

The Seven Crystal Systems

The **seven crystal systems** are a method of classifying crystals according to their atomic lattice or structure. The atomic lattice is a three dimensional network of atoms that are arranged in a symmetrical pattern. The shape of the lattice determines not only which crystal system the stone belongs to, but all of its physical properties and appearance. In some crystal healing practices the axial symmetry of a crystal is believed to directly influence its metaphysical properties. For example crystals in the Cubic System are believed to be grounding, because the cube is a symbol of the element Earth.

There are seven crystal systems or groups, each of which has a distinct atomic lattice. Here we have outlined the basic atomic structure of the seven systems, along with some common examples of each system.

Cubic System

Also known as the isometric system. All three axes are of equal length and intersect at right angles. *Based on a square inner structure.*

Crystal shapes include:

- Cube (diamond, fluorite, pyrite)
- Octahedron (diamond, fluorite, magnetite)
- Rhombic dodecahedron (garnet, lapis lazuli rarely crystallises)
- Icosi-tetrahedron (pyrite, sphalerite)
- Hexacisochedron (pyrite)



Common Cubic Crystals:

Diamond
Gold

Fluorite
Pyrite

Garnet
Silver

Spinel

Tetragonal System

Two axes are of equal length and are in the same plane, the main axis is either longer or shorter, and all three intersect at right angles. *Based on a rectangular inner structure.*

Crystal shapes include:

- Four-sided prisms and pyramids
- Trapezohedrons
- Eight-sided and double pyramids
- Icosi-tetrahedron (pyrite, sphalerite)
- Hexacisochedron (pyrite)



Common Tetragonal Crystals:

Anatase	Apophyllite	Chalcopyrite	Rutile
Scapolite	Scheelite	Wulfenite	Zircon

Hexagonal System

Three out of the four axes are in one plane, of the same length, and intersect each other at angles of 60 degrees. The fourth axis is of a different length and intersects the others at right angles. *Based on a hexagonal (6-sided) inner structure.*

Crystal shapes include:

- Four-sided prisms and pyramids
- Twelve-sided pyramids
- Double pyramids



Common Hexagonal Crystals:

Apatite	Aquamarine	Beryl
Cancrinite	Emerald	Goshenite
Morganite	Sugilite	Zincite

Trigonal System

(Rhombohedral System) - Axes and angles in this system are similar to the Hexagonal System, and the two systems are often combined as Hexagonal. In the cross-section of a Hexagonal crystal, there will be six sides. In the cross-section of a Trigonal crystal there will be three sides. *Based on a triangular inner structure.*

Crystal shapes include:

- Three-sided prisms or pyramids
- Rhombohedra
- Scalenohedra



Common Trigonal Crystals:

Agate	Amethyst	Aventurine
Calcite	Carnelian	Citrine
Hematite	Jasper	Phenakite
Quartz	Rhodochrosite	Rose Quartz (rarely crystallises)
Ruby	Sapphire	Smoky Quartz
Tigers Eye	Tourmaline	

Orthorhombic System

(Rhombic System) Three axes, all of different lengths, are at right angles to each other. *Based on a rhombic (diamond-shaped) inner structure.*

Crystal shapes include:

- Pinacoids
- Rhombic prisms
- Pyramids
- Double pyramids



Common Orthorhombic Crystals:

Alexandrite

Andalusite (Chiastolite)

Celestite

Chrysoberyl

Danburite

Dumortierite

Enstatite

Hemimorphite

Iolite

Tanzanite

Topaz

Zoisite

Monoclinic System

There are three axes, each of different lengths. Two are at right angles to each other and the third is inclined. *Based on a parallelogram inner structure.*

Crystal shapes include:

- Basal pinacoids and prisms with inclined end faces

Common Monoclinic Crystals:

Azurite

Chrysocolla

Diopside

Epidote

Gypsum

Hiddenite

Howlite

Kunzite

Lazulite

Moonstone

Muscovite (Mica)

Petalite

Serpentine

Spodumene

Staurolite

Vivianite

Triclinic System

All three axes are of different lengths and inclined towards each other.
Based on a 'triclinic' inner structure, meaning 'three inclined angles'.

Crystal forms are usually paired faces.

Common Triclinic Crystals:

Amazonite	Aventurine Feldspar	Kyanite
Labradorite	Rhodonite	Turquoise

Amorphous

No crystal structure. Most of these are either cooled too quickly to crystallise - such as obsidian or moldavite, or are organic - such as amber.

Common Amorphous Minerals:

Amber	Modavite	Obsidian	Opal
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Source: http://www.crystalage.com/crystal_information/seven_crystal_systems/

Newsletter Editor's Note: the terms crystal system and crystal family each refer to one of several classes of space groups, lattices, point groups, or crystals. In three dimensions, a crystal family is almost the same as a crystal system except that the hexagonal and trigonal crystal systems are combined into one hexagonal family. "Amorphous" is not a crystal family or crystal system category.

Crystal Family	Crystal System
Triclinic	
Monoclinic	
Orthorhombic	
Tetragonal	
Hexagonal	Trigonal
	Hexagonal
Cubic	

Source: http://en.wikipedia.org/wiki/Crystal_system