

Date of Program	
School name	
Teacher name	
Number of students taking the Pre-test and Number taking Post-test	
Pre-test average percentage *	
Post-test average percentage *	

*Scoring all tests, adding up all scores, and dividing by the number of students that took the test will obtain an average percentage.

Crystal Springs Chemistry Vocabulary Words

Abiotic- Nonliving things.

Aquifer- Underground cave system made up of limestone rock and is full of fresh water.

Fauna- Animals.

Flora- Plants.

Hydrologist- Study how water moves across and through the earth.

Hydrometer- an instrument that is used to determine specific gravity.

Hydrostatic Pressure- pressure of the water that is underground that is effected by gravity and therefore discharged back up.

Limestone- Bedrock of Florida.

pH Test- Measures the amount of hydrogen or hydroxyl ions in the water.

Salinity Test- Used to measure the amount of salt.

Salt Water Intrusion- When salt water enters the aquifer.

Turbidity Test- Measures the number of particles in the water. Tests how much light passes through the water

Watershed- Any piece of land that rainwater flows off of.



Crystal Springs Chemistry Standards

SC.6.E.6.1

SC.6.E.6.2

SC.6.E.7.2

SC.7.E.6.1

SC.7.E.6.2

SC.7.E.6.7

SC.8.N.1.1

SC.8.N.1.4

SC.8.N.1.6

SC.8.L.18.4

Discussion Questions

- 1) If small amounts of salt occur naturally in freshwater rivers, what natural or manmade occurrences could make salinity levels fluctuate? How would this positively or negatively impact living things?
- 2) You are on a city council planning board and housing development surrounding the waterway is on the agenda for discussion. Given what you now know about salinity, turbidity, and pH how would you support your argument for either being for development or against development.

Things to think about for question 2:

- Septic tanks
- Runoff
- Fertilizers
- Pesticides
- Erosion
- Land clearing
- Etc.