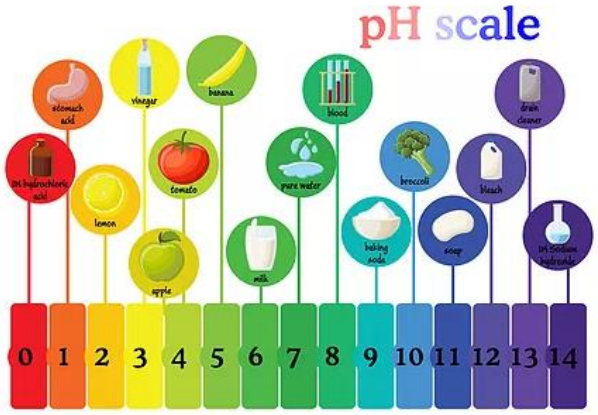
Water Testing



DO/SHOW	SAY
What is Water Quality?	Water quality is measured by studying the chemistry or assessing life in the water. Standards are established to protect water for uses such as drinking, recreation, agricultural irrigation, and maintenance of aquatic life. To create a profile of the health of a body of water, a variety of tests are performed.
Temperature	Water temperatures above the normal range can harm aquatic organisms that live in the water. • Water that is colder allows more oxygen to flow and helps aquatic organisms like fish to breathe more easily. • Warmer water temperatures can cause an increase in plant and algae growth which may harm the ecosystem by choking out vital nutrients. In addition, when water becomes too hot organisms become stressed which lowers their resistance to pollutants and diseases.
pH	Water contains tiny particles of hydrogen and hydroxide ions. The amount of each ion present in the water determines the pH value, reported on a scale of 0 to 14. • Aquatic organisms are extremely sensitive to the pH level of their environment – even the smallest changes in pH can endanger plants and animals. • The pH of a body of water changes as different chemicals enter the water. For example, acid rain, increased algae, minerals from runoff, chemicals released from industrial processes, and decomposing matter.

Turbidity	Turbidity refers to how clear or cloudy the water appears. The cloudier the water the higher the turbidity, and the more clear the water is the lower the turbidity. Water becomes cloudy when there are extra particles floating in the water creating a surface for the light to bounce off of. Changes in turbidity can be caused by: • Soil Erosion • Runoff • Sewage • Oil • Decomposition
Dissolved Oxygen	Organisms that live in the water rely on oxygen that has dissolved into the water in order to breathe. Dissolved oxygen (DO) content refers to the amount of oxygen gas that has successfully incorporated into aquatic environments. Increases in DO content can be caused by: • Water flowing over rocks • Water churning from waves and wind • Photosynthesis from aquatic plants
Nitrates	Nitrogen is a naturally occurring element that all living organisms need to survive, and is highly soluble in water. Nitrogen is also produced in the manufacturing of fertilizers. The major source of nitrogen in our water comes from agricultural runoff. High levels of nitrates in the water contributes to excessive growth of aquatic plants and algae. Disproportionate growth of these organisms can block light, cause turbidity, and use up needed dissolved oxygen.
Salinity	Salinity is the measure of how much salt is in the water. It is particularly important to evaluate the salinity of bodies of water where freshwater mixes with seawater because aquatic organisms have varying abilities to adapt to salinity.