

ROCK	<i>Color</i>	<i>Layers</i>	<i>Shiny or dull</i>	<i>Texture (rough/ smooth)</i>	<i>Hardness</i>	<i>Vinegar reaction</i>	<i>igneous, sedimentary, metamorphic</i>	<i>Other</i>
basalt	black or gray			little crystals	4-6		igneous	most abundant bedrock; present on ocean floors & the Moon, Mars & Venus; used in asphalt
bituminous coal*	black or dark brown	bands	bright and dull bands	sooty	5.5		sedimentary	contains tiny fossils of plant materials usually in a swamp; used mostly as fossil fuel for electrical production and heat.
conglomerate	various		dull	coarse grained rounded pebbles, bumpy	2-3		sedimentary	"pudding stone"; formed in moving water like rivers & beaches; presence on Mars proves water once there
gneiss	various			coarse grains of minerals in wide bands	6.5-7		metamorphic	sometimes stripes of different colored minerals caused by reorganization during metamorphism; banded; usually made of quartz & feldspar
granite	speckled gray black, white, pink		shiny flecks & dull areas	big crystals	5-7		igneous	most common igneous rock on Earth's surface; used in building construction, monuments, polished for tile & countertops; example is Mt Rushmore
limestone (fossil)*	light & dark gray		dull	fine particles, powdery, often has fossils	3-4	fizzes	sedimentary	made in coral reefs from fossils of shells & calcite; parent of marble; used to make lime (in cement); example is Egyptian pyramids
marble	many colors				3-4	fizzes	metamorphic	limestone with heat & pressure=marble; mostly made of calcite (& pyrite); used in monuments, buildings, carved by artists
obsidian	black		glassy	very smooth	5-5.5		igneous	"nature's glass"; formed by rapid cooling of molten rock (lava); sharp edges so is used for cutting tools, knives, spears, surgical blades
pumice	light gray		light sheen, not glossy	full of small similar sized air bubbles, "frothy"	6		igneous	formed from lava that cools quickly during explosive volcanic eruption (like shaken soda pop); also volcanic ash; lots at Mt St Helens; very light; floats in water; used in soaps & polishes
quartzite	many colors			fine grained	7		metamorphic	formed from metamorphism of sandstone
sandstone	brown		dull	fine grained, like sandpaper	6.5-7		sedimentary	formed from sand by action of moving water, wind or ice; gets compressed
schist (garnet)	dark red to brown	bands	glassy or dull		6.5		metamorphic	formed from magma that cools slowly; NOT lava; can form garnet crystals; often contains mica
scoria	medium to dark		dull	filled with different sized round air bubbles	7		igneous	similar to pumice except color, less gas so thicker walls & won't float; found in cinder cones; has mineral crystals; used as "lava rock" in landscaping
shale	black, brown, gray	yes	light sheen	very fine particles, smooth, layered, dirty feel	3		sedimentary	most abundant sedimentary rock; formed from mud & silt; common source of oil as it traps oil & natural gas; breaks into thin layers with sharp edges; used to make bricks, cement (with limestone), pottery
slate	varies	breaks in layers		fine grained, minerals not visible	3-4		metamorphic	low grade metamorphic rock, made up of mica; metamorphism of shale; has bands; splits into thin pieces

MINERAL	<i>Color</i>	<i>Layers</i>	<i>Shiny or dull</i>	<i>Texture (rough/ smooth)</i>	<i>Hardness</i>	<i>Vinegar reaction</i>	<i>Streak</i>	<i>Other</i>
calcite	white or clear				3	reacts	white	main component of limestone & marble; used in animal feed as calcium for eggs and milk; neutralizes stomach acid like in Tums
copper*	copper red-orange or blue-green		metallic luster		2.5-3	forms blue-green patina	red-orange	conducts heat & electricity; bendable; used to make wires; covers Statue of Liberty
feldspar (pink)	white, pink		glassy to pearly		6		colorless or white	most common mineral on earth (more than half of earth's crust); looks like marble; with quartz=granite; with pyroxene=basalt
fluorite	purple, green to yellow or colorless		glassy or pearly	smooth	4		white	glows in ultraviolet; makes massive crystals at times; used in making steel, Teflon (non-stick coating), ceramic glazes
galena*	gray	breaks into cubes	metallic luster	perfect cubic cleavage	2.5-3	smells like rotten eggs	gray	contains lead, silver & sulfur; provides most of world's lead; lead used in car batteries; used to make crystal radios
graphite*	steel gray		dull metallic	greasy	1-2		black	pure carbon; good conductor of electricity but not heat; used as "lead" in pencils (with clay) & in sports equipment like golf clubs, tennis rackets, fishing poles
gypsum (satin spar)	white, gray, pearly		satiny metallic luster	fibers	1.6-2		white	satin spar is fibrous variety of gypsum; used to make drywall, insulation, plaster of Paris
halite	white, red, or blue		glassy	perfect cubic cleavage	2.5		white	"salt", salty taste
hematite*	steel gray, reddish brown		metallic		1-6.5		red-brown	important ore of iron; used to make steel
kaolinite*	white, sometimes colored by impurities		dull	rough, clay-like	2-2.5		white	most common clay mineral; can be molded and shaped when wet; used in toothpaste, for pottery and ceramics, to ensure gloss in paint and paper
mica-biotite	brown, black	flakes in thin sheets	glassy	smooth	2.5-3		white	perfect cleavage in one direction; breaks into thin sheets
pyrite*	brassy yellow		shiny metallic		6-6.5		greenish black	"fools' gold"; brittle; often found with real gold
quartz (chert)*	various, white to gray is common			smooth, chalky, waxy	7		colorless or light color	breaks into sharp edges so used as knife blades, arrowheads, scrapers, ax heads, also flint
quartz (crystal)	white, clear pink		glassy luster	smooth	7		colorless or light color	perfect crystals; electrical properties & heat resistance; used for electronic components like digital watches, computer microprocessors; also glass & abrasives like scouring, sandpaper
talc*	white, green or pink		pearly, waxy	slick, soapy	1		white	"soapstone"; absorbs moisture, oils and odors so good for baby & foot powders, cosmetics & antiperspirants.; used as filler in paint, ceramics, paper, plastics, rubber; also lubricants