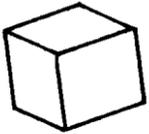




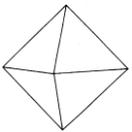
## CLEAVAGE & FRACTURE

Cleavage and fracture are descriptions of how a mineral breaks into pieces. Cleavage describes how a mineral breaks into flat surfaces (usually one, two, three or four surfaces). Fracture describes how a mineral breaks into forms or shapes other than flat surfaces. Cleavage is determined by the crystal structure of the mineral.

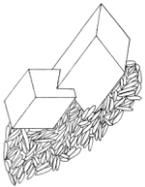
### Common Cleavage Descriptions



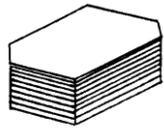
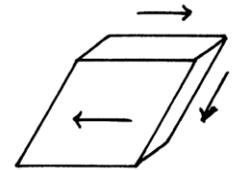
1. Cubic: When a mineral breaks in three directions and the cleavage planes form right angles (90 degrees to each other). Results in pieces in the shape of a cube.



2. Octahedral: When a mineral breaks in the form of a diamond, resulting in 8 nearly equal faces.



3. Rhombohedral: When a mineral breaks in three directions and the cleavage planes form angles that are other than 90 degrees. The shape formed is called a rhombohedron.



4. Pinacoidal: When a mineral breaks in one direction, leaving a single flat surface (cleavage plane). When a mineral breaks into very thin sheets, like mica minerals, the pinacoidal cleavage is called micaceous.

### Common Fracture Descriptions

1. Conchoidal: describes a curved, nearly rounded, smooth fracture that looks like the inside of a shell. This is seen best in the igneous rock, obsidian, but also in massive pieces of the mineral quartz.
2. Fibrous: describes minerals (like chrysotile asbestos) that break into fibers.
3. Splintery: describes minerals that break into stiff, sharp, needle-like pieces.
4. Hackly: describes fractures that have rough edges.
5. Uneven or irregular: describes minerals that break into rough, uneven surfaces.

Sometimes one person might identify a fracture as hackly and another would describe the same specimen as irregular because they are fairly close to each other in appearance. With more experience, a mineralogist can easily tell the difference between these two fractures. Not all minerals have cleavage. All minerals will have some form of fracture.



					
Amazonite	Amethyst Points	Aqua Marine	Arabic Stone	Autumn Red	Blood Stone
					
Blue Apatite	Blue Calcite	Blue Quartz	Carnelian	Chrysoprase	Citrine Point
					
Crazy Lace Agate	Crocodile Jasper	Dalmation Jasper	Fluorite	Garnet	Green Aventurine
					
Green Jade	Green Quartz	Honey Calcite	Labradorite	Moonstone	Moss Agate
					
Natural Agate	Ocean Jasper	Orange Calcite	Peacock Ore	Pyrite	Quartz
					
Quartz with Tourmaline	Red Jasper	Rose Quartz	Rough Citrine	Serpentine	Smoky Quartz
					
Sodalite	Tiger Eye	Tourmaline	Tree Agate	Yellow Jasper	Zebra-dorite
					
Crystal Point	Emerald Calcite	Emerald	Obsidian Arrowhead	Ruby	Ruby Zoisite