

A TABLE FOR THE IDENTIFICATION OF NEVADA'S COMMON MINERALS
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STREAK WHITE OR NEARLY SO

STREAK COLORED

BLACK OR NEARLY SO

| STREAK | H. | SP. GR. | COLOR | LUSTER | STRUCTURE | COMMON CRYSTAL FORMS | PLANES OF CLEAVAGE | FRACTURE | TENACITY | DIAPHANEITY | REMARKS AND SPECIAL PROPERTIES | NAME OF MINERAL | CHEMICAL COMPOSITION | PERCENTAGE OF PURE MINERAL | OCCURRENCE | CHIEF USES |
|---------|---------|---------|---|-------------------------------------|--|----------------------|-----------------------------------|---------------------------|---------------------------|---------------------------------|--|--------------------------|--|-------------------------------------|---|---|
| 1 | 1.4 | | White, colorless. | Silky | Fibrous, acicular rounded masses. | | | | Brittle. | Transparent to translucent. | Tasteless, insoluble in water. | Ulexite. | NaCaB ₆ O ₆ ·8H ₂ O | 43.9% B ₂ O ₃ | In salt marshes and dry lake beds. | Source of borax. |
| 1-1.5 | 5.5 | | Colorless, white, gray, purple, black. | Waxy, dull. | Massive, stactolitic, dendritic, encrustation. | | | Conchoidal. | Brittle. | Translucent. | Turns purple in the sunlight. | Ceasarite, horn-silver. | AgCl | 76.5% Ag | A mineral of the weathered and altered portions of silver ore bodies, zone of oxidation. | Source of silver. |
| 1-2.5 | 2.6 | | White, often colored yellow, brown, black. | Dull, pearly. | Earthy, compact, clayey, masly, friable, sandy. | | | Earthy. | Brittle. | Opaque. | Often plastic when wet, clayey odor, sticks to tongue. | Kaolin. | H ₄ Al ₂ Si ₂ O ₉ | | Formed by alteration of rock minerals, especially feldspar. | Chief constituent of many clays and shales. Used for making brick, this porcelain, chinaware, cement, etc. |
| 1-2.5 | 2.7 | | Gray, yellowish, greenish, gray, white, etc. | Pearly, greasy. | Foliated, scaly, tabular, fibrous, compact, massive. | | One good. | Uneven. | Tough. | Translucent to opaque. | Soapy feel, thin, laminae, flexible, never plastic. | Talc. | H ₂ Mg ₃ Si ₄ O ₁₀ | | Found in place, schistose metamorphic rocks. | Massive talc has a wide use in table tops, tank, sinks, etc.; electric insulation, powder, soap, filler. |
| 1-2 | 2.9 | | White, apple green, gray, white, etc. | Pearly, glaucous. | Foliated, lamellar, radial, granular, compact, fibrous. | | One good. | | Flexible. | Subtransparent to opaque. | Greasy or soapy feel. Like talc but contains Al instead of Mg, not common. | Pyrophyllite. | H ₂ Al ₂ Si ₄ O ₁₀ | | Found in schists and rocks associated with them. | Used in slate pencils and sometimes as a medium for carving. |
| 1.5-2 | 1.5 | | Colorless, white. | Glassy. | Crystalline, massive, granular, encrustations. | | | Uneven. | Brittle. | Transparent. | Soluble, cooling taste, alters to white, powdery thenardite. | Mitschillite. | Na ₂ SO ₄ ·10H ₂ O | | A mineral of dry lake basins. | No present use. |
| 1.5-2 | 1.8 | | Colorless, white, red-dish, yellowish. | Glassy, silky, dull. | Delicate fibrous masses, encrustations, massive. | | | | Brittle. | Subtransparent, subtranslucent. | Taste of common alum. | Alumogen. | Al ₂ (SO ₄) ₃ ·18H ₂ O | | Alteration product of aluminum minerals. | Possible source of alum. |
| 1.5-2 | 2.1 | | Colorless, white. | Glassy. | Crystalline, granular, encrustations, acicular, tufted. | | Good. | Uneven. | Brittle. | Transparent to opaque. | Soluble in water. Cooling taste, gives violet coloration when held in flame. Give brown fumes when heated with potassium acid sulphate. | Niter. | KNO ₃ | | Associated with guano, occurs in bat caves. Bedded or in layers. | Fertilizer, source of nitrogen compounds. |
| 1.5-2 | 2.2 | | Colorless, white. | Glassy. | Crystalline, granular, encrustation, massive. | | Rhombohedral. | Conchoidal. | Brittle. | Transparent to opaque. | Soluble in water, gives yellow fumes. Cooling taste, often salty, also sets like plaster with potassium acid sulphate. | Soda niter. | NaNO ₃ | | Associated with guano, occurs in bat caves. Bedded or in layers. | Fertilizer, used in manufacture of nitric acid, and KNO ₃ source of soda. |
| 1.5-2 | 2.3 | | Colorless, white. | Glassy, pearly, silky (Latin spar). | Crystalline, granular, encrustation, massive. | | Two perfect; one very pronounced. | Uneven. | Brittle. | Transparent to opaque. | Changes to a white powder when heated. | Gypsum. | CaSO ₄ ·2H ₂ O | | Occurs in altered rocks, lake bed deposits, and other sedimentary rocks. | Used chiefly for production of Plaster of Paris, fertilizer and other uses. |
| 1-3 | 2.7 | | Colorless, white, red. | Glassy, pearly. | Crystalline, earthy, powdery. | | | Uneven. | Brittle. | Transparent to opaque. | Soluble in water. Often occurs as a white powder on minerals. Cooling taste. | Thenardite. | Na ₂ SO ₄ | | Found on shores of salt lakes and in lake beds. Alteration product of minerals. | No present use. |
| 2 | 1.9 | | Yellowish to brassy green. | Glassy to dull. | Earthy, encrustation, stactolitic, fibrous, crystalline, powdery. | | | Uneven, conchoidal. | Brittle. | Transparent to opaque. | Soluble in water. Astringent, metallic taste. | Melaconite. | FeSO ₄ ·7H ₂ O | | Formed by alteration of melaconite. | No present use. |
| 2-2.5 | 1.7 | | Colorless, white, pale green. | Glassy. | Crystalline, granular, massive, encrustation. | | Cubic. | Cubic. | Brittle. | Transparent to opaque. | Soluble in water, sweet taste. Changes to a white powder in air. | Borax. | Na ₂ B ₄ O ₇ ·10H ₂ O | 36.6% B ₂ O ₃ | Dry lake beds, bedded. | Antiseptic uses, cleansing agents, soap, used in medicines, metal cleaner. Boric acid is made from it. |
| 2-2.5 | 2.2 | | Colorless, white, pale green. | Glassy. | Crystalline, granular, massive, encrustation. | | Cubic. | Cubic. | Brittle. | Transparent to opaque. | Soluble in water, salty taste. | Halite. | NaCl | | Sedimentary rocks and in dry lake beds. | Used as a preservative of meat, in manufacture of chemicals, as a condiment, production of glass and enamel. |
| 2-3 | 2.7-3.2 | | Dark brown, black, greenish, gray, white, etc. | Submetallic, glassy. | Micaceous, platy, foliated, flaky, crystalline, often disseminated in rocks as cavities. | | One very good. | | Elastic, scaly, tough. | Transparent, translucent. | Streak may be pale brown and shiny. Easily told by its mica character and dark color. | Biopyrite. | (H,K,Na)(Mg,Fe) ₂ (Al,Fe) ₂ (SiO ₃) ₂ | | Common rock mineral especially in igneous and metamorphic rocks. | Used as windows in furnaces, stove, etc., electric insulation, used in heavy lubricants, paints, wall paper. |
| 2-3 | 2.8-3.1 | | Colorless, white, gray, yellow, brown, green, red. | Glassy, pearly. | Micaceous, platy, foliated, flaky, crystalline, often disseminated in rocks as cavities. | | One very good. | | Mica-like, scaly, tough. | Transparent, translucent. | Like biopyrite but not strongly colored. | Muscovite. | H ₂ (K,Na)(Mg,Fe) ₂ (Al,Fe) ₂ (SiO ₃) ₂ | | Common rock mineral especially in igneous and metamorphic rocks. | Used as windows in furnaces, stove, etc., electric insulation, used in heavy lubricants, paints, wall paper. |
| 2-3 | 2.8-3.1 | | White, yellow, gray, brownish. | Silky. | Fine scale aggregates foliated, fibrous. | | One good. | | Flexible, scaly. | Transparent to opaque. | A whitish muscovite. | Sericite. | H ₂ (K,Na)(Mg,Fe) ₂ (Al,Fe) ₂ (SiO ₃) ₂ | | Formed by alteration of muscovite and other minerals. | Rock forming mineral in altered rocks especially metamorphic rocks like schist. |
| 2-3 | 10.5 | | White. | Silvery, metallic. | Irregular masses, scaly, waxy, crystalline, disseminated in rock as aggregates in cavities. | | | Hackly. | Malleable, ductile. | Opaque. | Turns gray, brown or black. | Silver. | Ag | 100% Ag | In veins, particularly in zones of oxidation and secondary enrichment. | One of lead. |
| 2-4 | 2.7 | | Green, grayish green, yellowish green, red, brown, black. | Greasy, dull, resinous, glassy. | Compact, earthy, columnar, fibrous, lamellar, foliated. | | | Splintery, conchoidal. | Brittle, tough. | Translucent to opaque. | Multicolored, often mottled, often soapy feel, characteristically of a crystalline green color. | Serpentine. | H ₂ MgSiO ₅ | | A product of rock alteration. Found in metamorphic rocks. | A fibrous form is chrysotile or commercial asbestos, verde antique is a serpentine marble. Boreic acid is made from it. |
| 2.5 | 5.3 | | Blue, greenish blue. | Glassy. | Crystalline, stactolitic, reniform, druse, fibrous, encrustation. | | | Conchoidal. | Brittle. | Transparent. | Metallic taste, blue solution in water. Becomes coated with white on exposure to dry air. | Chalcocite. | Cu ₂ SO ₄ ·H ₂ O | 25.9% Cu | Formed by alteration of copper ore in zone of oxidation. | Minor ore of copper. |
| 2.5-3 | 2.1 | | Colorless, white, gray, yellowish green. | Pearly, waxy. | Foliated, massive, fibrous. | | One good. | Uneven. | Brittle. | Transparent, translucent. | Soluble in water, sweet taste. Will give bubbles of gas when treated with acid. | Trona. | Na ₂ CO ₃ ·NaHCO ₃ ·2H ₂ O | | Found in beds of dry lakes and in lake coatings on altered rocks. | Source of soda. |
| 2.5-3 | 4.5 | | Colorless, white, brown, yellow, gray, etc. | Glassy, pearly. | Massive, crystalline, lamellar, nodular, granular, fibrous, earthy, columnar. | | Good cleavage. | Uneven. | Brittle. | Transparent to opaque. | Much like some forms of talc. Alters to hydromagnesite. | Breunite. | MgO(OH) | 69% MgO | In metamorphosed limestone, dolomite, and in serpentine. | Source of magnesia for stucco. |
| 3 | 2.7 | | Colorless, gray, white, blue, green, etc. | Glassy to dull. | Crystalline, massive, granular, stactolitic, druse, earthy, encrustation, banded. | | Rhombohedral, prismatic. | Uneven. | Brittle. | Transparent to opaque. | Easily distinguished as a soft heavy mineral. | Baryte. | BaSO ₄ | | Common gangue in veins, but spring deposits. Replacement in limestone. | Used in manufacture of paints, glass, lithopane, artificial ivory. Used as paper filler. Source of barium compounds. |
| 3 | 8 | | Colorless, white, yellow, brown, etc. | Adamantine to glassy. | Crystalline, granular, nodular, stactolitic. | | Three, perfect rhombohedral. | Conchoidal. | Brittle. | Transparent to opaque. | Often coated black, occurs as a heavy white or yellow concentrate in gold pan. | Calcite. | CaCO ₃ | 56% CaO | Chief constituent of limestone. Product of rock weathering and alteration in rocks. | As limestone it is used as a building material, for manufacture of lime and cement, fertilizer. Has many uses. |
| 3-3.5 | 5.4 | | White, bluish, greenish, reddish, white, black. | Glassy, pearly. | Crystalline, granular, massive, fibrous. | | Good. | Conchoidal. | Brittle. | Transparent to opaque. | Often has a sugary or marble-like appearance and most often pearly in luster. | Anglesite. | PbSO ₄ | 68.3% Pb | Occurs in upper parts of veins, in beds and in lake deposits. | One of lead. |
| 3-3.5 | 6.5 | | White, yellow, brown. | Glassy to dull. | Crystalline, granular, earthy, fibrous. | | | Conchoidal. | Tough. | Transparent to opaque. | Often has a sugary or marble-like appearance and most often pearly in luster. | Anhydrite. | CaSO ₄ | | Occurs in upper parts of veins, in beds and in lake deposits. | One of lead. |
| 3.5 | 2.9 | | Colorless, white, gray or tinted. | Glassy. | Crystalline, columnar, concentric, stactolitic, banded, solid, reniform, encrustation. | | Prisms, needle-like. | One good. | Brittle. | Transparent, translucent. | Effervescent in cold acid but is usually non-effervescent or columnar and does not have rhombohedral cleavage. | Hydromagnesite. | MgCO ₃ ·Mg(OH) ₂ ·3H ₂ O | 43.9% MgO | Alteration product of breunite. | Possible source of magnesia for stucco, cement, etc. |
| 3.5-4 | 2.7 | | White, pink, red. | Glassy, pearly. | Crystalline, compact, granular, fibrous, earthy. | | One plane. | Uneven, conchoidal. | Brittle. | Transparent, translucent. | Much like anhydrite but contains water and is harder. | Aluminate. | Al ₂ (SO ₄) ₃ ·4H ₂ O | | Occurs in cracks and veins in acidic lavas. A product of rock alteration. | Source of potash and aluminum. Almost a natural alum. |
| 3.5-4 | 2.9 | | Colorless, white, tinted. | Glassy, pearly. | Crystalline, granular, massive. | | Rhombohedral. | Conchoidal. | Brittle. | Transparent, translucent. | Will not effervesce in cold acid as calcite does. Often granular. Rhombohedral faces often curved. | Dolomite. | CaMg(CO ₃) ₂ | 39.2% MgO | Common gangue and sedimentary rock mineral. In limestone. | Source of magnesium salts. Building and decorative stone. |
| 3.5-4 | 2.1 | | Colorless, white, gray, brown, etc. | Glassy, pearly. | Crystalline, dense, massive, granular. | | | Conchoidal (when dense). | Brittle. | Transparent to opaque. | Often pearly, sometimes black. Does not effervesce in cold acid. | Magnesite. | MgCO ₃ | 85.8% MgO | Bedded in sediments. In veins, in metamorphic rocks. | Source of magnesium compounds. |
| 3.5-4 | 2.7 | | Colorless, white, gray, pale tint. | Glassy, greasy. | Crystalline, compact, acicular, radiating, fibrous, granular. | | Imperfectly prismatic. | Conchoidal. | Brittle. | Transparent, translucent. | Much like anhydrite, gives a deep crimson tinge to an alcohol flame when hydrochloric acid is added. | Strombolite. | SiCO ₃ | 76.1% SiO ₂ | Occurs in limestone. Rare in Nevada. | Source of strombolite compounds. |
| 3.5-4 | 2.9 | | White, usually brown, yellow, black. | Glassy to dull. | Crystalline, granular, massive, botryoidal, nodular, earthy. | | Rhombohedral. | Conchoidal. | Brittle. | Transparent to opaque. | Often has a sugary or marble-like appearance and most often pearly in luster. | Siderite. | FeCO ₃ | 48.2% Fe | A bedded and nodular iron ore, a gangue in upper parts of veins. | A minor ore of iron. Often contains enough manganese for use in steel production. |
| 3.5-4.5 | 2.4 | | Colorless, white, yellowish, gray. | Glassy to dull. | Crystalline, granular, massive. | | One good. | Uneven, conchoidal. | Brittle. | Transparent to opaque. | Often pearly, sometimes black. Does not effervesce in cold acid. | Malachite. | Ca ₂ B ₂ O ₇ ·H ₂ O | 52.9% B ₂ O ₃ | In irregular beds associated with basalt and limestone. | Source of borax and boric acid. |
| 3.5-4.5 | 2.6 | | Pink, rose red. | Glassy, pearly. | Crystalline, granular, encrustations, botryoidal. | | Rhombohedral. | Uneven. | Brittle. | Translucent. | Much like siderite but pink. | Rhodochrosite. | MnCO ₃ | 47.8% Mn | Common gangue in veins. Bedded, often result of hydrothermal alteration. | Source of manganese compounds. Occasionally used as a gem. |
| 3.5-5 | 2.4 | | Colorless, white, pale tint. | Glassy, pearly. | Crystalline, acicular, fibrous, radiating, granular, massive. | | At least one good cleavage. | Uneven, conchoidal. | Brittle. | Transparent to opaque. | Flies apart on heating, shows good cleavage. | Zerolite group. | Hydrated alkaline silicates. | | Derived by alteration of minerals in igneous rocks, especially in volcanic rocks. | Source of fluorine compounds, flux in iron smelting, used in enamel, lenses, as a gem. |
| 4 | 3.5 | | Colorless, white, green, gray, blue, etc. | Glassy, pearly. | Crystalline, massive, granular, druse, disseminated. | | Cubes, octahedrons. | Octahedral. | Uneven to sub-conchoidal. | Brittle. | Flies apart on heating, shows good cleavage. | Fluorite. | CaF ₂ | | A common gangue mineral, in beds, in rocks subjected to igneous vapors. | Source of fluorine compounds, flux in iron smelting, used in enamel, lenses, as a gem. |
| 4.5-5 | 2.8 | | White, greenish, bluish, yellowish, brownish. | Glassy, pearly. | Massive, granular, botryoidal, fibrous, stactolitic. | | Tabular. | Two good. | Uneven to sub-conchoidal. | Brittle. | Translucent to opaque. | Chalcite. | H ₂ CaSiO ₄ | 54.2% Zn | A secondary mineral usually found in limestone. Derived from other zinc ores. | One of zinc. |
| 4-5 | 4.1 | | Nearly white to pale yellow. | Greasy, pearly, earthy. | Acicular. | | | Brittle. | Brittle. | Opaque. | Usually altered with other metals, sometimes magnetic. | Cervantite. | Si ₂ O ₃ | 78.9% Sb | Alteration product of silicates. | Source of antimony for jewelry, scientific and industrial uses. |
| 4-6 | 14-19 | | White, gray, black. | Silvery, metallic. | Granular, scaly, disseminated, crystalline. | | | Hackly. | Brittle. | Opaque. | Usually altered with other metals, sometimes magnetic. | Platinum. | Pt | 100% Pt | In placers, river gravels, in basic dark-colored igneous rocks. | Source of platinum for jewelry, scientific and industrial uses. |
| 4-7 | 6 | | Blue, gray, yellow, green, brown. | Glassy, metallic. | Bladed, platy, crystalline, columnar. | | One excellent. | Splintery. | Brittle. | Transparent, translucent. | Hardness only four in long direction and seven at right angles to it. | Cyanite, kyanite. | AlSiO ₃ | | A mineral of metamorphic rocks, as gneiss and schists. | Used in manufacture of porcelain and as a gem. |
| 4-6-6 | 6 | | White, yellow, brown, green, etc. | Glassy. | Crystalline, massive, granular, disseminated, reniform. | | Tabular crystals, pyramidal. | One good. | Uneven. | Brittle. | Yellow powder produced when boiled in nitric acid. | Scheelite. | CaWO ₄ | 80.6% W ₂ O | Occurs in gold quartz veins and at contact of veins with limestone. | One of tungsten and its compounds. |
| 4-6-6 | 6 | | Colorless, gray, yellow, green, brown. | Glassy, pearly, waxy, dull. | Botryoidal, stactolitic, encrustation, reniform, columnar, earthy, crystalline. | | | Uneven, splintery. | Brittle. | Transparent to opaque. | Usually hard to detect in Nevada ore. | Saundersite. | ZnCO ₃ | 52.1% Zn | Occurs in upper oxidized parts of veins as residuum on limestone, and in veins in limestone. | One of zinc. |
| 5-5.5 | 3.2 | | Colorless, green, brown, red, yellow. | Adamantine to resinous. | Crystalline, granular, nodular, massive, compact. | | Prisms, tabular. | One good. | Uneven, conchoidal. | Brittle. | Occurs in beds with limestone and shales. Often brown but will not scratch glass easily if it is all. | Apatite, rock phosphate. | 3Ca ₃ (PO ₄) ₂ ·CaF ₂ | | Common accessory mineral of igneous rocks. Contact metamorphic mineral. | Fertilizer, source of phosphorus and its compounds. |
| 5-5.5 | 2.5 | | Yellow, green, brown, red, black. | Adamantine to resinous. | Crystalline, disseminated, lamellar, massive, compact. | | Wedge-like. | Two. | Conchoidal. | Brittle. | Beides occurrence noted it also is found on walls of cavities in acid igneous rocks and as an alteration product of other igneous rocks. | Titanite, zircon. | CaTiSiO ₆ | | Common accessory mineral of igneous rocks. Contact metamorphic mineral. | Transparent variety used as a gem. |
| 5-6 | 2.8 | | Bluish green to greenish black. | Waxy, dull. | Botryoidal, stactolitic, reniform, disseminated, encrustation. | | | Conchoidal. | Brittle. | Transparent to opaque. | See copper test under azurite. | Turquoise. | [Al(AlO ₂) ₃ ·Cu(OH)(PO ₄) ₂ ·nH ₂ O] | | An alteration product. | Gem mineral. |
| 5-6 | 3 | | Dark green, gray. | Glassy, silky. | Crystalline, bladed, fibrous, columnar, granular. | | Prismatic. | Uneven, splintery. | Brittle. | Transparent to opaque. | Green green color characteristic. | Actinolite. | (Mg,Fe,Ca)(SiO ₃) ₇ | | A metamorphic rock forming mineral. | One of asbestos. |
| 5.5-6.5 | 2.1 | | Colorless, white, red, yellow, blue, green, black, brown. | Pearly, waxy, dull. | Massive, botryoidal, stactolitic, reniform, earthy. | | | Conchoidal. | Brittle. | Transparent to opaque. | Earthy varieties as diatomaceous earth are as soft as I. Massive opals in chert. | Opal. | SiO ₂ ·nH ₂ O | | Occurs as a hot spring deposit (geyser, or stinter), as an alteration product, and in sedimentary beds. | Used for gems, ornaments. Earthy varieties as tripolite and diatomite used as scouring agents, in bricks for furnace linings, in paper industry, for stucco, cement, etc. |
| 6 | 2.5-2.8 | | Colorless, white, cream, red, green, gray. | Glassy. | Crystalline, massive, disseminated. | | Two good. | Uneven. | Brittle. | Transparent to opaque. | Often striated, sometimes irregular, especially gray labradolite. Transparent variety is nepheline. | Feldspar. | Aluminous silicates of K, Na, Ca. | | Common rock mineral. | Transparent variety used as a gem, translucent variety as a gem, flint, etc. |
| 6-7 | 3.2 | | Gray, yellowish, greenish, brownish. | Glassy, silky, greasy. | Acicular, fibrous. | | One good. | Uneven. | Brittle. | Transparent, translucent. | Surface often coated by other minerals. Usually brown and hard enough to scratch glass. | Silimanite, fibrolite. | AlSiO ₃ | | A metamorphic rock, schist forming mineral. | Spark plug porcelain. |
| 6-7.5 | 8.4-8.5 | | Brown, red, yellow, green. | Glassy, resinous. | Crystalline, granular, disseminated. | | Dodecahedral, most common. | Uneven, conchoidal. | Brittle. | Transparent, translucent. | Often altered with other minerals. Usually brown and hard enough to scratch glass. | Garnet. | (Ca,Mg,Fe,Mn) ₂ (Al,Fe,Cr) ₂ (SiO ₃) ₆ | | In veins and as a metamorphic mineral, especially in contact metamorphic rocks. | Transparent varieties used as gems, hard varieties used as abrasive. |
| 6.5 | 3-6 | | Yellowish, green, dark yellow, red, brown, black. | Glassy. | Crystalline, granular, bladed. | | One good. | Brittle. | Brittle. | Transparent to opaque. | In yellowish green to olive green, columnar or needle-like structure, and glassy luster are characteristic. | Episite, petasite. | Ca ₂ (Al,Fe,Mg)(OH) ₂ ·(Mg,Fe) ₂ (SiO ₃) ₂ | | A mineral of metamorphic rocks. Often in contact metamorphic zone. | Transparent green petasite is a gem. |
| 6.5-7 | 3.5 | | Colorless, white, pink, smoky, red, brown, black. | Glassy, waxy, dull. | Crystalline, granular, disseminated. | | Pyramidal-like faces and prisms. | Conchoidal. | Brittle. | Transparent to opaque. | Often sugary, friable, occasionally found in metamorphic rocks. | Olivine, peridot. | (Mg,Fe) ₂ SiO ₄ | | Rock forming mineral of basic igneous rocks. | Transparent green peridot is a gem. |
| 7 | 2.7 | | Colorless, white, pink, smoky, red, brown, black. | Glassy, waxy, dull. | Crystalline, granular, nodular, banded, stony, columnar, botryoidal, massive, etc. | | | Conchoidal. | Brittle. | Transparent to opaque. | Crystal faces often striated, the pseudomorph variety, chert is common in limestone. Infusible, insoluble. | Quartz. | SiO ₂ | | Occurs in all kinds of rocks and under many conditions. Common rock mineral. | Used as abrasive, as building material as in sand and sandstone and quartzite, in pottery, jewelry, etc. |
| 7 | 3.3 | | Purple, blue, pink, green, white, colorless. | Glassy, dull. | Fibrous, columnar, acicular, spherulitic, massive. | | Prisms. | One good. | Even. | Transparent, translucent. | Crystals vertically striated and usually black, long and six-sided. | Dumortierite. | BaAl ₂ Si ₂ O ₆ | | In igneous and metamorphic granular rocks. | Used in manufacture of spark plug porcelain. |
| 7-7.5 | 2.9-3.2 | | Colorless, green, pink, gray, yellow. Usually bluish. | Glassy, pithy. | Crystalline, massive, disseminated. | | Long six-sided prisms. | Uneven, conchoidal. | Brittle. | Transparent to opaque. | Crystals vertically striated and usually black, long and six-sided. | Tourmaline. | Complex boron-aluminum silicates. | | In veins, and granitic igneous rocks. At contact of granite and limestone. | Transparent variety used as a gem and in optical instruments. |
| 7-7.5 | 3.2 | | Gray, brown, reddish brown, black. | Glassy, dull. | Crystalline, granular, columnar. | | Prismatic. | Uneven. | Brittle. | Transparent to opaque. | Surface often coated by other minerals. | Andalusite. | AlSiO ₃ | | A metamorphic mineral at contact of granite with clay and slate. | Transparent varieties used as gems. Used in production of spark plug porcelain and refractory bricks. |
| 9 | 4 | | White, brown, red, gray, black. | Adamantine, glassy. | Crystalline, granular, disseminated. | | Pyramidal, prisms. | Pyramidal. | Brittle. | Transparent, translucent. | Crystals striated, very hard. | Corundum, emery. | Al ₂ O ₃ | | Occurs in igneous rocks and as a metamorphic mineral in limestone. | Used as an abrasive. Transparent red variety is ruby. Transparent blue variety is sapphire. |
| 2.5 | 2.3 | | Deep blue, pale blue, greenish blue. | Glassy. | Crystalline, encrustation, stactolitic, reniform, fibrous. | | | Conchoidal. | Brittle. | Transparent, translucent. | Soluble in water, metallic taste, becomes coated with white on exposure to dry air. | Chalcocite. | Cu ₂ SO ₄ ·H ₂ O | 25.9% Cu | Occurs in mine waters and formed by oxidation of copper ore. | Minor ore of copper. |
| 3.5-4 | 3.8 | | Dark to pale blue, greenish blue. | Glassy, dull. | Crystalline, earthy, massive, botryoidal, reniform, encrustation. | | Tabular. | Brittle. | Brittle. | Transparent to opaque. | Like other copper minerals it will dissolve in acid and give a blue solution on addition of ammonia water. | Azurite. | 2CuCO ₃ ·Cu(OH) ₂ | 55.2% Cu | Found in upper part of copper veins, alteration product of copper sulfides. | Minor ore of copper, sometimes used as a gem. |
| 3.5-4 | 3.9 | | Reddish green, gray, green, blackish green. | Adamantine, silky, glassy. | Encrustations, massive, concentric, reniform, botryoidal, stactolitic, earthy, fibrous, massive. | | | Conchoidal. | Brittle. | Transparent to opaque. | See copper test under azurite. | Malachite. | Cu ₂ (OH) ₂ (CO ₃) | 57.5% Cu | Occurs in upper parts of copper veins, alteration product of copper sulfides. | One of copper, also used for ornamental purposes and as a gem. |
| 3.5-4 | 2.9 | | Blue, green, gray, black. | Glassy, pearly. | Crystalline, druse, fibrous. | | Prisms. | One good. | Splintery. | Transparent, translucent. | See copper test under azurite. | Brochantite. | Cu ₂ (OH) ₂ (CO ₃) | 56.2% Cu | A mineral formed by alteration of copper sulfides. | Minor ore of copper. |
| 4-4.5 | 2.6-3 | | Bluish green, gray, greenish black. | Submetallic, greasy. | Foliated, lamellar, scaly, earthy. | | One perfect. | Brittle, tough, flexible. | Brittle. | Transparent to opaque. | Soapy feel, usually dark green, foliated. | | | | | |