

Examples of Cleavage Direction in Common Minerals				
Number of Cleavage Planes	Angle Between Planes	Shape	Sketch	Number of Flat Surfaces
0 (no cleavage)	~	irregular masses		0
1	~	flat sheets		2
2	90°	elongated form with rectangular cross-section; rough ends		4
2	not at 90°	elongated form with parallelogram cross-section; rough ends		4
3	90°	cube		6
3	not at 90°	rhombohedron		6
4	not at 90°	octahedron		8
6	not at 90°	dodecahedron		12

6. Specific gravity is a measure of relative density of a mineral. It is determined by comparing its relative mass to water. A mineral with a specific gravity of 3.0 is three times heavier than an equal volume of water. Specific gravity is not expressed in units of any kind, as it is a ratio mass of mineral.

$$\text{Specific gravity} = \frac{\text{mass of mineral}}{\text{mass of equal volume of water}}$$

✓ Specific gravity can be measured using Archimedes' principle Archimedes noted that a specimen weighs less when immersed in water than it does in air. He also noted that the loss of weight in water (weight in air minus weight in water) is exactly equal to the weight of the displaced volume of water. Therefore, the statement above can be rewritten as:

$$\text{Specific gravity} = \frac{\text{weight of mineral in air}}{\text{weight in air minus weight in water}}$$

Pillar of Science

Abraham Gottlob Werner (1749–1817) is considered to be the founder of mineralogy because he was the first to systematically classify minerals during 1771–1800 by their obvious external/physical characters such as color, luster, streak, crystal form, crystal habit, cleavage, and hardness.

