

## MINERAL HARDNESS and the MOHS SCALE

### Hardness - A Physical Property of Minerals Used in Identification



In the early 1800's, Frederick Mohs developed a scale to rate the hardness of minerals.

The **Mohs Scale of Hardness** ranks minerals on a scale of one to ten, based on the ability of materials to scratch other materials. Because hardness is an important physical property of minerals, knowledge of a mineral's hardness assists in the identification of that mineral.

#### The basic rules are:

1- If one substance will scratch another, the first substance is said to be the harder of the two.

In other words, harder minerals scratch softer minerals. Calcite (hardness 3) will scratch Gypsum (hardness 2). Gypsum, on the other hand will NOT scratch Calcite. It will, however, scratch Talc (hardness 1).

2- A mineral with a specific hardness will scratch another mineral with the same hardness. As per the chart below, Feldspar (hardness 6) will scratch another piece of Feldspar. The minerals used in the Mohs Scale are listed below. Also included, in the third column, are additional "tools" that assist in determining the hardness of a mineral specimen. For # 9, Corundum, 2 familiar gem names are given as examples.

Mohs Number	Mineral	Additional Tools
1	Talc	
2	Gypsum	
2.5		Fingernail
3	Calcite	Copper Penny
4	Fluorite	
4.5		Steel Nail
5	Apatite	
5.5		Glass
6	Feldspar	
6.5		Steel File
7	Quartz	
8	Topaz	
9	Corundum	Ruby, Sapphire
10	Diamond	

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