Minerals and Mineral Identification

A mineral is a naturally occurring, inorganic, solid, with a definite chemical composition and crystal structure. All physical characteristics are a result of the mineral’s internal arrangement of atoms.

Identifying Characteristics (What we look at to figure out what the identity of a sample)

►COLOR– Most visible characteristic, but unreliable because many minerals share the same color and many minerals exist in different colors.

►STREAK– The color of the mineral in powdered form (use a “streak plate”). Very reliable tool for identifying samples. Note: the color of the powdered form is often different from the color of the solid form.

►FRACTURE/ CLEAVAGE– Cleavage is the tendency of a mineral to split along one or more smooth, flat surfaces. If a mineral does not display cleavage, it is said to have fracture, which means it breaks unevenly.

►HARDNESS– The mineral’s resistance to being scratched. Minerals are compared to the ten minerals on the “Moh’s Scale of Hardness”.

- Minerals are often compared to glass (hardness: 5.5)

►LUSTER– Either metallic (shiny, like a polished metal) or nonmetallic (dull, with no shine). Types of nonmetallic luster include glossy, pearly, greasy, earthy, etc.

►Other characteristics that can be tested include: magnetism, reaction with chemicals, taste, specific gravity, crystal form, fluorescence, optics.

Mineral Notes

Sammartano

October 2006

1. Talc (softest)
2. Gypsum
3. Calcite
4. Fluorite
5. Apatite
6. Feldspar
7. Quartz
8. Topaz
9. Corundum
10. Diamond (hardest)