Rocks Database

Name:

Texture:

Melting point:

Chemical resistance -- to weathering

Hardness -- grinding resistance

Mechanical resistance other than hardness -- bending, pulling, etc.

Thermal expansion coefficient -- influences cracking in temperature cycles.

Porosity -- High porosity creates vulnerability to frost and salt wedging even in solid rock.

Density -- affects how heavy a goxel is for floating on the mantle.

Specific heat -- affects thermodynamic calculations, of course.

Class:

How is it created:

The location in Earth's Crust:

relativity to other rocks / soil / ores / metals:

Discovered by:

Generator Quantity Rate: High, medium, low, rare, extremely rare

Refining process:

Crafting information:

Unique property:

<http://www.rockrollers.com/features/hardness.html>

<http://www.geologycafe.com/images/minerals.jpg>

<http://cauliflowerlabs.blogspot.nl/2014/10/geology-simulator-minerology-and.html>

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Name:

Texture:

Melting point:

Chemical resistance:

Hardness:

Mechanical resistance other than hardnes:

Thermal expansion coefficient:

Porosity:

Density:

Specific heat:

Class:

How is it created:

The location in Earth's Crust:

relativity to other rocks / soil / ores / metals:

Discovered by:

Generator Quantity Rate:

Refining process:

Crafting information:

Unique properties:

Name: Obsidian

Texture: 

Melting point:

Chemical resistance:

Hardness: 5–6

Mechanical resistance other than hardnes:

Thermal expansion coefficient:

Porosity:

Density:

Specific heat:

Class: Volcanic glass

How is it created: It is produced when [felsic](http://en.wikipedia.org/wiki/Felsic) [lava](http://en.wikipedia.org/wiki/Lava) extruded from a [volcano](http://en.wikipedia.org/wiki/Volcano) cools rapidly with minimum crystal growth.

The location in Earth's Crust: Near vulcanoes

relativity to other rocks / soil / ores / metals:

Discovered by: From beginning

Generator Quantity Rate: Generated only when water meets lava / magma

Refining process:

Crafting information: Makes great blades, but is brittle

Unique properties: Like most glasses – extremely sharp

Name: Granite

Subtypes: Azul Noce Granite, Giallo Granite, Violet granite, Lavanda Granite

Textures: 

Melting point:

Chemical resistance:

Hardness: 7

Mechanical resistance other than hardnes:

Thermal expansion coefficient:

Porosity:

Density: 2.75 g•cm−3 with a range of 1.74 g•cm−3 to 2.80 g•cm−3.

Specific heat:

Class: A combination of minerals

How is it created: Granite has felsic composition and is more common in recent [geologic time](https://en.wikipedia.org/wiki/Geologic_time) in contrast to Earth's[ultramafic](https://en.wikipedia.org/wiki/Ultramafic) ancient igneous history. Felsic rocks are less dense than [mafic](https://en.wikipedia.org/wiki/Mafic) and ultramafic rocks, and thus they tend to escape [subduction](https://en.wikipedia.org/wiki/Subduction), whereas basaltic or gabbroill land [continents](https://en.wikipedia.org/wiki/Continents). Granitoids are a ubiquitous component of the crust. They have crystallized from magmas that have compositions at or near a [eutectic](https://en.wikipedia.org/wiki/Eutectic) point (or a temperature minimum on a cotectic curve). [Magmas](https://en.wikipedia.org/wiki/Magma) will evolve to the eutectic because of [igneous differentiation](https://en.wikipedia.org/wiki/Igneous_differentiation), or because they represent low degrees of partial melting. [Fractional crystallisation](https://en.wikipedia.org/wiki/Fractional_crystallization_(geology)) serves to reduce a melt in [iron](https://en.wikipedia.org/wiki/Iron), [magnesium](https://en.wikipedia.org/wiki/Magnesium), [titanium](https://en.wikipedia.org/wiki/Titanium), [calcium](https://en.wikipedia.org/wiki/Calcium)and [sodium](https://en.wikipedia.org/wiki/Sodium), and enrich the melt in [potassium](https://en.wikipedia.org/wiki/Potassium) and [silicon](https://en.wikipedia.org/wiki/Silicon) – alkali feldspar (rich in potassium) and [quartz](https://en.wikipedia.org/wiki/Quartz)(SiO2), are two of the defining constituents of granite.

The location in Earth's Crust: Granite is the primary product of crustal melting, so granite forms at depth in the crust, and thus is pretty well anywhere that the deep crust has been brought near the surface or where there was so much melting that a lot of granite rose up to the surface even if erosion hasn't brought deep crust near the surface.   
  
Best places to look are in the cores of mountain chains or in really really old terrains (cratons) that have been eroding for so long that the granitic material is now at the surface.

relativity to other rocks / soil / ores / metals:

Discovered by: From the beginning

Generator Quantity Rate: High

Refining process:

Crafting information: Used for sculpturing and building

Unique properties:

Name: **Flint Quartz**

Texture: When used to build things (a wall in this case): 

Melting point: 1650 (±75) °C

Chemical resistance:

Hardness: 7 - lower in impure varieties

Mechanical resistance other than hardnes:

Thermal expansion coefficient:

Porosity:

Density:

Specific heat:

Class: Mineral

How is it created: **Flint** is a hard, [sedimentary](https://en.wikipedia.org/wiki/Sedimentary_rock) [cryptocrystalline](https://en.wikipedia.org/wiki/Cryptocrystalline) form of the [mineral](https://en.wikipedia.org/wiki/Mineral) [quartz](https://en.wikipedia.org/wiki/Quartz),[[1]](https://en.wikipedia.org/wiki/Flint#cite_note-1)[[2]](https://en.wikipedia.org/wiki/Flint#cite_note-2) categorized as a variety of [chert](https://en.wikipedia.org/wiki/Chert). It occurs chiefly as [nodules](https://en.wikipedia.org/wiki/Nodule_(geology)) and masses in sedimentary rocks, such as[chalks](https://en.wikipedia.org/wiki/Chalk) and [limestones](https://en.wikipedia.org/wiki/Limestone).[[3]](https://en.wikipedia.org/wiki/Flint#cite_note-Flints-3)[[4]](https://en.wikipedia.org/wiki/Flint#cite_note-4) Inside the nodule, flint is usually dark grey, black, green, white or brown in colour, and often has a glassy or waxy appearance. A thin layer on the outside of the nodules is usually different in colour, typically white and rough in texture. From a [petrological](https://en.wikipedia.org/wiki/Petrology) point of view, "flint" refers specifically to the form of [chert](https://en.wikipedia.org/wiki/Chert) which occurs in chalk or marly limestone. Similarly, "common chert" (sometimes referred to simply as "chert") occurs in limestone. The exact mode of formation of flint is not yet clear but it is thought that it occurs as a result of chemical changes in compressed sedimentary rock formations, during the process of [diagenesis](https://en.wikipedia.org/wiki/Diagenesis). One[hypothesis](https://en.wikipedia.org/wiki/Hypothesis) is that a gelatinous material fills cavities in the sediment, such as holes bored by [crustaceans](https://en.wikipedia.org/wiki/Crustaceans) or [molluscs](https://en.wikipedia.org/wiki/Molluscs) and that this becomes [silicified](https://en.wikipedia.org/wiki/Silicification). This hypothesis certainly explains the complex shapes of flint nodules that are found. The source of dissolved silica in the porous media could be the spicules of silicious sponges.[[3]](https://en.wikipedia.org/wiki/Flint#cite_note-Flints-3) Certain types of flint, such as that from the south coast of England, contain trapped fossilised marine flora. Pieces of coral and vegetation have been found preserved like[amber](https://en.wikipedia.org/wiki/Amber) inside the flint. Thin slices of the stone often reveal this effect.

The location in Earth's Crust: Flint sometimes occurs in large [flint fields](https://en.wikipedia.org/wiki/Flint_fields) in [Jurassic](https://en.wikipedia.org/wiki/Jurassic) or[Cretaceous](https://en.wikipedia.org/wiki/Cretaceous) beds, for example in Europe.

relativity to other rocks / soil / ores / metals:

Discovered by:

Generator Quantity Rate: High

Refining process:

Crafting information: Used as tools, to ignite fire or gunpowder, in Flintlocks, as a building material, in jewelry and in ceramics.

Unique properties: Fragmentates when heated

Name: **Chert Quartz**

Texture:  (from white to black), but most often manifests as gray, brown, grayish brown and light green to rusty red; its color is an expression of trace elements present in the rock, and both red and green are most often related to traces of iron

Melting point: 1650 (±75) °C

Chemical resistance:

Hardness: 7 - lower in impure varieties

Mechanical resistance other than hardnes:

Thermal expansion coefficient:

Porosity:

Density:

Specific heat:

Class: Mineral

How is it created: **Chert** ([/](https://en.wikipedia.org/wiki/Help:IPA_for_English)[ˈtʃɜrt](https://en.wikipedia.org/wiki/Help:IPA_for_English#Key)[/](https://en.wikipedia.org/wiki/Help:IPA_for_English)) is a fine-grained [silica](https://en.wikipedia.org/wiki/Silica)-rich [microcrystalline](https://en.wikipedia.org/wiki/Microcrystalline),[cryptocrystalline](https://en.wikipedia.org/wiki/Cryptocrystalline) or [microfibrous](https://en.wikipedia.org/w/index.php?title=Microfibrous&action=edit&redlink=1) [sedimentary rock](https://en.wikipedia.org/wiki/Sedimentary_rock) that may contain small [fossils](https://en.wikipedia.org/wiki/Fossil). Chert occurs as oval to irregular [nodules](https://en.wikipedia.org/wiki/Nodule_(geology)) in [greensand](https://en.wikipedia.org/wiki/Greensand_(geology)),[limestone](https://en.wikipedia.org/wiki/Limestone), [chalk](https://en.wikipedia.org/wiki/Chalk), and [dolostone](https://en.wikipedia.org/wiki/Dolostone) formations as a replacement mineral, where it is formed as a result of some type of[diagenesis](https://en.wikipedia.org/wiki/Diagenesis). Where it occurs in [chalk](https://en.wikipedia.org/wiki/Chalk) or [marl](https://en.wikipedia.org/wiki/Marl), it is usually called[flint](https://en.wikipedia.org/wiki/Flint). It also occurs in thin beds, when it is a primary deposit (such as with many [jaspers](https://en.wikipedia.org/wiki/Jasper) and [radiolarites](https://en.wikipedia.org/wiki/Radiolarite)).

The location in Earth's Crust: Thick beds of chert occur in deep [geosynclinal](https://en.wikipedia.org/wiki/Geosyncline) deposits. These thickly bedded cherts include the [novaculite](https://en.wikipedia.org/wiki/Novaculite) of the [Ouachita Mountains](https://en.wikipedia.org/wiki/Ouachita_Mountains)of [Arkansas](https://en.wikipedia.org/wiki/Arkansas), [Oklahoma](https://en.wikipedia.org/wiki/Oklahoma), and similar occurrences in [Texas](https://en.wikipedia.org/wiki/Texas) in the [United States](https://en.wikipedia.org/wiki/United_States). The [banded iron formations](https://en.wikipedia.org/wiki/Banded_iron_formation) of [Precambrian](https://en.wikipedia.org/wiki/Precambrian)age are composed of alternating layers of chert and [iron oxides](https://en.wikipedia.org/wiki/Iron_oxide). Chert also occurs in diatomaceous deposits and is known as diatomaceous chert. Diatomaceous chert consists of beds and lenses of [diatomite](https://en.wikipedia.org/wiki/Diatomite) which were converted during [diagenesis](https://en.wikipedia.org/wiki/Diagenesis) into dense, hard chert. Beds of marine diatomaceous chert comprising strata several hundred meters thick have been reported from sedimentary sequences such as the [Miocene](https://en.wikipedia.org/wiki/Miocene) [Monterey Formation](https://en.wikipedia.org/wiki/Monterey_Formation) of California and occur in rocks as old as the Cretaceous.[[1]](https://en.wikipedia.org/wiki/Chert#cite_note-1)

relativity to other rocks / soil / ores / metals:

Discovered by: From the beginning

Generator Quantity Rate: High

Refining process:

Crafting information: Tools, roads

Unique properties:

Name: Quartzite

Texture: <-Blue version

Pure quartzite is usually white to grey, though quartzites often occur in various shades of pink and red due to varying amounts of iron oxide 

Melting point:

Chemical resistance: Resistant

Hardness: 6.5 to 7 on Moh's Scale

Mechanical resistance other than hardness:

Thermal expansion coefficient:

Porosity: Low to very low

Density: 2.3 to 2.4 Kg/cm3

Specific heat:

Class: Metamorphic rock

How is it created: **Quartzite** (from [German](https://en.wikipedia.org/wiki/German_language): *Quarzit*[[1]](https://en.wikipedia.org/wiki/Quartzite#cite_note-1)) is a hard, non-foliated[metamorphic rock](https://en.wikipedia.org/wiki/Metamorphic_rock) which was originally pure [quartz](https://en.wikipedia.org/wiki/Quartz)[sandstone](https://en.wikipedia.org/wiki/Sandstone).[[2]](https://en.wikipedia.org/wiki/Quartzite#cite_note-EG-2)[[3]](https://en.wikipedia.org/wiki/Quartzite#cite_note-MII-3) Sandstone is converted into quartzite through heating and pressure usually related to [tectonic](https://en.wikipedia.org/wiki/Tectonics) compression within [orogenic belts](https://en.wikipedia.org/wiki/Orogeny). When sandstone is cemented to quartzite, the individual [quartz](https://en.wikipedia.org/wiki/Quartz)grains recrystallize along with the former cementing material to form an interlocking mosaic of quartz crystals.[[2]](https://en.wikipedia.org/wiki/Quartzite#cite_note-EG-2) Most or all of the original texture and sedimentary structures of the sandstone are erased by the [metamorphism](https://en.wikipedia.org/wiki/Metamorphism).[[2]](https://en.wikipedia.org/wiki/Quartzite#cite_note-EG-2) The grainy, sandpaper-like surface becomes glassy in appearance.[[2]](https://en.wikipedia.org/wiki/Quartzite#cite_note-EG-2) Minor amounts of former cementing materials, iron oxide, silica, carbonate and clay, often migrate during recrystallization and metamorphosis. This causes streaks and lenses to form within the quartzite.

The location in Earth's Crust: In the United States, formations of quartzite can be found in some parts of Pennsylvania, eastern [South Dakota](https://en.wikipedia.org/wiki/South_Dakota), Central Texas,[[8]](https://en.wikipedia.org/wiki/Quartzite#cite_note-8) southwest [Minnesota](https://en.wikipedia.org/wiki/Minnesota),[[9]](https://en.wikipedia.org/wiki/Quartzite#cite_note-9) [Devil's Lake State Park](https://en.wikipedia.org/wiki/Devil%27s_Lake_State_Park_(Wisconsin)) in the[Baraboo Hills](https://en.wikipedia.org/wiki/Baraboo_Hills) in [Wisconsin](https://en.wikipedia.org/wiki/Wisconsin),[[10]](https://en.wikipedia.org/wiki/Quartzite#cite_note-10) the [Wasatch Range](https://en.wikipedia.org/wiki/Wasatch_Range) in [Utah](https://en.wikipedia.org/wiki/Utah),[[11]](https://en.wikipedia.org/wiki/Quartzite#cite_note-11)near Salt Lake City, Utah and as resistant ridges in the[Appalachians](https://en.wikipedia.org/wiki/Appalachians)[[12]](https://en.wikipedia.org/wiki/Quartzite#cite_note-12) and other mountain regions. Quartzite is also found in the Morenci Copper Mine in [Arizona](https://en.wikipedia.org/wiki/Arizona).[[13]](https://en.wikipedia.org/wiki/Quartzite#cite_note-13) The town of[Quartzsite](https://en.wikipedia.org/wiki/Quartzsite,_Arizona) in western [Arizona](https://en.wikipedia.org/wiki/Arizona) derives its name from the quartzites in the [nearby mountains](https://en.wikipedia.org/wiki/Maria_Fold_and_Thrust_Belt) in both Arizona and Southeastern California. A glassy *vitreous quartzite* has been described from the [Belt Supergroup](https://en.wikipedia.org/wiki/Belt_Supergroup) in the [Coeur d’Alene district](https://en.wikipedia.org/wiki/Coeur_d%27Alene,_Idaho)of northern [Idaho](https://en.wikipedia.org/wiki/Idaho).[[14]](https://en.wikipedia.org/wiki/Quartzite#cite_note-14)In the United Kingdom, a craggy ridge of quartzite called the[Stiperstones](https://en.wikipedia.org/wiki/Stiperstones) (early [Ordovician](https://en.wikipedia.org/wiki/Ordovician) – [Arenig Epoch](https://en.wikipedia.org/wiki/Arenig), 500 Ma) runs parallel with the [Pontesford-Linley fault](https://en.wikipedia.org/w/index.php?title=Pontesford-Linley_fault&action=edit&redlink=1), 6 km north-west of the [Long Mynd](https://en.wikipedia.org/wiki/Long_Mynd) in south [Shropshire](https://en.wikipedia.org/wiki/Shropshire). Also to be found in [England](https://en.wikipedia.org/wiki/England) are the [Cambrian](https://en.wikipedia.org/wiki/Cambrian) "[Wrekin](https://en.wikipedia.org/wiki/Wrekin) quartzite" (in Shropshire), and the Cambrian "[Hartshill](https://en.wikipedia.org/wiki/Hartshill)quartzite" ([Nuneaton](https://en.wikipedia.org/wiki/Nuneaton) area).[[15]](https://en.wikipedia.org/wiki/Quartzite#cite_note-15) In [Wales](https://en.wikipedia.org/wiki/Wales), [Holyhead mountain](https://en.wikipedia.org/w/index.php?title=Holyhead_mountain&action=edit&redlink=1) and most of [Holy island](https://en.wikipedia.org/wiki/Holy_Island,_Anglesey) off [Anglesey](https://en.wikipedia.org/wiki/Anglesey) sport excellent [Precambrian](https://en.wikipedia.org/wiki/Precambrian) quartzite crags and cliffs. In the [Scottish Highlands](https://en.wikipedia.org/wiki/Scottish_Highlands), several mountains (e.g.[Foinaven](https://en.wikipedia.org/wiki/Foinaven), [Arkle](https://en.wikipedia.org/wiki/Arkle_(hill))) composed of Cambrian quartzite can be found in the far north-west [Moine Thrust Belt](https://en.wikipedia.org/wiki/Moine_Thrust_Belt)running in a narrow band from [Loch Eriboll](https://en.wikipedia.org/wiki/Loch_Eriboll) in a south-westerly direction to [Skye](https://en.wikipedia.org/wiki/Skye).[[16]](https://en.wikipedia.org/wiki/Quartzite#cite_note-16)In Canada, the [La Cloche Mountains](https://en.wikipedia.org/wiki/La_Cloche_Mountains) in [Ontario](https://en.wikipedia.org/wiki/Ontario) are composed primarily of white quartzite. The highest mountain in [Mozambique](https://en.wikipedia.org/wiki/Mozambique), [Monte Binga](https://en.wikipedia.org/wiki/Monte_Binga) (2436 m), as well as the rest of the surrounding Chimanimani Plateau are composed of very hard, pale grey, [precambrian](https://en.wikipedia.org/wiki/Precambrian) quartzite. Quartzite is also mined in Brazil for use in kitchen countertops.

relativity to other rocks / soil / ores / metals:

Discovered by:

Generator Quantity Rate: High

Refining process:

Crafting information: [railway ballast](https://en.wikipedia.org/wiki/Track_ballast), Quartzite is a decorative stone and may be used to cover walls, as roofing tiles, as flooring, and stairsteps. Its use for countertops in kitchens is expanding rapidly. It is harder and more resistant to stains than granite. Crushed quartzite is sometimes used in road construction.[[3]](https://en.wikipedia.org/wiki/Quartzite#cite_note-MII-3) High purity quartzite is used to produce[ferrosilicon](https://en.wikipedia.org/wiki/Ferrosilicon), industrial [silica](https://en.wikipedia.org/wiki/Silica) sand, [silicon](https://en.wikipedia.org/wiki/Silicon) and [silicon carbide](https://en.wikipedia.org/wiki/Silicon_carbide).[[6]](https://en.wikipedia.org/wiki/Quartzite#cite_note-6)During the [Stone Age](https://en.wikipedia.org/wiki/Stone_Age) quartzite was used, in addition to [flint](https://en.wikipedia.org/wiki/Flint),[quartz](https://en.wikipedia.org/wiki/Quartz), and other lithic raw materials, for making [stone tools](https://en.wikipedia.org/wiki/Stone_tools).

Unique properties:

Name: **Basalt**

Texture: If the cooling is slow it becomes octagonal-> 

Melting point:

Chemical resistance:

Hardness: 8

Mechanical resistance other than hardnes:

Thermal expansion coefficient:

Porosity:

Density: 3.0 gm/cm3

Specific heat:

Class: Vulcanic rock

How is it created: **Basalt** ([/](https://en.wikipedia.org/wiki/Help:IPA_for_English)[bəˈsɔːlt](https://en.wikipedia.org/wiki/Help:IPA_for_English#Key)[/](https://en.wikipedia.org/wiki/Help:IPA_for_English), [/](https://en.wikipedia.org/wiki/Help:IPA_for_English)[ˈbæsɒlt](https://en.wikipedia.org/wiki/Help:IPA_for_English#Key)[/](https://en.wikipedia.org/wiki/Help:IPA_for_English), [/](https://en.wikipedia.org/wiki/Help:IPA_for_English)[ˈbæsɔːlt](https://en.wikipedia.org/wiki/Help:IPA_for_English#Key)[/](https://en.wikipedia.org/wiki/Help:IPA_for_English), or[/](https://en.wikipedia.org/wiki/Help:IPA_for_English)[ˈbeɪsɔːlt](https://en.wikipedia.org/wiki/Help:IPA_for_English#Key)[/](https://en.wikipedia.org/wiki/Help:IPA_for_English))[[1]](https://en.wikipedia.org/wiki/Basalt#cite_note-1)[[2]](https://en.wikipedia.org/wiki/Basalt#cite_note-2)[[3]](https://en.wikipedia.org/wiki/Basalt#cite_note-3) is a common [extrusive](https://en.wikipedia.org/wiki/Extrusive) [igneous](https://en.wikipedia.org/wiki/Igneous_rock)([volcanic](https://en.wikipedia.org/wiki/Volcanic_rock)) rock formed from the rapid cooling of basaltic[lava](https://en.wikipedia.org/wiki/Lava) exposed at or very near the surface of a planet or moon. [Flood basalt](https://en.wikipedia.org/wiki/Flood_basalt) describes the formation in a series of lava basalt flows. By [definition](https://en.wikipedia.org/wiki/QAPF_diagram), basalt is an [aphanitic](https://en.wikipedia.org/wiki/Aphanitic) igneous rock with less than 20% [quartz](https://en.wikipedia.org/wiki/Quartz) and less than 10% [feldspathoid](https://en.wikipedia.org/wiki/Feldspathoid) by volume, and where at least 65% of the [feldspar](https://en.wikipedia.org/wiki/Feldspar) is in the form of [plagioclase](https://en.wikipedia.org/wiki/Plagioclase). Basalt features a [glassy](https://en.wikipedia.org/wiki/Volcanic_glass) matrix interspersed with minerals. Basalt is defined by its mineral content and [texture](https://en.wikipedia.org/wiki/Igneous_textures), and physical descriptions without mineralogical context may be unreliable in some circumstances. Basalt is usually grey to black in colour, but rapidly weathers to brown or rust-red due to oxidation of its [mafic](https://en.wikipedia.org/wiki/Mafic) (iron-rich) minerals into [rust](https://en.wikipedia.org/wiki/Rust). Although usually characterized as "dark", basaltic rocks exhibit a wide range of shading due to regional geochemical processes.

The location in Earth's Crust: On Earth, most basalt [magmas](https://en.wikipedia.org/wiki/Magma) have formed by [decompression melting](https://en.wikipedia.org/wiki/Decompression_melting) of the [mantle](https://en.wikipedia.org/wiki/Mantle_(geology)). Basalt commonly erupts on [Io](https://en.wikipedia.org/wiki/Io_(moon)), the third largest moon of [Jupiter](https://en.wikipedia.org/wiki/Jupiter), and has also formed on Earth's [Moon](https://en.wikipedia.org/wiki/Moon), [Mars](https://en.wikipedia.org/wiki/Mars), [Venus](https://en.wikipedia.org/wiki/Venus), and the asteroid [Vesta](https://en.wikipedia.org/wiki/4_Vesta). The [crustal](https://en.wikipedia.org/wiki/Crust_(geology)) portions of [oceanic](https://en.wikipedia.org/wiki/Ocean) [tectonic plates](https://en.wikipedia.org/wiki/Tectonic_plate) are composed predominantly of basalt, produced from upwelling mantle below, the [ocean ridges](https://en.wikipedia.org/wiki/Ocean_ridge).

relativity to other rocks / soil / ores / metals:

Discovered by: Not from start, but probably very soon

Generator Quantity Rate: High

Refining process:

Crafting information: Basalt is used in construction (e.g. as building blocks or in the groundwork), making [cobblestones](https://en.wikipedia.org/wiki/Cobblestone) (from columnar basalt) and in making [statues](https://en.wikipedia.org/wiki/Statue). Heating and extruding basalt yields [stone wool](https://en.wikipedia.org/wiki/Stone_wool), said to be an excellent [thermal insulator](https://en.wikipedia.org/wiki/Thermal_insulation).

Unique properties:

Name: Marble

Texture: 

Melting point:

Chemical resistance:

Hardness: 3-4

Mechanical resistance other than hardnes:

Thermal expansion coefficient:

Porosity:

Density:

Specific heat:

Class: [metamorphic rock](http://www.newworldencyclopedia.org/entry/Metamorphic_rock)

How is it created: Marble is a rock resulting from [metamorphism](https://en.wikipedia.org/wiki/Metamorphism) of [sedimentary](https://en.wikipedia.org/wiki/Sedimentary_rock) [carbonate rocks](https://en.wikipedia.org/wiki/Carbonate_rock), most commonly[limestone](https://en.wikipedia.org/wiki/Limestone) or [dolomite rock](https://en.wikipedia.org/wiki/Dolostone). Metamorphism causes variable recrystallization of the original carbonate mineral grains. The resulting marble rock is typically composed of an interlocking mosaic of carbonate[crystals](https://en.wikipedia.org/wiki/Crystal). Primary sedimentary textures and structures of the original carbonate rock ([protolith](https://en.wikipedia.org/wiki/Protolith)) have typically been modified or destroyed. Pure white marble is the result of metamorphism of a very pure (silicate-poor) limestone or dolomite protolith. The characteristic swirls and veins of many colored marble varieties are usually due to various mineral impurities such as [clay](https://en.wikipedia.org/wiki/Clay), [silt](https://en.wikipedia.org/wiki/Silt), [sand](https://en.wikipedia.org/wiki/Sand), [iron oxides](https://en.wikipedia.org/wiki/Iron_oxide), or [chert](https://en.wikipedia.org/wiki/Chert) which were originally present as grains or layers in the limestone. Green coloration is often due to [serpentine](https://en.wikipedia.org/wiki/Serpentine_group) resulting from originally high magnesium limestone or dolostone with silica impurities. These various impurities have been mobilized and recrystallized by the intense pressure and heat of the metamorphism.

The location in Earth's Crust: Marble occurs in large deposits that can be hundreds of feet thick and geographically extensive. This allows it to be economically mined on a large scale with some mines and quarries producing millions of tons per year.

relativity to other rocks / soil / ores / metals:

Discovered by: From the beginning

Generator Quantity Rate: Medium

Refining process:

Crafting information: Marble is commonly used for [sculpture](https://en.wikipedia.org/wiki/Marble_sculpture) and as a [building](https://en.wikipedia.org/wiki/Architecture) material.

Unique properties:

Name: **Gypsum**

Texture: Colorless to white; may be yellow, tan, blue, pink, brown, reddish brown or gray due to impurities

<- Green Gypsum. Change colors for others.

Subtypes: **Satin spar (**Pearly, fibrous masses),[**Selenite**](http://en.wikipedia.org/wiki/Selenite_(mineral)) (Transparent and bladed crystals),[**Alabaster**](http://en.wikipedia.org/wiki/Alabaster) (Fine-grained, slightly colored).   <-Desert Rose has desert sands inside,

Golden Gypsum



Melting point:

Chemical resistance:

Hardness: 1.5–2 (defining mineral for 2)

Mechanical resistance other than hardnes:

Thermal expansion coefficient:

Porosity:

Density:

Specific heat:

Class: Sulfate mineral

How is it created: Gypsum occurs in nature as flattened and often [twinned](https://en.wikipedia.org/wiki/Crystal_twinning)[crystals](https://en.wikipedia.org/wiki/Crystal), and transparent, cleavable masses called [selenite](https://en.wikipedia.org/wiki/Selenite_(mineral)). Selenite contains no significant [selenium](https://en.wikipedia.org/wiki/Selenium); rather, both substances were named for the ancient Greek word for the[Moon](https://en.wikipedia.org/wiki/Moon).

Selenite may also occur in a silky, fibrous form, in which case it is commonly called "satin spar". Finally, it may also be granular or quite compact. In hand-sized samples, it can be anywhere from transparent to opaque. A very fine-grained white or lightly tinted variety of gypsum, called [alabaster](https://en.wikipedia.org/wiki/Alabaster), is prized for ornamental work of various sorts. In arid areas, gypsum can occur in a flower-like form, typically opaque, with embedded sand grains called [desert rose](https://en.wikipedia.org/wiki/Desert_rose_(crystal)). It also forms some of the largest crystals found in nature, up to 12 metres (39 ft) long, in the form of selenite.

The location in Earth's Crust: Gypsum is a common mineral, with thick and extensive[evaporite](https://en.wikipedia.org/wiki/Evaporite) beds in association with [sedimentary rocks](https://en.wikipedia.org/wiki/Sedimentary_rock). Deposits are known to occur in [strata](https://en.wikipedia.org/wiki/Stratum) from as far back as the [Archaean](https://en.wikipedia.org/wiki/Archean)[eon](https://en.wikipedia.org/wiki/Aeon).[[9]](https://en.wikipedia.org/wiki/Gypsum#cite_note-Cockell-9) Gypsum is deposited from lake and sea water, as well as in [hot springs](https://en.wikipedia.org/wiki/Hot_spring), from [volcanic](https://en.wikipedia.org/wiki/Volcano) vapors, and sulfate solutions in[veins](https://en.wikipedia.org/wiki/Vein_(geology)). [Hydrothermal](https://en.wikipedia.org/wiki/Hydrothermal) [anhydrite](https://en.wikipedia.org/wiki/Anhydrite) in veins is commonly hydrated to gypsum by groundwater in near-surface exposures. It is often associated with the minerals [halite](https://en.wikipedia.org/wiki/Halite) and [sulfur](https://en.wikipedia.org/wiki/Sulfur). Pure gypsum is white, but other substances found as impurities may give a wide range of colors to local deposits. Because gypsum dissolves over time in water, gypsum is rarely found in the form of sand. However, the unique conditions of the [White Sands National Monument](https://en.wikipedia.org/wiki/White_Sands_National_Monument) in the US state of [New Mexico](https://en.wikipedia.org/wiki/New_Mexico) have created a 710 km2 (270 sq mi) expanse of white gypsum sand, enough to supply the construction industry with[drywall](https://en.wikipedia.org/wiki/Drywall) for 1,000 years.[[10]](https://en.wikipedia.org/wiki/Gypsum#cite_note-The_Albuquerque_Journal_1999-02-07-10) Commercial exploitation of the area, strongly opposed by area residents, was permanently prevented in 1933 when president [Herbert Hoover](https://en.wikipedia.org/wiki/Herbert_Hoover) declared the gypsum dunes a protected [national monument](https://en.wikipedia.org/wiki/National_Monument_(United_States)). Gypsum is also formed as a by-product of [sulfide](https://en.wikipedia.org/wiki/Sulfide) [oxidation](https://en.wikipedia.org/wiki/Oxidation), amongst others by [pyrite](https://en.wikipedia.org/wiki/Pyrite) [oxidation](https://en.wikipedia.org/wiki/Oxidation), when the [sulfuric acid](https://en.wikipedia.org/wiki/Sulfuric_acid) generated reacts with [calcium carbonate](https://en.wikipedia.org/wiki/Calcium_carbonate). Its presence indicates oxidizing conditions. Under reducing conditions, the sulfates it contains can be reduced back to sulfide by [sulfate reducing bacteria](https://en.wikipedia.org/wiki/Sulfate_reducing_bacteria). Electric power stations burning coal with [flue gas desulfurization](https://en.wikipedia.org/wiki/Flue_gas_desulfurization) produce large quantities of gypsum as a byproduct from the scrubbers. Crystals of gypsum up to 11 m (36 ft) long have been found in the caves of the [Naica Mine](https://en.wikipedia.org/wiki/Naica_Mine) of [Chihuahua](https://en.wikipedia.org/wiki/Chihuahua_(state)), [Mexico](https://en.wikipedia.org/wiki/Mexico). The crystals thrived in the cave's extremely rare and stable natural environment. Temperatures stayed at 58°C (136°F), and the cave was filled with mineral-rich water that drove the crystals' growth. The largest of those crystals weighs 55 tons and is around 500,000 years old.

relativity to other rocks / soil / ores / metals:

Discovered by:

Generator Quantity Rate: Medium

Refining process:

Crafting information: Gypsum is used in a wide variety of applications:, Gypsum board[[16]](https://en.wikipedia.org/wiki/Gypsum#cite_note-16) is primarily used as a finish for walls and ceilings, and is known in construction as[drywall](https://en.wikipedia.org/wiki/Drywall), sheetrock or plasterboard., [Gypsum blocks](https://en.wikipedia.org/wiki/Gypsum_block) are used like concrete blocks in building construction., [Gypsum mortar](https://en.wikipedia.org/wiki/Gypsum_mortar) is an ancient mortar used in building construction., [Plaster](https://en.wikipedia.org/wiki/Plaster) ingredients are used in surgical splints, casting moulds, and modeling., [Fertilizer](https://en.wikipedia.org/wiki/Fertilizer) and [soil conditioner](https://en.wikipedia.org/wiki/Soil_conditioner): In the late 18th and early 19th centuries, Nova Scotia gypsum, often referred to as plaster, was a highly sought fertilizer for wheat fields in the United States. It is also used in ameliorating [high-sodium soils](https://en.wikipedia.org/wiki/Sodic_soil).[[17]](https://en.wikipedia.org/wiki/Gypsum#cite_note-17), A binder in fast-dry tennis court clay, As alabaster, a material for sculpture, it was used especially in the ancient world before steel was developed, when its relative softness made it much easier to carve., A wood substitute in the ancient world: For example, when wood became scarce due to deforestation on [Bronze Age](https://en.wikipedia.org/wiki/Bronze_Age) [Crete](https://en.wikipedia.org/wiki/Crete), gypsum was employed in building construction at locations where wood was previously used.[[18]](https://en.wikipedia.org/wiki/Gypsum#cite_note-18), A [tofu](https://en.wikipedia.org/wiki/Tofu) (soy bean curd) coagulant, making it ultimately a major source of dietary [calcium](https://en.wikipedia.org/wiki/Calcium), especially in[Asian](https://en.wikipedia.org/wiki/Asia) cultures which traditionally use few [dairy products](https://en.wikipedia.org/wiki/Dairy_products), Adding [hardness](https://en.wikipedia.org/wiki/Hard_water) to water used for [brewing](https://en.wikipedia.org/wiki/Brewing)[[19]](https://en.wikipedia.org/wiki/Gypsum#cite_note-19), Used in baking as a dough conditioner, reducing stickiness, and as a baked-goods source of dietary calcium[[20]](https://en.wikipedia.org/wiki/Gypsum#cite_note-20) The primary component of mineral yeast food.[[21]](https://en.wikipedia.org/wiki/Gypsum#cite_note-21), A component of [Portland cement](https://en.wikipedia.org/wiki/Portland_cement) used to prevent flash setting of [concrete](https://en.wikipedia.org/wiki/Concrete), Soil/[water potential](https://en.wikipedia.org/wiki/Water_potential) monitoring (soil moisture), A common ingredient in making [mead](https://en.wikipedia.org/wiki/Mead), In the medieval period, [scribes](https://en.wikipedia.org/wiki/Scribe) and illuminators mixed it with [lead carbonate (powdered white lead)](https://en.wikipedia.org/wiki/Lead_carbonate)to make [gesso](https://en.wikipedia.org/wiki/Gesso), which was applied to illuminated letters and gilded with gold in illuminated manuscripts., In foot creams, shampoos and many other hair products, A medicinal agent in [traditional Chinese medicine](https://en.wikipedia.org/wiki/Traditional_Chinese_medicine) called *shi gao,*Impression plasters in dentistry, Used in mushroom cultivation to stop grains from clumping together, Experimental tests demonstrated that gypsum can be successfully used to remove pollutants like[lead](https://en.wikipedia.org/wiki/Lead)[[22]](https://en.wikipedia.org/wiki/Gypsum#cite_note-22) or [arsenic](https://en.wikipedia.org/wiki/Arsenic)[[23]](https://en.wikipedia.org/wiki/Gypsum#cite_note-23)[[24]](https://en.wikipedia.org/wiki/Gypsum#cite_note-24) from contaminated waters.

Unique properties:

Name:

Texture:

Melting point:

Chemical resistance:

Hardness:

Mechanical resistance other than hardnes:

Thermal expansion coefficient:

Porosity:

Density:

Specific heat:

Class:

How is it created:

The location in Earth's Crust:

relativity to other rocks / soil / ores / metals:

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