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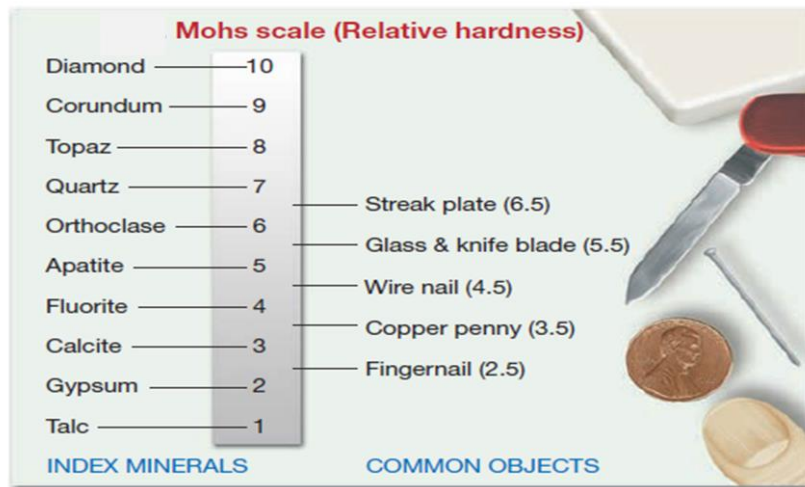
# Minerals

**Mineral:** Is a naturally occurring homogeneous solid, inorganically formed, with a definite chemical composition and an ordered atomic arrangement (crystalline arrangement)" (Mason, et al, 1968).

## Physical Properties of Minerals

1. **Color:** Its mineral appearance, resulting from the way the mineral interacts with light. Such as Yellow, Green, Brown, Colorless, White, Yellowish green, and ... etc.
2. **Streak:** The color of the mineral in powdered form. In the lab, a mineral's streak is obtained by rubbing it across a **streak plate** (a piece of unglazed porcelain) and observing the color of the mark it leaves. Streak described as White, Black, Gray, Red, and ... etc.
3. **Transparency:** The amount of light passed through a mineral determines its transparency.
  - **Transparent minerals:** most light passed through it.
  - **Translucent minerals:** partially let light passed through it.
  - **Opaque minerals:** does not let any light passed through it.
4. **Luster:** Refers to the appearance of the reflection of light from a mineral's surface. It is generally divided into two main types:
  - a) **Metallic:** Minerals with a metallic luster have the color of a metal, like silver, gold and copper, which are often shiny, but not all shiny minerals are metallic. Usually opaque and gives black or dark colored streak.
  - b) **Non-Metallic:** Minerals with non-metallic luster do not appear like metals. Most minerals have a nonmetallic luster and are described using various adjectives such as:
    - **Vitreous:** looks glassy, examples: **Quartz, Tourmaline.**
    - **Resinous:** like resin or amber from a tree, examples: **Sulfur.**
    - **Pearly:** iridescent pearl like, example: **Opal.**
    - **Greasy:** appears to be covered with a thin layer of oil, example: **Talc.**
    - **Silky:** looks fibrous, example: some **Gypsum, Asbestos, Malachite.**
    - **Adamantine:** brilliant luster like **Diamond.**

5. **Hardness:** Refers to the resistance of a mineral to being scratched by a different mineral or other material, *Friedrich Mohs* created a **Mohs'** scale to determine the hardness of a mineral, ranging from 1 for the softest mineral to 10 for the hardest mineral.



6. **Cleavage:** Tendency of the mineral to break along a flat planar surface, mostly along crystal faces. Cleavage quality is described as a **Perfect, Imperfect, poor and none.**
7. **Fractures:** Tendency of a crystal to break along irregular surfaces other than cleavage planes. It may be described as **Conchoidal, Fibrous, Hackly, Uneven and Even.**
8. **Specific gravity (density):** Mineral weight divided by weight of equal volume of water.

Name	Color	Streak	Transparency	Luster	Hardness	Cleavage	Fracture	Sps. Gravity