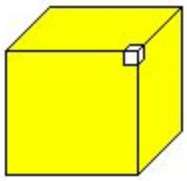
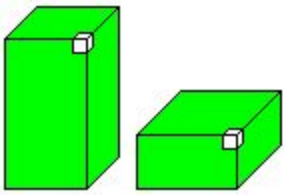
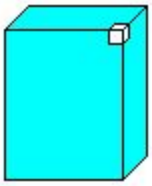
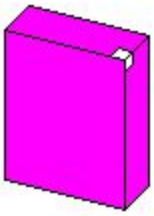
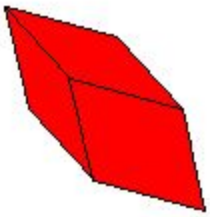
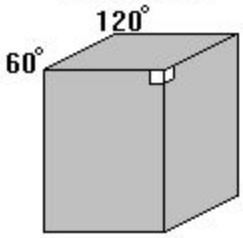
MINERAL IDENTIFICATION

The Crystal Classes

Just as plane patterns can be described in terms of five unit cells, three dimensional patterns can be thought of as belonging to one of six classes. Just as there are two kinds of rectangular plane patterns, there are several types of three-dimensional pattern for each of the six crystal classes

Cubic (Isometric) 	ISOMETRIC or CUBIC All edges equal, all angles 90 degrees Halite, Fluorite, Pyrite Galena, Garnet, Magnetite Gold, Copper, Diamond
Tetragonal 	TETRAGONAL Two edges equal, all angles 90 degrees. Square cross-section but different third dimension. Zircon Chalcopyrite
Orthorhombic 	ORTHORHOMBIC No edges equal, all angles 90 degrees. Like the shape of a cereal carton. Olivine, Andalusite, Sillimanite Some Amphiboles and Pyroxenes Topaz, Sulfur
Monoclinic 	MONOCLINIC No edges equal, two angles 90 degrees. The shape obtained by knocking the ends out of a carton and skewing it. Some Amphiboles and Pyroxenes Micas Gypsum, Epidote Sugar also belongs to this crystal class.

Triclinic 	TRICLINIC No edges equal, no angles 90 degrees Most Feldspars Kyanite Clay Minerals What if you have one 90 degree angle, or two equal edges? It turns out that these contribute no extra symmetry and the crystal is still triclinic.
Hexagonal 	HEXAGONAL Angles of 60, 90, and 120 degrees. Ice (snowflakes) Quartz, Beryl Corundum, Hematite Calcite, Dolomite

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