

Black Earth Creek & Limnology

Minifacts & Analysis

Sheet 7

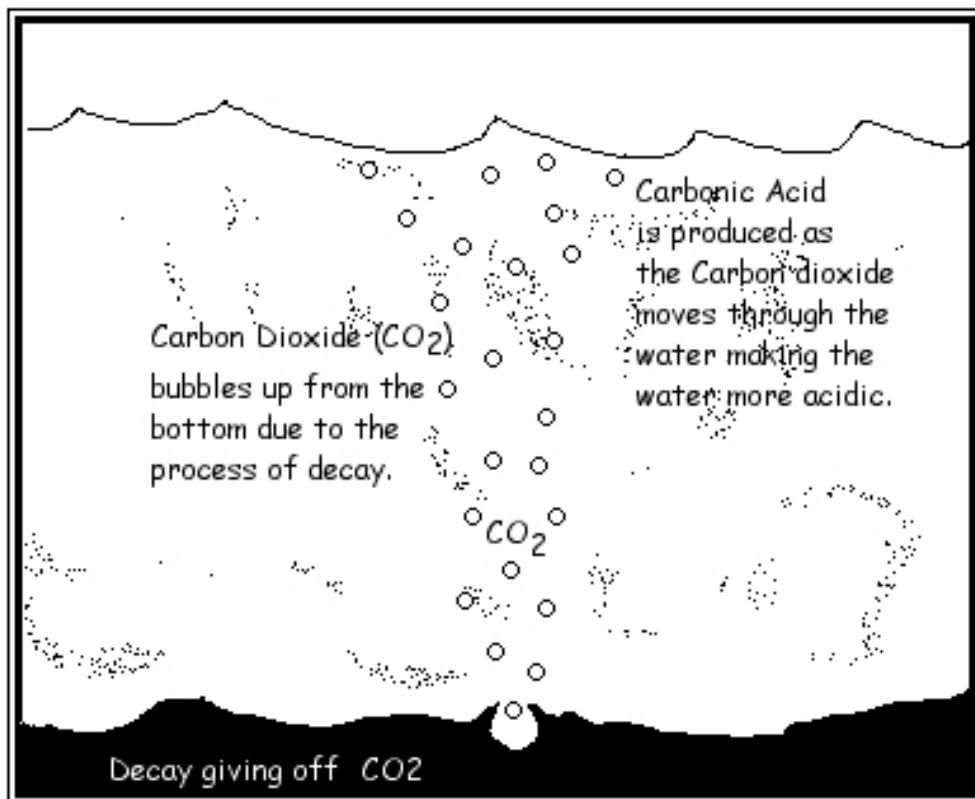


pH Amounts & Water Quality

Information on pH Amounts & Water Quality

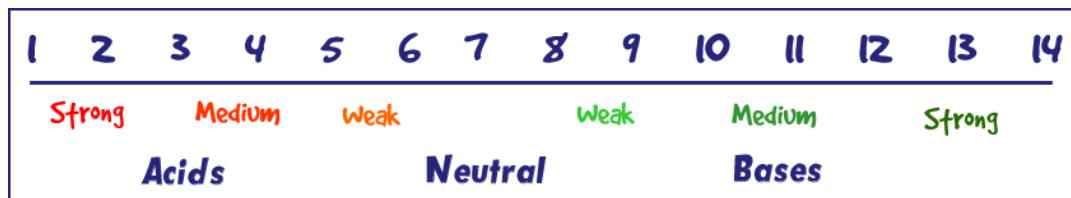
1. What is pH?

- A. pH is the symbol standing for the amount or percentage of hydrogen ions.
- B. Hydrogen ions determine the amount of acid or base in a solution of liquid.
- C. If a liquid has a lot of H^+ ions then it is considered an **acid**, but if there are very few H^+ ions and many HO^- (hydroxyl) ions, then it is considered a **base**.
- D. The ions (H^+ or HO^-) get into the water from carbon dioxide as it bubbles up to the surface from the decay bacteria on the bottom.
- E. High amounts of carbon dioxide will produce an acid condition in the water.
- F. In like terms, much decay by bacteria will produce a lot of carbon dioxide. Therefore a lot of decay will produce an acid conditioned lake.



2. What is the pH scale?

- A. The pH scale tells us how much H⁺ ions are in the water.
- B. The scale runs from 1 to 14, with 1 being a very acid condition and 14 a very basic condition.



3. How does pH affect a body of water?

- A. When a lake is young, it is usually slightly alkaline; as the lake ages, the decaying in the lake causes it to become slightly acidic.

Young lake - pH 8 to 9
Medium Aged Lake - pH 7
Old Lake - pH 7 to 6
Swamp or pond - pH 6 to 5

4. How does pH affect fish in the lake?

- A. Fish types are limited by the amount of acid or base in a lake.
- B. Most fish live between a 5 pH to a 9 pH value.
- C. The chart below shows specific pH limits for different organisms.

