

ROCK HARDNESS 1:

Mohs Hardness Scale		
Mineral Name	Scale Number	Common Object
Diamond	10	
Corundum	9	Masonry Drill Bit (8.5)
Topaz	8	
Quartz	7	Steel Nail (6.5)
Orthoclase	6	Knife/Glass Plate (5.5)
Apatite	5	
Fluorite	4	Copper Penny (3.5)
Calcite	3	
Gypsum	2	Fingernail (2.5)
Talc	1	

ROCK TYPES²:

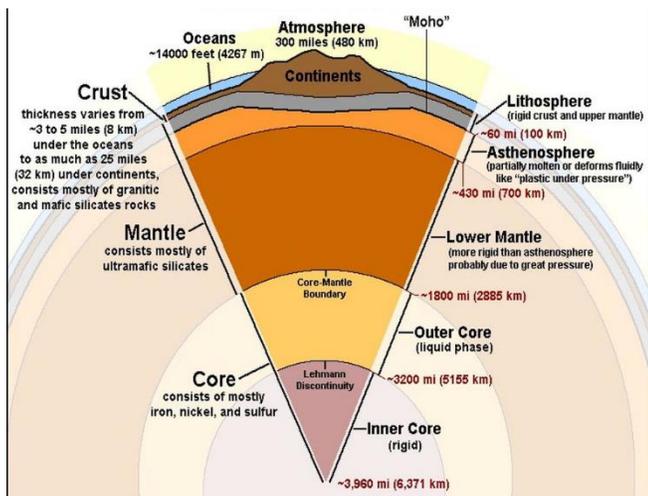
IGNEOUS		SEDIMENTARY		METAMORPHIC	
Granite	Scoria	Sandstone	Limestone	Marble	Slate
Pumice	Obsidian	Conglomerate	Gypsum	Quartzite	Gneiss
		Shale			

COMMON MINERAL IDENTIFICATION³:

LUSTER	HARDNESS	CLEAVAGE FRACTURE	COMMON COLORS	DISTINGUISHING CHARACTERISTICS	USE(S)	MINERAL NAME	COMPOSITION*
Metallic Luster	1-2	✓	silver to gray	black streak, greasy feel	pencil lead, lubricants	Graphite	C
	2.5	✓	metallic silver	very dense (7.6 g/cm ³), gray-black streak	ore of lead	Galena	PbS
	5.5-6.5	✓	black to silver	attracted by magnet, black streak	ore of iron	Magnetite	Fe ₃ O ₄
	6.5	✓	brassy yellow	green-black streak, cubic crystals	ore of sulfur	Pyrite	FeS ₂
Other	1-6.5	✓	metallic silver or earthy red	red-brown streak	ore of iron	Hematite	Fe ₂ O ₃
Nonmetallic Luster	1	✓	white to green	greasy feel	talcum powder, soapstone	Talc	Mg ₃ Si ₄ O ₁₀ (OH) ₂
	2	✓	yellow to amber	easily melted, may smell	vulcanize rubber, sulfuric acid	Sulfur	S
	2	✓	white to pink or gray	easily scratched by fingernail	plaster of paris and drywall	Gypsum (Selenite)	CaSO ₄ •2H ₂ O
	2-2.5	✓	colorless to yellow	flexible in thin sheets	electrical insulator	Muscovite Mica	KAl ₃ Si ₃ O ₁₀ (OH) ₂
	2.5	✓	colorless to white	cubic cleavage, salty taste	food additive, melts ice	Halite	NaCl
	2.5-3	✓	black to dark brown	flexible in thin sheets	electrical insulator	Biotite Mica	K(Mg,Fe) ₃ AlSi ₃ O ₁₀ (OH) ₂
	3	✓	colorless or variable	bubbles with acid	cement, polarizing prisms	Calcite	CaCO ₃
	3.5	✓	colorless or variable	bubbles with acid when powdered	source of magnesium	Dolomite	CaMg(CO ₃) ₂
	4	✓	colorless or variable	cleaves in 4 directions	hydrofluoric acid	Fluorite	CaF ₂
	5-6	✓	black to dark green	cleaves in 2 directions at 90°	mineral collections	Pyroxene (commonly Augite)	(Ca,Na)(Mg,Fe,Al)(Si,Al) ₂ O ₆
	5.5	✓	black to dark green	cleaves at 56° and 124°	mineral collections	Amphiboles (commonly Hornblende)	CaNa(Mg,Fe) ₄ (Al,Fe,Ti) ₃ Si ₆ O ₂₂ (OH) ₂
	6	✓	white to pink	cleaves in 2 directions at 90°	ceramics and glass	Potassium Feldspar (Orthoclase)	KAlSi ₃ O ₈
	6	✓	white to gray	cleaves in 2 directions, striations visible	ceramics and glass	Plagioclase Feldspar (Na-Ca Feldspar)	(Na,Ca)AlSi ₃ O ₈
	6.5	✓	green to gray or brown	commonly light green and granular	furnace bricks and jewelry	Olivine	(Fe,Mg) ₂ SiO ₄
7	✓	colorless or variable	glassy luster, may form hexagonal crystals	glass, jewelry, and electronics	Quartz	SiO ₂	
7	✓	dark red to green	glassy luster, often seen as red grains in NYS metamorphic rocks	jewelry and abrasives	Garnet (commonly Almandine)	Fe ₃ Al ₂ Si ₃ O ₁₂	

*Chemical Symbols: Al = aluminum, Cl = chlorine, H = hydrogen, Na = sodium, S = sulfur
 C = carbon, F = fluorine, K = potassium, O = oxygen, Si = silicon
 Ca = calcium, Fe = iron, Mg = magnesium, Pb = lead, Ti = titanium

STRUCTURE OF THE EARTH⁴:



REFERENCES

¹The Mohs Hardness Scale and Chart for Select Gems. International Gem Society LLC.,

<https://www.gemsociety.org/article/select-gems-ordered-mohs-hardness/>, Accessed July 2020.

² Types of Rocks – Igneous, Sedimentary & Metamorphic. Selftution.com., <http://selftution.com/what-types-of-rocks-igneous-sedimentary-metamorphic-kids/>, Accessed July 2020.

³ How To Identify Minerals in 10 steps. Geology In, 2020. <http://www.geologyin.com/2014/11/how-to-identify-minerals-in-10-steps.html>, Accessed July 2020.

⁴Earth Layers. Weebly Inc., <https://clarkscience8.weebly.com/earth-layers.html>. Accessed July 2020.