

Rock ABCs Fact Sheet

What are minerals?

Minerals are naturally occurring solids that have definite chemical compositions and are crystalline. Crystals are individual pieces of minerals. The most important characteristic of crystals is the orderly internal arrangement of atoms. This internal order causes the beautiful crystal shapes.

MINERAL	ELEMENTS	APPEARANCE IN MOON ROCKS
Plagioclase feldspar	calcium (Ca), aluminum, silicon (Si), Oxygen (O)	Whitish to translucent grayish; usually occurs as grains longer than they are wide.
Pyroxene	iron (Fe), magnesium, (Mg), calcium (Ca), silicon (Si), oxygen (O)	Brown to black; grains usually longer than wide in mare basalts, somewhat squarish in highland rocks.
Olivine	iron (Fe), magnesium (Mg), silicon (Si), oxygen (O)	Greenish; usually occurs as roundish crystals.
Ilmenite	iron (Fe), titanium (Ti), oxygen (O)	Black, elongated to squarish crystals.

What are rocks?

Rocks are naturally occurring solids composed of one or more minerals. At least two abundant minerals usually occur in a rock, along with several others. The minerals are intergrown in intricate ways that depend on how the rock formed. Rocks are classified on the basis of the abundance of the minerals they contain, sizes of individual crystals, and the process that formed the rocks.

Approximate mineral abundances (percents) in Moon rocks

	Plagioclase	Pyroxene	Olivine	Ilmenite
Highland rocks				
Anorthosite	90%	5%	5%	0%
Norite	60%	35%	5%	0%
Troctolite	60%	5%	35%	0%
Mare basalts				
High-titanium	30%	54%	3%	18%
Low-titanium	30%	60%	5%	5%
Very-low titanium	35%	55%	8%	2%