

**California Content Standards**

4.b. Students know how to identify common rock-forming minerals (including quartz, calcite, feldspar, mica, and hornblende) and ore minerals by using a table of diagnostic properties.

**Hardness**

Hardness, in minerals, means something a little different than the usual definition. “Hardness” means whether or not the mineral can scratch something and leave a mark. This is pretty logical if you think about it.

If you have two things and one is harder than the other, the harder one can scratch the one that isn’t as hard. The softer one won’t be able to scratch the harder one.

Think of this: if you got into a wrestling match with your cat (don’t hurt him!), your cat’s claws could scratch your skin because the claws are harder than your skin. Your skin won’t be able to scratch your cat!

In the world of mineral identification there is a scale of what mineral can scratch what. It is called “Mohs’ Scale of Hardness for Minerals”. It was invented in the 1800’s by a German mineralogist (that’s a person who studies minerals, of course). His name was Friedrich Mohs. He took some familiar minerals and ranked them according to which ones could scratch each other.


**Mohs’ Scale of Hardness in Minerals**

Hardness	Mineral
1	Talc, (as in talcum powder)
2	Gypsum
3	Calcite
4	Fluorite
5	Apatite
6	Feldspar
7	Quartz
8	Topaz
9	Corundum
10	Diamond


**Just to compare:**

Hardness of	
1 - 3	Fingernail
3	Penny
5	Steel knife blade
5 - 6	Glass

As an example, if you had a sample of anything on that list, starting with gypsum, it could scratch talc because talc is pretty soft. It has a hardness of 1. If you had a sample of apatite (5) it could scratch anything lower on the list. It could scratch fluorite, calcite, gypsum, and talc. It could not scratch feldspar, quartz, topaz, corundum, or diamond.