



Mineral Spotlight: Goethite

This is a clay mineral with the chemical formula $\text{Fe}(\text{OH})_3$, with other elements such as aluminum, manganese and nickel chemically substituting. This is the most common iron oxide mineral, the others being magnetite and hematite. Naturally it forms prismatic to acicular crystals and rarely forms tabular crystals. It can also occur in porous and amorphous earthy masses as pictured. It has a hardness of 5-5.5, usually with a dark brown, blackish-brown and yellow brown color. It also has a dull/earthy luster.

Goethite is a vital component of limonite—another rock. This mineral forms under oxidation conditions with normal temperature and pressure conditions by the alteration of siderite and pyrite. Goethite is an important iron ore.

This feature was posted on Dice Museum social media by Museum docent Gregory Ian Oduor on 6/24/2021.

