

Table 1: Mineral Chemical Groups and Formulae for Rock Forming Minerals.

Group	Mineral Name	Mineral Formula
Native Elements	Diamond, Graphite	C
(No anions)	Gold	Au
	Copper	Cu
	Silver	Ag
	Sulfur	S
Oxides	Hematite	Fe ₂ O ₃
anion = O ²⁻	Magnetite	Fe ₃ O ₄
	Corundum	Al ₂ O ₃
	Limonite	FeO•OH
	Bauxite	AlO•(OH)
Silicates	Quartz	SiO ₂
anion = Si _x O _y	Opal	SiO ₂ •H ₂ O
	Orthoclase, Microcline, Sanadine	KAlSi ₃ O ₈
	Ca-Plagioclase	CaAl ₂ Si ₂ O ₈
	Na-Plagioclase	NaAlSi ₃ O ₈
	Muscovite	KAl ₃ Si ₃ O ₁₀ (OH) ₂
	Biotite	K(Mg,Fe) ₃ AlSi ₃ O ₁₀ (OH) ₂
	Kaolinite	Al ₂ Si ₂ O ₅ (OH) ₄
	Amphibole	Ca ₂ (Mg,Fe) ₅ Si ₈ O ₂₂ (OH)
	Pyroxene	Ca(Mg,Fe)Si ₂ O ₆
	Olivine	(Mg,Fe) ₂ SiO ₄
	Chlorite	(Mg,Fe) ₆ (Al,Si) ₄ O ₁₀ (OH) ₈
	Garnet	(Ca,Mg,Fe,Mn) ₃ Al ₂ Si ₃ O ₁₂
	Talc	Mg ₃ Si ₄ O ₁₀ (OH) ₂
	Kyanite, Sillimanite, Andalusite	Al ₂ SiO ₅

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	Staurolite	$\text{Fe}_2\text{Al}_9\text{Si}_4\text{O}_{22}(\text{OH})_2$
Carbonates	Calcite, Aragonite	CaCO_3
anion = CO_3^{2-}	Dolomite	$\text{CaMg}(\text{CO}_3)_2$
	Azurite	$\text{Cu}_3(\text{CO}_3)_2(\text{OH})_2$
	Malachite	$\text{Cu}_2\text{CO}_3(\text{OH})_2$
Sulfates	Anhydrite	CaSO_4
anion = SO_4^{2-}	Gypsum	$\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
Sulfides	Galena	PbS
anion = S^{2-}	Pyrite	FeS_2
	Chalcopyrite	CuFeS_2
	Sphalerite	ZnS
Halides	Halite	NaCl
anion = F^- , Cl^-	Sylvite	KCl
	Fluorite	CaF_2
Phosphates	Apatite	$\text{Ca}_5(\text{F,Cl})(\text{PO}_4)_3$