

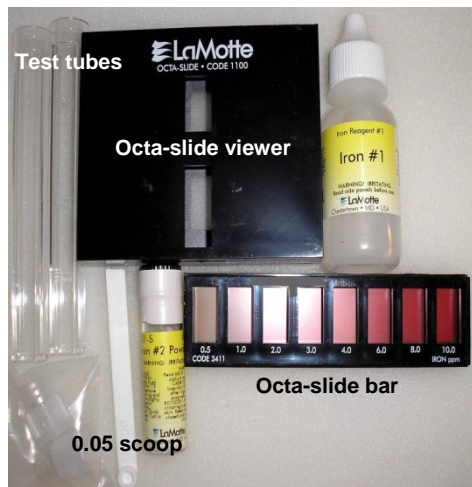
What is iron?



Iron is usually present as a mineral in soils in small amounts but it is most obvious when exposed through [sub-surface mining](#). If exposed to air and water, iron is released through [oxidation](#) of metal [sulfides](#) (usually [pyrite](#), which is iron-sulfide) and generates acidity.

Colonies of [bacteria](#) greatly accelerate the decomposition of metal ions, although the reactions also occur in an abiotic environment. These microbes, called [extremophiles](#) for their ability to survive in harsh conditions, occur naturally in the rock, but limited water and [oxygen](#) supplies usually keep their numbers low. Special extremophiles known as [acidophiles](#) especially favor the low [pH](#) levels of abandoned mines and are a key contributor to pyrite oxidation.

Iron (3318)



1. Collect your sample water using a clean plastic sample bottle then transfer the sample to the test tube.
2. Clean the test tube by rinsing with sample water or distilled water (3-times), then fill with sample water to the 5-ml line.
3. Add 5-drops of Iron Reagent#1 (4450); cap and mix thoroughly.
4. Use the 0.05-gram scoop and add one level-scoop of Iron Reagent #2 (4451), cap and mix until the powder dissolves.
5. Wait for three-minutes.
6. Insert the Iron Octa-Slide Bar (3411) into the Octa-Slide Viewer (1100). Insert the test tube into the Octa-Slide Viewer; match the sample color to a standard color.
7. Record your result as ppm Iron (Fe).