

Mineral Spotlight: Selenite

This week the mineral spotlight is selenite, a translucent variety of the mineral gypsum. Selenite is named after the Greek goddess of the moon, Selene. Selenite commonly forms bladed crystals, as shown in our selenite specimen, and was known as "*spærstān*" or "spear stone" in Old English. It forms some of the largest crystals in nature, growing up to 12 meters long. It can be phosphorescent with a white glow under ultraviolet light. Gypsum is a very soft mineral, serving as the reference mineral for a hardness of two on the Mohs scale of hardness. That is so soft that you could scratch these crystals with your fingernail or bend them with your hands.

Chemically, selenite is a hydrous calcium sulfate with the formula $\text{CaSO}_4 \times 2\text{H}_2\text{O}$. It is an evaporite mineral that forms as a salt left behind when a water body evaporates, and is usually found in sedimentary deposits. It can also form from the hydration of anhydrite. It is famously found as massive cave crystals in Mexico's Cueva de los Cristales, and extra terrestrially as gypsum dunes on Mars - indicating a history of evaporation from liquid water on the planet.

Selenite and other varieties of gypsum are used as a fertilizer, supplying sulfur to plants. After being introduced in Germany, American farmers were so anxious to use the new technology that it started a major gypsum smuggling trade from Nova Scotia to the United States in the early 1800s. It is also the main component in drywall, sidewalk chalk, and plaster.

In Grand Rapids, an outcrop of large golden selenite crystals on the Grand River served as a sacred place of worship for Native Americans of the Three Fires Confederacy until it was mined early in our gypsum mining history.



This feature was posted on Dice Museum social media by Museum intern Josian Aardema on 6/26/2023.