**Information on Rocks and Minerals in the Washington School Collection of Minerals and Rocks (Red Boxes)**

***Igneous Rocks***

1. **Andesite**

Andesite is the name used for a family of fine-grained, extrusive [igneous rocks](http://geology.com/rocks/igneous-rocks.shtml) that are usually light to dark gray in color. They often weather to various shades of brown, and these specimens must be broken for proper examination. Andesite is rich in [plagioclase](http://geology.com/minerals/plagioclase.shtml) [feldspar](http://geology.com/minerals/feldspar.shtml) [minerals](http://geology.com/minerals/) and may contain [biotite](http://geology.com/minerals/biotite.shtml), [pyroxene](http://geology.com/minerals/augite.shtml), or [amphibole](http://geology.com/minerals/hornblende.shtml). Andesite usually does not contain [quartz](http://geology.com/minerals/quartz.shtml) or [olivine](http://geology.com/minerals/olivine.shtml).

Andesite is typically found in lava flows produced by stratovolcanoes. Because these lavas cooled rapidly at the surface, they are generally composed of small crystals.

1. **Basalt**

Basalt is a dark-colored, fine-grained, [igneous rock](http://geology.com/rocks/igneous-rocks.shtml) composed mainly of [plagioclase](http://geology.com/minerals/plagioclase.shtml) and pyroxene minerals.

Basalt underlies more of Earth's surface than any other rock type. Most areas within Earth's ocean basins are underlain by basalt. Although basalt is much less common on continents, lava flows and flood basalts underlie several percent of Earth's land surface.

1. **Gabbro**

Gabbro is a coarse-grained, dark-colored, intrusive [igneous rock](http://geology.com/rocks/igneous-rocks.shtml). It is usually black or dark green in color and composed mainly of the minerals plagioclase and augite. It is the most abundant [rock](http://geology.com/rocks/) in the deep oceanic crust. Gabbro has a variety of uses in the construction industry. It is used for everything from crushed stone base materials at construction sites to polished stone counter tops and floor tiles.

*(Igneous rocks, continued)*

1. **Granite**

Granite is a light-colored [igneous rock](http://geology.com/rocks/igneous-rocks.shtml) with grains large enough to be visible with the unaided eye. It forms from the slow crystallization of magma below Earth's surface. Granite is composed mainly of quartz and [feldspar](http://geology.com/minerals/feldspar.shtml) with minor amounts of mica, amphiboles, and other minerals. This mineral composition usually gives granite a red, pink, gray, or white color with dark mineral grains visible throughout the rock.

1. **Obsidian**

Obsidian is an [igneous rock](http://geology.com/rocks/igneous-rocks.shtml) that forms when molten rock material cools so rapidly that atoms are unable to arrange themselves into a crystalline structure. It is an amorphous material known as a "[mineraloid](http://geology.com/minerals/mineraloids/)." The result is a volcanic glass with a smooth uniform texture that breaks with a conchoidal fracture. Obsidian is confined to areas of geologically recent volcanic activity Black is the most common color of obsidian. However, it can also be brown, tan, or green.

1. **Pumice**

Pumice is a light-colored, extremely porous [igneous rock](http://geology.com/rocks/igneous-rocks.shtml) that forms during [explosive volcanic eruptions](http://geology.com/stories/13/volcanic-explosivity-index/). It is used as aggregate in lightweight concrete, as landscaping aggregate, and as an abrasive in a variety of industrial and consumer products. Many specimens have a high enough porosity that they can float on water until they slowly become waterlogged. The material cools so quickly that atoms in the melt are not able to arrange themselves into a crystalline structure. Thus, pumice is an amorphous volcanic glass known as a "[mineraloid](http://geology.com/minerals/mineraloids/)." The largest use of pumice in the United States is the production of lightweight concrete blocks and other lightweight concrete products. When this concrete is mixed, the vesicles remain partially filled with air. That reduces the weight of the block. Lighter blocks can reduce the structural steel requirements of a building or reduce the foundation requirements. The trapped air also gives the blocks a greater insulating value.

The second most common use of pumice is in landscaping and horticulture. The pumice is used as a decorative ground cover in landscaping and planters. It is used as drainage rock and soil conditioner in plantings. Pumice and [scoria](http://geology.com/rocks/scoria.shtml) are also popular rocks for use as substrates in hydroponic gardening.

*Igneous rocks, continued*

1. **Rhyolite**

Rhyolite is an extrusive [igneous rock](http://geology.com/rocks/igneous-rocks.shtml) with a very high silica content. It is usually pink or gray in color with grains so small that they are difficult to observe without a [hand lens](http://geology.com/store/hand-lens/). Rhyolite usually forms in continental or continent-margin [volcanic eruptions](http://geology.com/volcanoes/types-of-volcanic-eruptions/) where granitic magma reaches the surface.

*Sedimentary Rocks*

1. **Arkose**

Arkose is a sedimentary rock that forms from the weathering of feldspar-rich igneous and metamorphic rocks. This origin is evident because arkose is a [sandstone](http://geology.com/rocks/sandstone.shtml) that contains at least 25% feldspar, usually in the form of grains that can be easily identified as feldspar. Arkose is usually found immediately down gradient and close to the outcrops from which the feldspar grains were weathered. Long transportation distances destroy the feldspar grains, and extended exposure to weathering converts the feldspars into clay minerals. Clay minerals are feldspar’s other contribution to the sedimentary record. They accumulate as mud or soil and often form sediments that become shales and mudrocks.

1. **Breccia**

Breccia is a term most often used for clastic [sedimentary rocks](http://geology.com/rocks/sedimentary-rocks.shtml) that are composed of large angular fragments (over two millimeters in diameter). The spaces between the large angular fragments are filled with a matrix of smaller particles and a mineral cement that binds the rock together.

1. **Conglomerate**

Conglomerate is a clastic [sedimentary rock](http://geology.com/rocks/sedimentary-rocks.shtml) that contains large (greater than two millimeters in diameter) rounded clasts. The space between the clasts is generally filled with smaller particles and/or a chemical cement that binds the rock together. Conglomerate can have a variety of compositions. As a clastic sedimentary rock, it can contain clasts of any rock material or weathering product that is washed downstream or down current. The rounded clasts of conglomerate can be mineral particles such as quartz, or they can be sedimentary, metamorphic, or igneous rock fragments. The matrix that binds the large clasts together can be a mixture of sand, mud, and chemical cement.

*Sedimentary rocks, continued*

1. **Fossil Limestone**

Limestone is a [sedimentary rock](http://geology.com/rocks/sedimentary-rocks.shtml) composed primarily of calcium carbonate in the form of the mineral [calcite](http://geology.com/minerals/calcite.shtml). It most commonly forms in clear, warm, shallow marine waters. It is usually an organic sedimentary rock that forms from the accumulation of shell, coral, algal, and fecal debris. It can also be a chemical sedimentary rock formed by the precipitation of calcium carbonate from lake or ocean water. Fossil limestone contains obvious and abundant fossils. These are normally shell and skeletal fossils of the organisms that produced the limestone.

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1. **Sandstone**

Sandstone is a sedimentary rock composed of sand-size grains of mineral, rock, or organic material. It also contains a cementing material that binds the sand grains together and may contain a matrix of silt- or clay-size particles that occupy the spaces between the sand grains.

Sandstone is one of the most common types of sedimentary rock and is found in sedimentary basins throughout the world. It is often mined for use as a construction material or as a raw material used in manufacturing. In the subsurface, sandstone often serves as an aquifer for groundwater or as a reservoir for oil and natural gas.

*Sedimentary rocks, continued*

1. **Oil Shale**

Shale is a fine-grained [sedimentary rock](http://geology.com/rocks/sedimentary-rocks.shtml) that forms from the compaction of silt and clay-size mineral particles that we commonly call "mud." This composition places shale in a category of sedimentary rocks known as "mudstones." Shale is distinguished from other mudstones because it is fissile and laminated. "Laminated" means that the rock is made up of many thin layers. "Fissile" means that the rock readily splits into thin pieces along the laminations. Everyone has contact with products made from shale. If you live in a brick house, drive on a brick road, live in a house with a tile roof, or keep plants in "terra cotta" pots, you have daily contact with items that were probably made from shale.

Many years ago these same items were made from natural clay. However, heavy use depleted most of the small clay deposits. Needing a new source of raw materials, manufacturers soon discovered that mixing finely ground shale with water would produce a clay that often had similar or superior properties. Today, most items that were once produced from natural clay have been replaced by almost identical items made from clay manufactured by mixing finely ground shale with water.

*Metamorphic Rocks*

1. **Anthracite Coal**

Coal is an organic [sedimentary rock](http://geology.com/rocks/sedimentary-rocks.shtml) that forms from the accumulation and preservation of plant materials, usually in a swamp environment. Coal is a combustible rock and, along with [oil and natural gas](http://geology.com/oil-and-gas/), it is one of the three most important fossil fuels. Coal has a wide range of uses; the most important use is for the [generation of electricity](http://geology.com/articles/history-of-energy-use/).

Anthracite is the highest rank of coal. It has a carbon content of over 87% on a dry ash-free basis. Anthracite coal generally has the highest heating value per ton on a mineral-matter-free basis.

*Metamorphic rocks, continued*

1. **Gneiss**

Gneiss is a foliated [metamorphic rock](http://geology.com/rocks/metamorphic-rocks.shtml) identified by its bands and lenses of varying composition. It is this banded appearance and texture - rather than composition - that define a gneiss. Gneiss usually does not split along planes of weakness like most other metamorphic rocks. This allows contractors to use gneiss as a [crushed stone](http://geology.com/articles/crushed-stone/) in road construction, building site preparation, and landscaping projects.

Some gneiss is durable enough to perform well as a dimension stone. These rocks are sawn or sheared into blocks and slabs used in a variety of building, paving, and curbing projects.

Some gneiss accepts a bright polish and is attractive enough for use as an architectural stone. Beautiful floor tiles, facing stone, stair treads, window sills, countertops, and cemetery monuments are often made from polished gneiss.

1. **Marble**

Marble is a [metamorphic rock](http://geology.com/rocks/metamorphic-rocks.shtml) that forms when [limestone](http://geology.com/rocks/limestone.shtml) is subjected to the heat and pressure of metamorphism. It is composed primarily of the mineral [calcite](http://geology.com/minerals/calcite.shtml) and usually contains other minerals, such as clay minerals, micas, [quartz](http://geology.com/minerals/quartz.shtml), [pyrite](http://geology.com/minerals/pyrite.shtml), iron oxides, and [graphite](http://geology.com/minerals/graphite.shtml). Under the conditions of metamorphism, the calcite in the limestone recrystallizes to form a rock that is a mass of interlocking calcite crystals.

Most marble is made into either [crushed stone](http://geology.com/articles/crushed-stone/) or dimension stone. Crushed stone is used as an aggregate in highways, railroad beds, building foundations, and other types of construction.

1. **Quartzite**

Quartzite is a nonfoliated [metamorphic rock](http://geology.com/rocks/metamorphic-rocks.shtml) composed almost entirely of [quartz](http://geology.com/minerals/quartz.shtml). It forms when a quartz-rich [sandstone](http://geology.com/rocks/sandstone.shtml) is altered by the heat, pressure, and chemical activity of metamorphism. These conditions recrystallize the sand grains and the silica cement that binds them together. The result is a network of interlocking quartz grains of incredible strength.

The interlocking crystalline structure of quartzite makes it a hard, tough, durable rock. It is so tough that it breaks through the quartz grains rather than breaking along the boundaries between them. This is a characteristic that separates true quartzite from sandstone.

*Metamorphic rocks, continued*

1. **Graphite Schist**

Graphite is a naturally-occurring form of crystalline carbon. It is a native element mineral found in [metamorphic](http://geology.com/rocks/metamorphic-rocks.shtml) and [igneous rocks](http://geology.com/rocks/igneous-rocks.shtml). Graphite is a [mineral](http://geology.com/minerals/) of extremes. It is extremely soft, cleaves with very light pressure, and has a very low specific gravity. In contrast, it is extremely resistant to heat and nearly inert in contact with almost any other material. These extreme properties give it a wide range of uses in metallurgy and manufacturing. Graphite and [diamond](http://geology.com/minerals/diamond.shtml) are the two mineral forms of carbon. Diamond forms in the mantle under extreme heat and pressure. Most graphite found near Earth's surface was formed within the crust at lower temperatures and pressures. Graphite and diamond share the same composition but have very different structures. Graphite is commonly used as the “lead” in pencils

1. **Mica Schist**

Schist is a foliated [metamorphic rock](http://geology.com/rocks/metamorphic-rocks.shtml) made up of plate-shaped mineral grains that are large enough to see with an unaided eye. To become schist, a shale must be metamorphosed in steps through [slate](http://geology.com/rocks/slate.shtml) and then through [phyllite](http://geology.com/rocks/phyllite.shtml). If the schist is metamorphosed further, it might become a granular rock known as [gneiss](http://geology.com/rocks/gneiss.shtml).

A rock does not need a specific mineral composition to be called “schist.” It only needs to contain enough platy metamorphic minerals in alignment to exhibit distinct foliation. This texture allows the rock to be broken into thin slabs along the alignment direction of the platy mineral grains. This type of breakage is known as schistosity.

1. **Slate**

Slate is a fine-grained, foliated [metamorphic rock](http://geology.com/rocks/metamorphic-rocks.shtml) that is created by the alteration of [shale](http://geology.com/rocks/shale.shtml) or mudstone by low-grade regional metamorphism. It is popular for a wide variety of uses such as roofing, flooring, and flagging because of its durability and attractive appearance. Slate is composed mainly of clay minerals or micas, depending upon the degree of metamorphism to which it has been subjected. The original clay minerals in shale alter to micas with increasing levels of heat and pressure. Slate can also contain abundant [quartz](http://geology.com/minerals/quartz.shtml) and small amounts of [feldspar](http://geology.com/minerals/feldspar.shtml), [calcite](http://geology.com/minerals/calcite.shtml), [pyrite](http://geology.com/minerals/pyrite.shtml), [hematite](http://geology.com/minerals/hematite.shtml), and other minerals.

*Minerals*

1. **Augite**

Augite is a rock-forming [mineral](http://geology.com/minerals/) that commonly occurs in mafic and intermediate [igneous rocks](http://geology.com/rocks/igneous-rocks.shtml) such as [basalt](http://geology.com/rocks/basalt.shtml), [gabbro](http://geology.com/rocks/gabbro.shtml), [andesite](http://geology.com/rocks/andesite.shtml), and [diorite](http://geology.com/rocks/diorite.shtml). It is found in these rocks throughout the world, wherever they occur. Augite is also found in ultramafic rocks and in some [metamorphic rocks](http://geology.com/rocks/metamorphic-rocks.shtml) that form under high temperatures.

Augite is usually green, black, or brown in color with a translucent to opaque diaphaneity. It usually exhibits two distinct cleavage directions that intersect at slightly less than 90 degrees. A [hand lens](http://geology.com/store/hand-lens/) is often needed to properly observe the cleavage, especially in fine-grained rocks.

1. **Barite**

Barite is a [mineral](http://geology.com/minerals/) composed of barium sulfate. It receives its name from the Greek word "barys" which means "heavy." This name is in response to barite's high specific gravity of 4.5, which is exceptional for a nonmetallic mineral. The high specific gravity of barite makes it suitable for a wide range of industrial, medical, and manufacturing uses. Barite also serves as the principal ore of barium.

1. **Bauxite**

Bauxite is not a [mineral](http://geology.com/minerals/what-is-a-mineral.shtml). It is a [rock](http://geology.com/rocks/) formed from a laterite soil that has been severely leached of silica and other soluble materials in a wet tropical or subtropical climate. It is the primary ore of aluminum. Almost all of the aluminum that has ever been produced has been extracted from bauxite. Most of the world’s mined bauxite comes from Australia.

1. **Albite Feldspar**

Feldspar is the name of a large group of rock-forming silicate [minerals](http://geology.com/minerals/) that make up over 50% of Earth’s crust. They are found in [igneous](http://geology.com/rocks/igneous-rocks.shtml), [metamorphic](http://geology.com/rocks/metamorphic-rocks.shtml), and [sedimentary](http://geology.com/rocks/sedimentary-rocks.shtml) rocks in all parts of the world. Feldspar minerals have very similar structures, chemical compositions, and physical properties. As igneous rocks are weathered and metamorphosed, their feldspar minerals become components of sediments, sedimentary rocks, and metamorphic rocks. Albite is a type of feldspar.

Feldspar minerals have many uses in industry. They are used to manufacture a wide variety of glass and ceramic products. They are also widely used as fillers in paints, plastics and rubber. Several popular [gemstones](http://geology.com/gemstones/) are feldspar minerals. These include moonstone, [sunstone](http://geology.com/gemstones/sunstone/), [labradorite](http://geology.com/gemstones/labradorite/), [amazonite](http://geology.com/gemstones/amazonite/) and [spectrolite](http://geology.com/gemstones/labradorite/)

*Minerals, continued*

1. **Biotite Mica**

Biotite is a name used for a large group of black mica minerals that are commonly found in [igneous](http://geology.com/rocks/igneous-rocks.shtml) and [metamorphic rocks](http://geology.com/rocks/metamorphic-rocks.shtml). These include annite, phlogopite, siderophyllite, fluorophlogopite, fluorannite, eastonite, and many others. These micas vary in chemical composition but are all sheet silicate [minerals](http://geology.com/minerals/) with very similar physical properties.

Biotite is very easy to identify, and with a little experience a person will be able to recognize it on sight. It is a black mica with perfect cleavage and a vitreous luster on the cleavage faces. When biotite is separated into thin sheets, the sheets are flexible but will break upon severe bending. When held up to the light, the sheets are transparent to translucent with a brown, gray, or greenish color. Experienced observers can sometimes recognize phlogopite by its brown color.

1. **Calcite**

Calcite is a rock-forming mineral and is extremely common and found throughout the world in [sedimentary](http://geology.com/rocks/sedimentary-rocks.shtml), [metamorphic](http://geology.com/rocks/metamorphic-rocks.shtml), and [igneous](http://geology.com/rocks/igneous-rocks.shtml) rocks. Some geologists consider it to be a "ubiquitous mineral" - one that is found everywhere.

Calcite is the principal constituent of [limestone](http://geology.com/rocks/limestone.shtml) and [marble](http://geology.com/rocks/marble.shtml). These rocks are extremely common and make up a significant portion of Earth's crust. They serve as one of the largest carbon repositories on our planet.

The properties of calcite make it one of the most widely used minerals. It is used as a construction material, abrasive, agricultural soil treatment, construction aggregate, pigment, pharmaceutical and more. It has more uses than almost any other mineral.

1. **Dolomite**

Dolomite, also known as "dolostone" and "dolomite rock," is a [sedimentary rock](http://geology.com/rocks/sedimentary-rocks.shtml) composed primarily of the mineral [dolomite](http://geology.com/minerals/dolomite.shtml). Dolomite is found in sedimentary basins worldwide. It is thought to form by the postdepositional alteration of lime mud and [limestone](http://geology.com/rocks/limestone.shtml) by magnesium-rich groundwater. Dolomite is often crushed and used as an aggregate in construction projects. It can be kiln-fired in the manufacture of cement. Its hardness makes it a superior construction material. Its lower solubility makes it resistant to the acid content of rain and soil.

*Minerals, continued*

1. **Fluorite**

Fluorite is an important industrial [mineral](http://geology.com/minerals/) composed of calcium and fluorine. It is used in a wide variety of chemical, metallurgical, and ceramic processes. Specimens with exceptional diaphaneity and color are cut into [gems](http://geology.com/gemstones/) or used to make ornamental objects.

Fluorite is deposited in veins by hydrothermal processes. In these [rocks](http://geology.com/rocks/) it often occurs as a gangue mineral associated with metallic ores. Fluorite is also found in the fractures and cavities of some [limestones](http://geology.com/rocks/limestone.shtml) and [dolomites](http://geology.com/rocks/dolomite.shtml). It is a very common rock-forming mineral found in many parts of the world.

1. **Gypsum**

Gypsum is an evaporite mineral most commonly found in layered sedimentary deposits. Gypsum is the most common sulfate [mineral](http://geology.com/minerals/). Gypsum is used in the manufacture of wallboard, cement, plaster of Paris, and portland cement.

1. **Hematite**

Hematite is one of the most abundant [minerals](http://geology.com/minerals/) on Earth's surface and in the shallow crust. It is an iron oxide. It is a common rock-forming mineral found in [sedimentary](http://geology.com/rocks/sedimentary-rocks.shtml), [metamorphic](http://geology.com/rocks/metamorphic-rocks.shtml), and [igneous](http://geology.com/rocks/igneous-rocks.shtml) rocks at locations throughout the world. Hematite is an important [ore of iron](http://geology.com/rocks/iron-ore.shtml). Even though hematite has a highly variable appearance, it always produces a reddish streak.

1. **Hornblende**

Hornblende is a field and classroom name used for a group of dark-colored amphibole minerals found in many types of [igneous](http://geology.com/rocks/igneous-rocks.shtml) and [metamorphic](http://geology.com/rocks/metamorphic-rocks.shtml) rocks. The mineral hornblende has very few uses. Its primary use might be as a mineral specimen. However, hornblende is the most abundant mineral in a rock known as [amphibolite](http://geology.com/rocks/amphibolite.shtml) which has a large number of uses. It is crushed and used for highway construction and as railroad ballast. It is cut for use as dimension stone. The highest quality pieces are cut, polished, and sold under the name "black granite" for use as building facing, floor tiles, countertops, and other architectural uses.

*Minerals, continued*

1. **Magnetite**

Magnetite is a very common iron oxide [mineral](http://geology.com/minerals/) that is found in [igneous](http://geology.com/rocks/igneous-rocks.shtml), [metamorphic](http://geology.com/rocks/metamorphic-rocks.shtml), and [sedimentary](http://geology.com/rocks/sedimentary-rocks.shtml) [rocks](http://geology.com/rocks/). It is the most commonly mined ore of iron. It is also the [mineral](http://geology.com/minerals/what-is-a-mineral.shtml) with the highest iron content (72.4%).

Magnetite is very easy to identify. It is one of just a few minerals that are attracted to a common magnet. It is a black, opaque, submetallic to metallic mineral. It is the most strongly magnetic mineral found in nature.

1. **Malachite**

Malachite is a green copper carbonate hydroxide [mineral](http://geology.com/minerals/). It was one of the first ores used to produce [copper](http://geology.com/usgs/uses-of-copper/) metal. It is of minor importance today as an ore of copper because it is usually found in small quantities and can be sold for higher prices for other types of use.

Malachite has been used as a [gemstone](http://geology.com/gemstones/) and sculptural material for thousands of years and is still popular today. Today it is most often cut into cabochons or beads for jewelry use.

Malachite has a green color that does not fade over time or when exposed to light. Those properties, along with its ability to be easily ground to a powder, made malachite a preferred pigment and coloring agent for thousands of years.

1. **Microcline Feldspar**

Feldspar is the name of a large group of rock-forming silicate [minerals](http://geology.com/minerals/) that make up over 50% of Earth’s crust. They are found in [igneous](http://geology.com/rocks/igneous-rocks.shtml), [metamorphic](http://geology.com/rocks/metamorphic-rocks.shtml), and [sedimentary](http://geology.com/rocks/sedimentary-rocks.shtml) rocks in all parts of the world. Feldspar minerals have very similar structures, chemical compositions, and physical properties. As igneous rocks are weathered and metamorphosed, their feldspar minerals become components of sediments, sedimentary rocks, and metamorphic rocks.

Feldspar minerals have many uses in industry. They are used to manufacture a wide variety of glass and ceramic products. They are also widely used as fillers in paints, plastics and rubber. Several popular [gemstones](http://geology.com/gemstones/) are feldspar minerals. These include moonstone, [sunstone](http://geology.com/gemstones/sunstone/), [labradorite](http://geology.com/gemstones/labradorite/), [amazonite](http://geology.com/gemstones/amazonite/) and [spectrolite](http://geology.com/gemstones/labradorite/).

*Minerals, continued*

1. **Muscovite Mica**

Muscovite is the most common mineral of the mica family. It is an important rock-forming mineral present in [igneous](http://geology.com/rocks/igneous-rocks.shtml), [metamorphic](http://geology.com/rocks/metamorphic-rocks.shtml), and [sedimentary rocks](http://geology.com/rocks/sedimentary-rocks.shtml). Like other micas, it readily cleaves into thin transparent sheets. Muscovite sheets have a pearly to vitreous luster on their surface. If they are held up to the light, they are transparent and nearly colorless, but most have a slight brown, yellow, green, or rose-color tint.

The ability of muscovite to split into thin transparent sheets - sometimes up to several feet across - gave it an early use as window panes. Sheet muscovite is an excellent insulator, and that makes it suitable for manufacturing specialized parts for electrical equipment. Scrap, flake, and ground muscovite are used as fillers and extenders in a variety of paints, surface treatments, and manufactured products. The pearlescent luster of muscovite makes it an important ingredient that adds "glitter" to paints, ceramic glazes, and cosmetics.

1. **Pyrite**

Pyrite is a brass-yellow mineral with a bright metallic luster. It has a chemical composition of iron disulfide and is the most common sulfide mineral. It forms at high and low temperatures and occurs, usually in small quantities, in [igneous](http://geology.com/rocks/igneous-rocks.shtml), [metamorphic](http://geology.com/rocks/metamorphic-rocks.shtml), and [sedimentary rocks](http://geology.com/rocks/sedimentary-rocks.shtml) worldwide.

The name "pyrite" is after the Greek "pyr" meaning "fire." This name was given because pyrite can be used to create the sparks needed for starting a fire if it is struck against metal or another hard material. Pieces of pyrite have also been used as a spark-producing material in flintlock firearms.

Pyrite has a nickname that has become famous - "Fool's Gold." The mineral's gold color, metallic luster, and high specific gravity often cause it to be mistaken for gold by inexperienced prospectors. However, pyrite is often associated with [gold](http://geology.com/minerals/gold.shtml). The two minerals often form together, and in some deposits pyrite contains enough included [gold](http://geology.com/usgs/gold/) to warrant mining.

1. **Pyrolusite**

**Pyrolusite** is a [mineral](https://en.wikipedia.org/wiki/Mineral) consisting essentially of [manganese dioxide](https://en.wikipedia.org/wiki/Manganese_dioxide) ([Mn](https://en.wikipedia.org/wiki/Manganese)[O](https://en.wikipedia.org/wiki/Oxygen)2) and is important as an [ore](https://en.wikipedia.org/wiki/Ore) of manganese. It is a black, [amorphous](https://en.wikipedia.org/wiki/Amorphous) appearing mineral, often with a granular, fibrous or columnar structure, sometimes forming [reniform](https://en.wiktionary.org/wiki/reniform#Adjective) crusts. It has a metallic [luster](https://en.wikipedia.org/wiki/Lustre_%28mineralogy%29), a black or bluish-black streak, and readily soils the fingers. The [specific gravity](https://en.wikipedia.org/wiki/Specific_gravity) is about 4.8. Its name is from the Greek for *fire* and to *wash*, in reference to its use as a way to remove tints from glass

*Minerals, continued*

1. **Quartz**

Quartz is a chemical compound consisting of one part silicon and two parts oxygen. It is silicon dioxide (SiO2). It is the most abundant [mineral](http://geology.com/minerals/) found at Earth's surface, and its unique properties make it one of the most useful natural substances.

1. **Talc**

Most people are familiar with the mineral talc. It can be crushed into a white powder that is widely known as "talcum powder." This powder has the ability to absorb moisture, absorb oils, absorb odor, serve as a lubricant, and produce an astringent effect with human skin. These properties make talcum powder an important ingredient in many baby powders, foot powders, first aid powders, and a variety of cosmetics. Talc is usually green, white, gray, brown, or colorless. It is a translucent mineral with a pearly luster. It is the softest known mineral and is assigned a hardness of 1 on the [Mohs Hardness scale](http://geology.com/minerals/mohs-hardness-scale.shtml)