

# Ogg Text

AMETHYST

Light – 72pt

DIAMONDS

Book – 72pt

SUNSTONE

Medium – 72pt

RED BERYL

Bold – 72pt

GEIGERITE

ExtraBold – 72pt

*ANGELITE*

Light Italic – 72pt

*PLATINUM*

Book Italic – 72pt

*OXIDIZERS*

Medium Italic – 72pt

*ANDESINE*

Bold Italic – 72pt

*MINERALS*

ExtraBold Italic – 72pt

Alexandrite

Light – 72pt

Mineralogy

Book – 72pt

Excavation

Medium – 72pt

Specimens

Bold – 72pt

Rhodonite

ExtraBold – 72pt

*Sorosilicates*

Light Italic – 72pt

*Radioactive*

Book Italic – 72pt

*Freshwater*

Medium Italic – 72pt

*Bloodstone*

Bold Italic – 72pt

*Amphibole*

ExtraBold Italic – 72pt

MAGNESIUM

Light – 48pt

*ANHYDROUS*

Light Italic – 48pt

EVAPORITES

Book – 48pt

*PHOSPHATE*

Book Italic – 48pt

MAGNESIUM

Medium – 48pt

*RARE EARTH*

Medium Italic – 48pt

MAGNETITE

Bold – 48pt

*PYROLUSITE*

Bold Italic – 48pt

ARAGONITE

ExtraBold – 48pt

*SPHALERITE*

ExtraBold Italic – 48pt

Tranquillityite

Light – 48pt

*Chalconatronite*

Light Italic – 48pt

Nanoparticles

Book – 48pt

*Disambiguater*

Book Italic – 48pt

Romanèchite

Medium – 48pt

*Pyromorphite*

Medium Italic – 48pt

Aquamarines

Bold – 48pt

*Semiprecious*

Bold Italic – 48pt

Radiocarbon

ExtraBold – 48pt

*Fluorescence*

ExtraBold Italic – 48pt

**Moonstone is made up of sodium potassium and aluminium silicate  $\{(Na,K)AlSi_3O_8\}$  of the feldspar group that displays a pearly and opalescent sheen. Its alternative name is hecatolite, which is derived from a schiller effect caused by light diffraction.**

Bold – 17pt / 21

**Aventurine is a form of quartz, characterised by its translucency and the presence of a platy mineral inclusion that gives many shimmering or glistening effects, termed aventurescence. The color range of aventurine is green, orange, blue, brown, & yellow.**

Medium – 17pt / 21

**Quartz ( $SiO_2$ ) is a hard crystalline mineral composed of silicon and oxygen atoms. The atoms are all linked together in a continuous framework of  $SiO_4$  silicon–oxygen tetrahedra, resulting in  $SiO_2$ . Quartz is the 2nd most abundant mineral in Earth's continental crust.**

Book – 17pt / 21

**Natural citrines are rare; most commercial citrines are heat-treated amethysts or smoky quartzes. However, these amethyst will have small lines in the crystal. It is nearly impossible to differentiate between cut citrine and yellow topaz visually, but they differ in hardness.**

Light – 17pt / 21

***Agate is a stone consisting of cryptocrystalline silica, chiefly chalcedony, alternating with microgranular quartz, and is characterized by its fineness of grain and variety of colors. Agate is associated with volcanic rocks and certain metamorphic rocks.***

Bold Italic – 17pt / 21

***Tourmaline is a crystalline boron silicate mineral that is compounded with elements such as aluminium, iron, magnesium, lithium, or potassium. Brightly colored Ceylonese gem tourmalines were brought to Europe in great quantities by the Dutch East India Company.***

Medium Italic – 17pt / 21

***Selenite, also known as satin spar, desert rose, or gypsum flower, are four crystal structure varieties of the mineral gypsum. These 4 varieties of gypsum may be grouped together to be called selenite. These various varieties of gypsum, are all composed of a calcium sulfate dihydrate.***

Book Italic – 17pt / 21

***Turquoise is an opaque, blue-to-green mineral that is made of hydrated phosphate copper & aluminium, with a chemical formula  $\text{CuAl}_6(\text{PO}_4)_4(\text{OH})_8 \cdot 4\text{H}_2\text{O}$ . It is rare and valuable in finer grades and has been prized as a gemstone and ornamental stone for thousands of years owing to its unique hue.***

Light Italic – 17pt / 21

**Minerals are not equivalent to rocks. A rock is an aggregate of one or more minerals or mineraloids. Limestone or quartzite, are composed primarily of one mineral—calcite or aragonite in the case of limestone, and quartz in the latter case. Other rocks can be defined by abundances of key minerals; a granite is defined by proportions of quartz, alkali feldspar, and plagioclase feldspar. Rocks are composed entirely of non-mineral material; coal is a sedimentary rock composed primarily of organically derived carbon. In rocks, some mineral species and groups are much more abundant than others.**

Bold – 10pt / 14.5

The major examples of these are quartz, the feldspars, the micas, the amphiboles, the pyroxenes, the olivines, and calcite; except for the last one, all of these minerals are silicates. Overall, around 150 minerals are considered particularly important, whether in terms of their abundance or aesthetic value in terms of collecting. Commercially valuable minerals and rocks are referred to as industrial minerals. For example, muscovite, a white mica, can be used for windows (referred to as isinglass), as a filler, or insulator. Ores are minerals that have a high concentration of a certain element, typically a metal.

Medium – 10pt / 14.5

Minerals are classified by variety, species, series and group, in order of increasing generality. The basic level of definition is that of mineral species, each distinguished from the others by unique chemical and physical properties. For example, quartz is defined by its formula,  $\text{SiO}_2$ , and a specific crystalline structure that distinguishes it from other minerals with the same chemical formula (termed polymorphs). When there exists a range of composition between two minerals species, a mineral series is defined. The biotite series is represented by variable amounts of the endmembers phlogopite, siderophyllite, annite, and eastonite.

Book – 10pt / 14.5

The minerals that form are directly controlled by the bulk chemistry of the parent body. For example, a magma rich in iron and magnesium will form mafic minerals, such as olivine and the pyroxenes; in contrast, a more silica-rich magma will crystallize to form minerals that incorporate more  $\text{SiO}_2$ , such as the feldspars and quartz. In a limestone, calcite or aragonite form because the rock is rich in calcium and carbonate. A corollary is that a mineral will not be found in a rock whose bulk chemistry does not resemble the bulk chemistry of a given mineral with the exception of trace minerals. Kyanite would not likely occur in aluminium-poor rock.

Light – 10pt / 14.5

***Classifying minerals ranges from simple to difficult. A mineral can be identified by several physical properties, some of them being sufficient for full identification without equivocation. In other cases, minerals can only be classified by more complex optical, chemical or X-ray diffraction analysis; these methods, however, can be costly and time-consuming. Physical properties applied for classification include crystal structure and habit, hardness, lustre, diaphaneity, colour, streak, cleavage and fracture, and specific gravity. Other less general tests include fluorescence & phosphorescence.***

Bold Italic – 10pt / 14.5

*Crystal structure results from the geometric spatial arrangement of atoms in the internal structure of a mineral. This crystal structure is based on internal atomic or ionic arrangement that is often expressed in the geometric form that the crystal takes. Even when the mineral grains are too small to see, the underlying crystal structure is always periodic and can be determined by X-ray diffraction. Minerals are typically described by their symmetry content. Crystals are restricted to 32 point groups, which differ by symmetry. Groups are classified into more broad categories, encompassing of these being the six crystal families.*

Medium Italic – 10pt / 14.5

*Chemistry and crystal structure together define a mineral. With a restriction to 32 point groups, minerals of different chemistry may have identical crystal structure. For example, halite, galena, and periclase all belong to the hexaoctahedral point group, as they have a similar stoichiometry between their different constituent elements. In contrast, polymorphs are groupings of minerals that share a chemical formula but have a different structure. For example, pyrite and marcasite, both iron sulfides; however, the former is isometric while the latter is orthorhombic. This polymorphism extends to other sulfides with the generic AX<sub>2</sub> formula, groups known as marcasite.*

Book Italic – 10pt / 14.5

*Polymorphism can extend beyond pure symmetry content. The aluminosilicates are a group of three minerals – kyanite, andalusite, and sillimanite – which share the chemical formula Al<sub>2</sub>SiO<sub>5</sub>. Kyanite is triclinic, while andalusite and sillimanite are both orthorhombic and belong to the dipyrimal point group. These differences arise corresponding to how aluminium is coordinated within the crystal structure. In all minerals, one aluminium ion is always in six-fold coordination with oxygen. Silicon, as a general rule, is in four-fold coordination in all minerals; an exception is a case like stishovite. In kyanite, the second aluminium is in six-fold coordination; its chemical formula can be expressed as SiO<sub>5</sub>.*

Light Italic – 10pt / 14.5

90pt

# Labradorite

40pt / 45

A feldspar mineral, is an intermediate to *calcic member of the plagioclase series.*

30pt / 35

The streak is white, like most silicates. *The refractive index* ranges from 1.559 to 1.573 and twinning is common.

20pt / 25

As with all plagioclase members, the crystal system is triclinic, and three directions of cleavage are present, *two of which are nearly at right angles and are more obvious,* being of good to perfect quality.

18pt / 24

Labradorization is the peculiar reflection of the light from submicroscopical planes orientated in one direction (rarely in two directions); *these planes have never such a position that they can be expressed by simple indices*, and they are not directly visible under the microscope.

14pt / 20

The refractive index ranges from 1.559 to 1.573 and twinning is common. As with all plagioclase members, the crystal system is triclinic, *and three directions of cleavage are present, two of which are nearly at right angles and are more obvious, being of good to perfect quality. (The third direction is poor.)* It occurs as clear, white to gray, blocky to lath shaped grains in common mafic igneous rocks such as basalt and gabbro, as well as in anorthosites.

11pt / 17

The lamellar separation only occurs in plagioclases of a certain composition, in particular, those of calcic labradorite and bytownite (anorthite content of ~60 to 90%). Another requirement for the lamellar separation is very slow cooling of the rock that contains the plagioclase. Slow cooling is required to allow the Ca, Na, Si, and Al ions to diffuse through the plagioclase and produce the lamellar separation. Therefore, not all labradorites exhibit labradorescence (*they might not be the correct composition and/or they cooled too quickly*), and not all plagioclases that exhibit labradorescence are labradorites (they may be bytownite).

8pt / 12

Labradorite can display an iridescent optical effect (or schiller) known as labradorescence. The term labradorescence was coined by Ove Balthasar Bøggild. Contributions to the understanding of the origin and cause of the effect were made by Robert Strutt, 4th Baron Rayleigh (1923), and by Bøggild (1924).

6pt / 10

A selection of gemstone pebbles made by tumbling rough rock with abrasive grit, in a rotating drum. The biggest pebble here is 40 mm (1.6 in) long. The traditional classification in the West, which goes back to the ancient Greeks, *begins with a distinction between precious and semi-precious; similar distinctions are made in other cultures.* In modern use the precious stones are diamond, ruby, sapphire and emerald, with all other gemstones being semi-precious.

90pt

# Malachite

40pt / 45

Individual crystals are rare but do occur as slender to *acicular prisms*.

30pt / 35

Malachite was extensively mined at the *Great Orme mines in Britain* 3,800 years ago using stone tools.

20pt / 25

Archaeological evidence indicates that the mineral has been mined and smelted to obtain copper at *Timna Valley in Israel* for over 3,000 years. Since then, malachite has been used as both an ornamental stone and as a gemstone.

18pt / 24

In ancient Egypt the colour green (wadj) was associated with *death and the power of resurrection as well as new life and fertility*. They believed that the afterlife contained an eternal paradise which resembled their lives but with no pain or suffering, and referred to this place as the ‘Field of Malachite’.

14pt / 20

Malachite represented joyfulness and was closely associated with the goddess Hathor. *Ground malachite was used as a pigment in painting and statuary and malachite jewellery was highly prized*. Eye make up made from ground up malachite was known to defend against certain eye complaints and wearing it was also seen as invoking the protective power of the goddess. Hathor was also associated with another popular green stone, Turquoise, known as “mefkAt”.

11pt / 17

Malachite often results from the weathering of copper ores, and is often found together with azurite, goethite, and calcite. Except for its vibrant green color, the properties of malachite are similar to those of azurite and aggregates of the two minerals occur frequently. *Malachite is more common than azurite and is typically associated with copper deposits around limestones, the source of the carbonate*. Large quantities of malachite have been mined in the Urals, Russia. Ural malachite is not being mined at present, but G.N Ver-tushkova reports the possible discovery of new deposits of malachite in the Urals. It is found worldwide including in the Democratic Republic of the Congo.

8pt / 12

The name Malachite may come from the *Greek word malakee, or malache, signifying the resemblance of Mallow leaves, or from the Greek word malakos, meaning soft*. Being a carbonate of copper, Malachite is sometimes intergrown with Azurite, forming Malachite-Azurite, or with Chrysocolla, forming Malachite-Chrysocolla.

6pt / 10

Malachite is also used for decorative purposes, such as in the *Malachite Room in the Hermitage*, which features a huge malachite vase, and the *Malachite Room in Castillo de Chapultepec in Mexico City*. “The Tazza”, a large malachite vase, one of the largest pieces of malachite in North America and a gift from Tsar Nicholas II, stands as the focal point in the center of the room of Linda Hall Library.

90pt

# Turquoise

40pt / 45

A blue-green mineral, a hydrated phosphate of *copper & aluminium*.

30pt / 35

It is rare and valuable in finer grades, prized as a *gemstone and ornamental stone* for thousands of

20pt / 25

In recent times, turquoise has been devalued, like most other opaque gems, *by the introduction onto the market of treatments, imitations and synthetics*. The gemstone has been known by many names.

18pt / 24

Pliny the Elder referred to the mineral as callais and the Aztecs knew it as chalchihuitl. The word turquoise dates to the 17th century and is derived from the French *turquois* for “Turkish” *because the mineral was first brought to Europe through Turkey*, from mines in the historical Khorasan Province of Persia.

14pt / 20

The finest of turquoise reaches a maximum Mohs hardness of just under 6, or slightly more than window glass. Characteristically a cryptocrystalline mineral, turquoise almost never forms single crystals, and all of its properties are highly variable. X-ray diffraction testing shows its crystal system to be triclinic. With lower hardness comes lower specific gravity and greater porosity; these properties are dependent on grain size.

11pt / 17

Colour is as variable as the mineral’s other properties, ranging from white to a powder blue to a sky blue, and from a blue-green to a yellowish green. *The blue is attributed to idiochromatic copper while the green may be the result of either iron impurities (replacing aluminium) or dehydration. A reading of 1.61–1.65 (birefringence 0.040, biaxial positive) has been taken from rare single crystals. An absorption spectrum may also be obtained with a hand-held spectroscope, revealing a line at 432 nm and a weak band at 460 nm (this is best seen with strong reflected light).* Under longwave ultraviolet light, turquoise may occasionally fluoresce green, yellow or bright blue; it is inert under shortwave ultraviolet and X-rays.

8pt / 12

Turquoise is insoluble in all but heated hydrochloric acid. Its streak is a pale bluish white and its fracture is conchoidal, leaving a waxy lustre. *Despite its low hardness relative to other gems, turquoise takes a good polish.* Turquoise may also be peppered with flecks of pyrite or interspersed with dark, spidery limonite veining.

6pt / 10

As a secondary mineral, turquoise forms by the action of percolating acidic aqueous solutions during the weathering and oxidation of preexisting minerals. For example, the copper may come from primary copper sulfides such as chalcopyrite or from the secondary carbonates malachite or azurite; the aluminium may derive from feldspar; and the phosphorus from apatite. *Climate factors appear to play an important role as turquoise is typically found in arid regions, filling or encrusting cavities and fractures in typically highly altered volcanic rocks, often with associated limonite and other iron oxides.*

90pt

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# Limestone

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40pt / 45

**A sedimentary rock,  
composed of fragments  
of *marine organisms*.**

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30pt / 35

**About 10% of sedimentary rocks are  
limestones. Most cave systems are  
through limestone bedrock.**

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20pt / 25

**Limestone has numerous uses: as a building  
material, an essential component of concrete  
(*Portland cement*), as aggregate for the base of  
roads, as a chemical feedstock for the production  
of lime, as a soil conditioner, and for rock gardens.**

18pt / 24

**Limestone has numerous uses: as a building material, an essential component of concrete (*Portland cement*), as aggregate for the base of roads, as white pigment or filler in products such as toothpaste or paints, as a chemical feedstock for the production of lime, as a soil conditioner, or as a popular decorative addition to rock gardens.**

14pt / 20

**Like most other sedimentary rocks, most limestone is composed of grains. Most grains in limestone are skeletal fragments of marine organisms such as coral or foraminifera. These organisms secrete shells made of aragonite or calcite, and leave these shells behind when they die. Other carbonate grains comprising limestones are ooids, peloids, intraclasts, and extraclasts. Limestone often contains variable amounts of silica in the form of chert (*chalcedony, flint, jasper*).**

11pt / 17

**Some limestones do not consist of grains at all, and are formed completely by the chemical precipitation of calcite or aragonite, i.e. travertine. Secondary calcite may be deposited by supersaturated meteoric waters (*groundwater that precipitates the material in caves*). This produces speleothems, such as stalagmites and stalactites. Another form taken by calcite is oolitic limestone, which can be recognized by its granular (*oolite*) appearance. The primary source of the calcite in limestone is most commonly marine organisms. Some of these organisms can construct mounds of rock known as reefs, building upon past generations.**

8pt / 12

**Below about 3,000 meters, water pressure and temperature conditions cause the dissolution of calcite to increase nonlinearly, so limestone typically does not form in deeper waters (*see lysocline*). Limestones may also form in lacustrine and evaporite depositional environments.**

6pt / 10

**Calcite can be dissolved or precipitated by groundwater, depending on several factors, including the water temperature, pH, and dissolved ion concentrations. Calcite exhibits an unusual characteristic called retrograde solubility, in which it becomes less soluble in water as the temperature increases. Impurities (*such as clay, sand, organic remains, iron oxide, and other materials*) will cause limestones to exhibit different colors, especially with weathered surfaces.**

90pt

# Aragonite

40pt / 45

**An aragonite cave, *the Ochtinská Aragonite Cave*, is situated in Slovakia.**

30pt / 35

**The crystal lattice of aragonite differs from that of calcite, resulting in a different *crystal shape*.**

20pt / 25

**Aragonite is a carbonate mineral, one of the three most common naturally occurring crystal forms of calcium carbonate,  $\text{CaCO}_3$  (*the other forms being the minerals calcite and vaterite*).**

18pt / 24

**The type location for aragonite is Molina de Aragón in the Province of Guadalajara in Castilla-La Mancha, Spain, for which it was named in 1797. The mineral is not named for the region of Aragon: Molina de Aragón is located in the historic region of Castile.**

14pt / 20

**In the US, aragonite in the form of stalactites and “cave flowers” is known from Carlsbad Caverns and other caves. Massive deposits of oolitic aragonite sand are found on the seabed in the Bahamas. ragonite is the high pressure polymorph of calcium carbonate. As such, it occurs in high pressure metamorphic rocks such as those formed at subduction zones. Aragonite forms naturally in almost all mollusk shells.**

11pt / 17

**Aragonite also forms in the ocean and in caves as inorganic precipitates called marine cements and speleothems, respectively. Aragonite is not uncommon in serpentinites where high Mg in pore solutions apparently inhibits calcite growth and promotes aragonite precipitation. Aragonite is metastable at the low pressures near the Earth’s surface and is thus commonly replaced by calcite in fossils. Aragonite older than the Carboniferous is essentially unknown. It can also be synthesized by adding a calcium chloride solution to a sodium carbonate solution.**

8pt / 12

**Aragonite is thermodynamically unstable at standard temperature and pressure, and tends to alter to calcite on scales of  $10^7$  to  $10^8$  years. The mineral vaterite, also known as  $\mu\text{-CaCO}_3$ , is another phase of calcium carbonate that is metastable at ambient conditions typical of Earth’s surface, and decomposes even more readily than aragonite.**

6pt / 10

**In aquaria, aragonite is considered essential for the replication of reef conditions. Aragonite provides the materials necessary for much sea life and also keeps the pH of the water close to its natural level, to prevent the dissolution of biogenic calcium carbonate. Aragonite has been successfully tested for the removal of pollutants like zinc, cobalt and lead from contaminated wastewaters.**





## Ogg Text Open Type Features

## Stylistic Set 1 - Alternate 'a'

a → a Mineral → Mineral

## Stylistic Set 3 - Mirrored Quote Marks

“ → ” “Quote” → “Quote”

## Ligatures

fi fj fk fl Refined Deflect  
fb fh gg Eggret fjord

## Superscript / Subscript

+ -= () 0123456789<sub>0123456789</sub> + -= () 27<sup>2</sup> + 32<sup>(3+5)</sup>

## Automatic Fractions

1/2 45/3142 129836/942821 1234567890/1234567890

## Case Sensitive Forms

(@) / [\ ] { | } < ! >  
i ! « • » < • > - - — — (CAT) → (cat)

## Ogg Text Italic Specific Open Type Features

## Stylistic Set 1 - Alternate 'v','w','y'

*v* → *v*      *Marvelous* → *Marvelous*  
*w* → *w*      *Awestruck* → *Awestruck*  
*y* → *y*      *Stupefying* → *Stupefying*

## Stylistic Set 2 - Alternate 'g'

*g* → *g*      *Prodigious* → *Prodigious*

## Ligatures

*fb fh fi fj fk Efficiency flabbergast*  
*fl ff ffi ffl gg*

## Superscript / Subscript

*+ -= () 0123456789<sup>0</sup> 0123456789+ -= () 27<sup>2</sup>+32<sup>(3+5)</sup>*

## Automatic Fractions

*1/2 45/3142 129836/942821 1234567890/1234567890*

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## Languages

### **ISO 8859-1 / Latin1**

Afrikaans, Albanian, Basque, Breton, Catalan, Danish, English (UK & US), Faroese, French, Galician, German, Icelandic, Irish (new orthography), Italian, Kurdish (The Kurdish Unified Alphabet), Latin (basic classical orthography), Leonese, Luxembourgish (basic classical orthography), Norwegian (Bokmål & Nynorsk), Occitan, Portuguese (Portuguese & Brazilian), Rhaeto-Romanic, Scottish Gaelic, Spanish, Swahili, Swedish, Walloon

### **ISO 8859-2 / Latin2**

Bosnian, Croatian, Czech, German, Hungarian, Polish, Romanian, Serbian (when in the Latin script), Slovak, Slovene, Upper Sorbian & Lower Sorbian

### **ISO 8859-3 / Latin3**

Esperanto, Maltese, Turkish

### **ISO 8859-4 / Latin4**

Estonian, Latvian, Lithuanian, Greenlandic, Sami

### **ISO 8859-9 / Latin5**

Turkish

### **ISO 8859-10 / Latin6**

Nordic languages

## File formats

Desktop: OTF

Web: WOFF, TTF, EOT

App: OTF

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Sharp Type is a digital typeface foundry based in New York City. The foundry produces custom & retail typefaces for print, digital, environmental design, brands, corporations, and publications.

Sharp Type designs typefaces with utility and beauty for the modern era.

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