

Precious Metals and Precious Stones in Scripture

Precious metals and precious stones are mentioned and used quite often in scripture, especially in the Old Testament of the Bible as well as the Book of Revelation. The purpose of this study is to review a variety of precious metals and precious stones that appear in scripture. The first part of the study will focus on their physical characteristics, while the last part of the study will refer to where they are found in scripture.

A metal or stone is deemed to be precious if it is rare. The discovery of new sources of ore or improvements in mining or refining processes may cause the value of a precious metal or jewel to diminish. The status of a "precious" metal or jewel can also be determined by high demand or market value.

There are 414 occurrences of the word "gold" in the Bible and Book of Mormon. Other occurrences of precious metals and jewels:

Agate – 3
Amethyst – 3
Bdellium – 2
Beryl – 8
Carbuncle (garnet) – 3
Chrysolite – 1
Chrysoprasus – 1
Diamond – 4
Emerald – 5
Jacinth – 2
Jasper – 7
Ligure – 2
Onyx – 11
Sapphire – 9
Sardius (ruby) – 4
Sardonyx – 1
Silver – 328
Topaz – 5

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Inside the temple built by King Solomon

1 Gold

From Answers in Genesis:

God gave gold many properties that make it so valuable. It does not rust or tarnish. Fire does not destroy gold but only makes it purer. It can be alloyed to other metals, like copper, to add strength without losing beauty. Gold is easy to shape. Under the right conditions, 1 ounce (28 g) can be stretched into a wire 60 miles (100 km) long, or hammered into a big sheet, 100 feet by 100 feet (30 m x 30 m).

Another amazing quality of gold is that it essentially lasts forever. In fact, we can safely conclude that most of the gold mined since the Flood is still readily available (in active use or hoarded). The total amount has not changed; it has just been recycled into jewelry, tooth fillings, computer components, and lots more.

This means that we can estimate the total amount of gold that has ever been mined: about 180,779 tons (164,000 m. tons). If gathered into one location, this treasure hoard would fill a seven story office building, 66 feet (20 m) high and 66 feet square (6 m²).

More information regarding gold:

- One cubic foot of gold weighs more than half a ton.
- The ocean waters contain an estimated 10 billion tons of gold.
- Pure gold does not easily corrode, it does a good job conducting electricity and heat.
- Gold has a high melting point at 1,948°F (1064°C).
- Gold has many applications in medicine, engineering, aerospace, and the chemical industry.
- The largest gold nugget ever found was about 25 inches (60 cm) long and 10 inches (31 cm) wide, weighing in at approximately 160 pounds (72 kg). Two Australian men found “the Welcome Stranger” in 1869 under a tree, 2 inches underground. In modern U.S. dollars, it would be worth well over \$3.5 million.
- The largest stockpile of gold today is held at the Federal Reserve Bank of New York. The underground vault holds around 550,000 gold bars total, worth \$485 billion U.S. as of November 2010. (Around 95% of the gold in the Federal Reserve Bank is owned by non-USA governments.) The vault was built on solid bedrock, which was necessary to support the gold’s weight of 5,000 metric tons.
- Of all the gold in the world, the United States has the largest holding in the world (approximately 75%).

2 Silver

Facts regarding silver:

- It has the highest electrical conductivity of all elements and highest thermal conductivity of all metals. However, the greater cost of silver prevents its widespread use in electric wires and cables (copper is common).
- Silver is found in its natural free form but most of the silver is obtained as a byproduct of gold, copper and lead refining.
- Silver is a very ductile and malleable metal.
- Silver is used for making jewelry because it is not very reactive. It does not react with air or moisture but it does react with sulfur compounds and tarnishes upon exposure to air and moisture containing these two.
- Silver has been used for making jewelry and silverware since ages
- It has also been a very popular coinage metal and evidence suggests that silver coins were first used around 700 BC.
- Sterling silver, an alloy of 92.5% silver and 7.5% copper is mainly used for making jewelry and silverware.
- Pound Sterling, the official currency of UK was initially equal in value to one pound of silver.
- Before digital cameras became a rage, 30% of total silver produced was used in photography.
- In United States, an alloy can only be called silver if it has at least 90% silver.
- Silver’s name comes from the Anglo-Saxon word ‘seolfor’.
- There is no word in English language that rhymes with silver.
- Silver is one of the oldest metals discovered by humans.

- While silver is commonly found in gold, copper, zinc and lead alloys, it is also found in free state (native silver).
- While silver is germicidal and kills bacteria, it is not toxic to humans. However, most of the silver salts are toxic.
- Silver is very ductile and an ounce of silver can be pounded into an 8000 feet long wire.
- Silver is the best thermal conductor of all metals and the lines we see on the rear windscreen of cars that are used for defrosting and defogging are made from silver.
- At least 14 languages have the same word for both silver and money.
- Mexico is the world leader in silver mining and is followed by Peru. Other major silver producers are Bolivia, United States, Canada, Russia and Australia.
- Although, silver is valued lesser than gold, in ancient Egypt silver was considered more valuable than gold.
- The price of silver has fluctuated between 1/15 and 1/100 of gold, since 1915.

3 Precious Stones

Ezekiel 27:22 – “22 The merchants of Sheba and Raamah, they were thy merchants: they occupied in thy fairs with chief of all spices, and with all precious stones, and gold.”

1 Kings 10:11 – “11 And the navy also of Hiram, that brought gold from Ophir, brought in from Ophir great plenty of almug trees, and precious stones.”

3.1 Agate

From Geology.com:

Agate is a translucent variety of microcrystalline quartz. It is used as a semiprecious stone when it is of desirable quality and color. Agate generally forms by the deposition of silica from groundwater in the cavities of igneous rocks. The agate deposits in concentric layers around the walls of the cavity, or in horizontal layers building up from the bottom of the cavity. These structures produce the banded patterns that are characteristic of many agates.

Agate occurs in a wide range of colors, which include brown, white, red, gray, pink, black, and yellow. The colors are caused by impurities and occur as alternating bands within the agate. The different colors were produced as groundwaters of different compositions seeped into the cavity. The banding within a cavity is a record of water chemistry change. This banding gives many agates the interesting colors and patterns that make it a popular gemstone.



Agates

3.2 Amethyst

From Geology.com:

Amethyst is the purple color variety of quartz. It is the most popular purple gem and one of the most popular gemstones of all time. Amethyst is used to produce faceted stones, cabochons, beads, tumbled stones, and many other items for jewelry and ornamental use.

Amethyst has a Mohs hardness of 7 and does not break by cleavage. It is a gem that is durable enough for use in rings, earrings, pendants, bracelets and other types of jewelry. Enormous deposits of amethyst in South America and Africa provide enough material to keep amethyst's price low enough that most people can easily afford it.



Amethysts

3.3 Bdellium

From Wikipedia:

Bdellium is a semi-transparent oleo-gum resin extracted from *Commiphora wightii* and from *Commiphora africana* trees growing in Ethiopia, Eritrea and sub-saharan Africa.

Bdellium is the common English translation in the Bible (Genesis 2:12; Numbers 11:7) for Hebrew bedolach. In both passages the Septuagint understands it as the name of some precious stone, as does Rashi, who interprets it as "a precious stone, crystal", and Saadiah Gaon, as "pearls". The Midrash gives two opinions. According to one, it is a precious stone, and according to the other the reference is to "the bedolah of perfumers". In Genesis the Midrash decides in favor of the first interpretation because there it is associated with gold and onyx. In Numbers, the

reference to bdellium is in the context of the manna eaten by the Israelites in the wilderness, which is said to have "the color of bdellium" (Numbers 11:7).



Bdellium resin

3.4 Beryl

From Geology.com:

Beryl is a relatively rare silicate mineral with a chemical composition of $\text{Be}_3\text{Al}_2\text{Si}_6\text{O}_{18}$. It is found in igneous and metamorphic rocks in many parts of the world.

Beryl has served as a minor ore of beryllium, and color varieties of the mineral are among the world's most popular gemstones. Emerald, aquamarine, heliodor, and morganite are the most well-known varieties of beryl.

Before 1969, beryl served as the only important ore of beryllium metal. Since then, about 80% of the world's supply of beryllium is refined from bertrandite, a beryllium silicate hydroxide, mined at Spor Mountain, Utah.

The extraction of beryllium from beryl is very costly, and as long as bertrandite is available in large amounts, beryl will be a minor ore of that metal. Small amounts of beryl, mostly produced as a by-product of gemstone mining, are still used to produce beryllium.



Beryl

3.5 Carbuncle (garnet)

From Geology.com:

These minerals are found throughout the world in metamorphic, igneous, and sedimentary rocks. Most garnet found near Earth's surface forms when a sedimentary rock with a high aluminum content, such as shale, is subjected to heat and pressure intense enough to produce schist or gneiss. Garnet is also found in the rocks of contact metamorphism, subsurface magma chambers, lava flows, deep-source volcanic eruptions, and the soils and sediments formed when garnet-bearing rocks are weathered and eroded.

Most people associate the word "garnet" with a red gemstone; however, they are often surprised to learn that garnet occurs in many other colors and has many other uses. In the United States, the major industrial uses of garnet in 2012 were waterjet cutting (35%), abrasive blasting media (30%), water filtration granules (20%), and abrasive powders (10%).



Gem garnets

3.6 *Chrysolite (Peridot/Olivine)*

From Geology.com:

Olivine is the name of a group of rock-forming minerals They are usually green in color Many people are familiar with olivine because it is the mineral of a very popular green gemstone known as peridot.

Most olivine found at Earth's surface is in dark-colored igneous rocks. These types of rocks are most common at divergent plate boundaries and at hot spots within the centers of tectonic plates.



Olivine

3.7 *Chrysoprasus (Chrysoprase)*

From Geology.com:

Chrysoprase is the name of a translucent chalcedony that ranges in color between yellowish green and green. Its green color is usually caused by traces of nickel. Beautiful green chrysoprase is the second most valuable variety of chalcedony after gem silica.

Chrysoprase as a gemstone was known to the ancient Greeks and Romans. A few pieces have been found among their artifacts, but its use in that time was not common. Chrysoprase first became a popular gem in Europe after deposits in Poland were discovered in the 1700s. Today, most chrysoprase is produced in Australia, but it is not widely used because supplies are limited.



Chrysoprase

3.8 **Diamond**

From Geology.com:

Diamond is a rare, naturally-occurring mineral composed of carbon. Each carbon atom in a diamond is surrounded by four other carbon atoms and connected to them by strong covalent bonds - the strongest type of chemical bond. This simple, uniform, tightly-bonded arrangement yields one of the most durable and versatile substances known.

Diamond is the hardest known natural substance. It is also chemically resistant and has the highest thermal conductivity of any natural material. These properties make it suitable for use as a cutting tool and for other uses where durability is required. Diamond also has special optical properties such as a high index of refraction, high dispersion, and high luster. These properties help make diamond the world's most popular gemstone.

Because diamond is composed of the element carbon, many people believe that it must have formed from coal. This is still taught in many classrooms - but it is not true!

Diamonds are not native to Earth's surface. Instead they form at high temperatures and pressures that occur in Earth's mantle about 100 miles below Earth's surface.

The first commercially successful synthesis of diamond was accomplished in 1954 by workers at General Electric. Since then, many companies have been successful at producing synthetic diamond suitable for industrial use. Today, most of the industrial diamond consumed is synthetic, with China being the world leader with a production of over 4 billion carats per year. Most of the important industrialized nations are now able to produce synthetic diamonds for industrial use in factories.



Diamonds

3.9 Emerald

From Geology.com:

Emeralds are gem-quality specimens of the beryl mineral family with a rich, distinctly green color. They are found in igneous, metamorphic, and sedimentary rocks in a small number of locations worldwide.

For over 5000 years, emeralds have been one of the most desirable and valuable colored stones. Ancient civilizations in Africa, Asia, and South America independently discovered emeralds and made them a gemstone of highest esteem. In the United States and many other countries, emerald serves as the birthstone for people who were born in the month of May.

Today emerald, together with ruby and sapphire, form the "big three" of colored stones. The "big three" generate more economic activity than all other colored stones combined. In 2015 the value of emeralds imported into the United States exceeded the value of all colored stones outside of the "big three" combined.

3.10 Jacinth (Zircon)

(Pronounced jasenth.)

Jacinth is an orange-red transparent variety of zircon used as a gemstone.

From Geology.com:

Zircon is a zirconium silicate mineral with a chemical composition of $ZrSiO_4$. It is common throughout the world as a minor constituent of igneous, metamorphic, and sedimentary rocks.

Zircon is a popular gemstone that has been used for nearly 2000 years. It occurs in a wide range of colors and has a brightness and fire that rivals those of diamond. Colorless zircon is sometimes used as a lower-cost alternative for diamond. Zircon should not be confused with cubic zirconia, which is a man-made material.



Zircon

3.11 Jasper

From Wikipedia:

Jasper, an aggregate of microgranular quartz and/or chalcedony and other mineral phases, is an opaque, impure variety of silica, usually red, yellow, brown or green in color; and rarely blue. The common red color is due to iron(III) inclusions. The mineral aggregate breaks with a smooth surface and is used for ornamentation or as a gemstone. A green variety with red spots, known as heliotrope (bloodstone), is one of the traditional birthstones for March. Jaspilite is a banded iron formation rock that often has distinctive bands of jasper.



Jasper

3.12 Ligure

From the International Gem Society:

The name jacinth, or hyacinth, is now applied to the orange-red and red-brown varieties of zircon. However, the classical Greek name huakinthos (Rev 21:20) appears to have been our blue sapphire. The classical hyacinthus was generally referred to as blue. (However, the Roman scholar Pliny the Elder speaks of it as golden colored).

In the New American Standard Bible and the New International Version accounts of the breastplate of Aaron (Exodus 28:19; 39:12), hyacinth is used instead of the “ligure” of the King James Version for the Hebrew leshem. In these cases, the name apparently refers to a deep yellow gem, possibly our zircon. Nevertheless, the Septuagint, the Greek Old Testament, uses huakinthos for the Hebrew tekelet in all the descriptions of the Tabernacle furnishings.

From Wikipedia:

Ligurus, Heb. lshs; Sept. ligrion; Vulg. ligurius; the first stone of the third row of the rational (Ex., xxviii, 19; xxxix, 12), representing Gad. It is missing in the Hebrew of Ezech., xxviii, 13, but present in the Greek. This stone is probably the same as hyacinth (St. Epiphanius, loc. cit.). This traditional identification, is based upon the remark that the twelve foundation stones of the celestial city in Apoc., xxi, 19-20, correspond to the twelve stones of the rational. This alone is enough to

equate ligurus with hyacinth although it has been identified with turmaline; though the latter view is rejected by most scholars.

3.13 Onyx

From Wikipedia:

Onyx primarily refers to the parallel banded variety of the silicate mineral chalcedony. Agate and onyx are both varieties of layered chalcedony that differ only in the form of the bands: agate has curved bands and onyx has parallel bands. The colors of its bands range from white to almost every color. Commonly, specimens of onyx contain bands of black and/or white.



3.14 Sapphire

From Geology.com:

Trace amounts of iron and titanium can produce a blue color in corundum. Blue corundums are known as "sapphires." The name "sapphire" is used for corundums that range from a very light blue to a very dark blue color. The blue can range from a greenish blue to violetish blue. Gems with a rich blue to violetish blue color are the most desirable.

Gem-quality corundum occurs in a wide range of other colors, including pink, purple, orange, yellow, and green. These gems are known as "fancy sapphires." It is surprising that a single mineral can produce gemstones of so many different colors.



3.15 *Sardius (ruby)*

From Geology.com:

Rubies are gem corundums with a dominant red color. The color can range from orangy red to purplish red or brownish red. The most desirable color range is a pure vibrant red to a slightly purplish red.

The red color of ruby is produced by the presence of chromium in the gem. A small trace of chromium will produce a pink color. To be considered a ruby, there must be enough chromium to give the gem a distinctly red color.

Finally, rubies must have a combination of color and clarity that makes them an attractive gem. Opaque pieces of corundum with just a hint of red color are not rubies - they are common corundum.



Rubies

3.16 *Sardonyx*

From Smith's Bible Dictionary:

a name compounded of sard and onyx , two precious stones, varieties of chalcedony or agate. The sardonyx combines the qualities of both, whence its name. It is mentioned only in (Revelation 21:20) The sardonyx consists of "a white opaque layer, superimposed upon a red transparent stratum of the true red sard." It is, like the sard, merely a variety of agate, and is frequently employed by engravers for signet-rings.



What sardonyx might look like

3.17 Topaz

From Geology.com:

Topaz is a rare silicate mineral with a chemical composition of $\text{Al}_2\text{SiO}_4(\text{F},\text{OH})_2$. It usually forms in fractures and cavities of igneous rocks such as pegmatite and rhyolite, late in their cooling history. It is also found as water-worn pebbles in stream sediments derived from those igneous rocks.

Topaz is also a well-known gemstone sold in a wide variety of attractive colors. Some of these colors are natural, while others are produced by treating pale or colorless topaz with heat, radiation, or metallic coatings.



Topaz crystals

4 The Land of Gold

Genesis 2:10-12 – “10 And a river went out of Eden to water the garden; and from thence it was parted, and became into four heads. 11 The name of the first is Pison: that is it which compasseth the whole land of Havilah, where there is gold; 12 And the gold of that land is good: ...”

5 Abram Prospers

Genesis 13:1-2 – “1 And Abram went up out of Egypt, he, and his wife, and all that he had, and Lot with him, into the south. 2 And Abram was very rich in cattle, in silver, and in gold.”

6 Jewelry

Genesis 24:21-22 – “21 And the man wondering at her held his peace, to wit whether the LORD had made his journey prosperous or not. 22 And it came to pass, as the camels had done drinking, that the man took a golden earring of half a shekel weight, and two bracelets for her hands of ten shekels weight of gold;”

7 False Gods

Exodus 20:22-23 – “22 And the LORD said unto Moses, Thus thou shalt say unto the children of Israel, Ye have seen that I have talked with you from heaven. 23 Ye shall not make with me gods of silver, neither shall ye make unto you gods of gold.”

Exodus 32:23-24 – “23 For they said unto me, Make us gods, which shall go before us: for as for this Moses, the man that brought us up out of the land of Egypt, we wot not what is become of him. 24 And I said unto them, Whosoever hath any gold, let them break it off. So they gave it me: then I cast it into the fire, and there came out this calf.”

Deuteronomy 7:25 – “25 The graven images of their gods shall ye burn with fire: thou shalt not desire the silver or gold that is on them, nor take it unto thee, lest thou be snared therein: for it is an abomination to the LORD thy God.”

8 Wilderness Tabernacle

Exodus 15:1-3, 8 – “1 And the LORD spake unto Moses, saying, 2 Speak unto the children of Israel, that they bring me an offering: of every man that giveth it willingly with his heart ye shall take my offering. 3 And this is the offering which ye shall take of them; gold, and silver, and brass, ... 8 And let them make me a sanctuary; that I may dwell among them.”

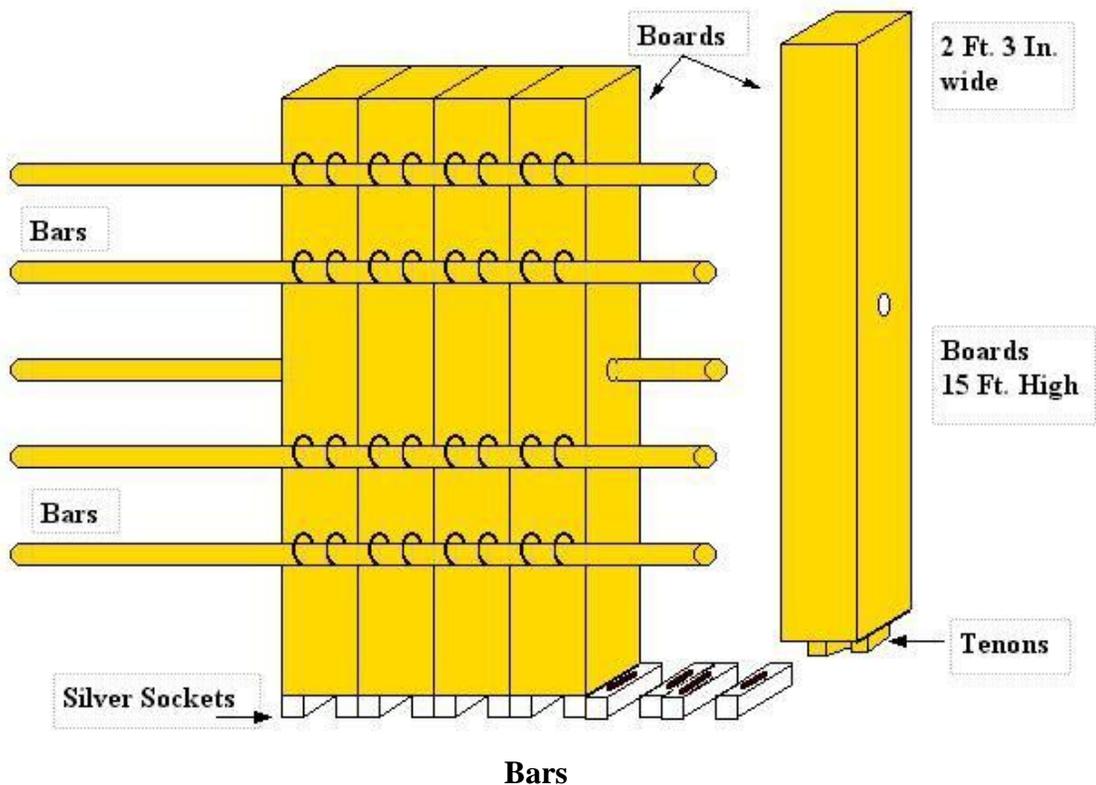
Exodus 26:6 – “6 And thou shalt make fifty taches [CJM – hooks or fasteners] of gold, and couple the curtains together with the taches: and it shall be one tabernacle.”

Exodus 26:20-21 – “20 And for the second side of the tabernacle on the north side there shall be twenty boards: 21 And their forty sockets of silver; two sockets under one board, and two sockets under another board.”



Sockets of silver along base

Exodus 26:22-32 – “29 And thou shalt overlay the boards with gold, and make their rings of gold for places for the bars: and thou shalt overlay the bars with gold. 30 And thou shalt rear up the tabernacle according to the fashion thereof which was shewed thee in the mount. 31 And thou shalt make a vail of blue, and purple, and scarlet, and fine twined linen of cunning work: with cherubims shall it be made: 32 And thou shalt hang it upon four pillars of shittim wood overlaid with gold: their hooks shall be of gold, upon the four sockets of silver.”



8.1 Priestly Garments

Exodus 15:7 – “7 Onyx stones, and stones to be set in the ephod, and in the breastplate.”



Onyx stone on shoulder

Exodus 28:4-43 – “4 And these are the garments which they shall make; a breastplate, and an ephod, and a robe, and a brodered coat, a mitre, and a girdle: and they shall make holy garments for Aaron thy brother, and his sons, that he may minister unto me in the priest's office. ... 9 And thou shalt take two onyx stones, and grave on them the names of the children of Israel: 10 Six of their names on one stone, and the other six names of the rest on the other stone, according to their birth. 11 With the work of an engraver in stone, like the engravings of a signet, shalt thou engrave the two stones with the names of the children of Israel: thou shalt make them to be set in ouches of gold. 12 And thou shalt put the two stones upon the shoulders of the ephod for stones of memorial unto the children of Israel: and Aaron shall bear their names before the LORD upon his two shoulders for a memorial. 13 And thou shalt make ouches of gold; 14 And two chains of pure gold at the ends; of wreathen work shalt thou make them, and fasten the wreathen chains to the ouches. 15 And thou shalt make the breastplate of judgment with cunning work; after the work of the ephod thou shalt make it; of gold, of blue, and of purple, and of scarlet, and of fine twined linen, shalt thou make it. 16 Foursquare it shall be being doubled; a span shall be the length thereof, and a span shall be the breadth thereof. 17 And thou shalt set in it settings of stones, even four rows of stones: the first row shall be a sardius, a topaz, and a carbuncle: this shall be the first row. 18 And the second row shall be an emerald, a sapphire, and a diamond. 19 And the third row a ligure, an agate, and an amethyst. 20 And the fourth row a beryl, and an onyx, and a jasper: they shall be set in gold in their inclosings. 21 And the stones shall be with the names of the children of Israel, twelve, according to their names, like the engravings of a signet; every one with his name shall they be according to the twelve tribes. 22 And thou shalt make upon the breastplate chains at the ends of wreathen work of pure gold. 23 And thou shalt make upon the breastplate two rings of gold, and shalt put the two rings on the two ends of the

breastplate. 24 And thou shalt put the two wreathen chains of gold in the two rings which are on the ends of the breastplate. 25 And the other two ends of the two wreathen chains thou shalt fasten in the two ouches, and put them on the shoulderpieces of the ephod before it. 26 And thou shalt make two rings of gold, and thou shalt put them upon the two ends of the breastplate in the border thereof, which is in the side of the ephod inward. 27 And two other rings of gold thou shalt make, and shalt put them on the two sides of the ephod underneath, toward the forepart thereof, over against the other coupling thereof, above the curious girdle of the ephod. 28 And they shall bind the breastplate by the rings thereof unto the rings of the ephod with a lace of blue, that it may be above the curious girdle of the ephod, and that the breastplate be not loosed from the ephod. 29 And Aaron shall bear the names of the children of Israel in the breastplate of judgment upon his heart, when he goeth in unto the holy place, for a memorial before the LORD continually. 30 And thou shalt put in the breastplate of judgment the Urim and the Thummim; and they shall be upon Aaron's heart, when he goeth in before the LORD: and Aaron shall bear the judgment of the children of Israel upon his heart before the LORD continually. 31 And thou shalt make the robe of the ephod all of blue. 32 And there shall be an hole in the top of it, in the midst thereof: it shall have a binding of woven work round about the hole of it, as it were the hole of an habergeon, that it be not rent. 33 And beneath upon the hem of it thou shalt make pomegranates of blue, and of purple, and of scarlet, round about the hem thereof; and bells of gold between them round about: 34 A golden bell and a pomegranate, a golden bell and a pomegranate, upon the hem of the robe round about. 35 And it shall be upon Aaron to minister: and his sound shall be heard when he goeth in unto the holy place before the LORD, and when he cometh out, that he die not. 36 And thou shalt make a plate of pure gold, and grave upon it, like the engravings of a signet, HOLINESS TO THE LORD. 37 And thou shalt put it on a blue lace, that it may be upon the mitre; upon the forefront of the mitre it shall be. 38 And it shall be upon Aaron's forehead, that Aaron may bear the iniquity of the holy things, which the children of Israel shall hallow in all their holy gifts; and it shall be always upon his forehead, that they may be accepted before the LORD.”

From Temple Institute:

Although we have provided a translation for these twelve stones as listed above, it is by no means definitive. We simply prefer to use these names, when faced with the alternative... that is, to present the original Hebrew names transliterated but untranslated. Our listing is rather more like a synopsis, or a sampling, representing different schools of thought. The exact, conclusive identification of these stones is actually one of the most difficult and elusive of all Temple-related studies. This is because the original Hebrew names of these stones as they appear here in the Bible are extremely obscure. They are not commonly used, and no description of the stones appears anywhere in the verses themselves. In the course of many years, as nations flourished and fell, and civilizations migrated to new lands, languages evolved and the meanings of words changed. Thus in one location, a word may have one meaning and connote a particular concept, while in another land, the same word may carry the exact opposite meaning.

Faced with this sort of situation, it becomes necessary to engage in what can be called "linguistic sleuthing" in an effort to arrive at a working conclusion. The names of these stones is particularly enigmatic: there are over 30 varying opinions as to the final identification of the 12 stones.

In reality, the only fact which is known with absolute certainty is the color of each stone. Although absent from the Biblical passages, this is recorded by the Midrash (Bamidbar Rabbah 2:7) where it is stated that each tribe's stone on the breastplate matched the background color of its flag (the tribes of Israel camped and journeyed according to their ensigns during the years of their desert travels).

Thus even if some doubt exists with regard to the scientific classification of the gems themselves, we can still be certain as to their appearance based on the Midrashic description of their colors (again, arbitrarily using the 12 "most representative" names we have chosen for the purpose of listing them):

1. Ruby - Reuben – Red
2. Jade - Shimon – Green
3. Agate - Levi - Red, White, and Black Striped
4. Carbuncle - Judah - Bluish-Green
5. Lapis-Lazuli - Issachar – Blue
6. Quartz Crystal - Zebulun – Clear
7. Turquoise - Dan – Blue
8. Amethyst - Naftali – Purple
9. Agate - Gad – Grey
10. Aquamarine - Asher - Blue-Green
11. Onyx - Joseph – Black
12. Opal - Benjamin - A Stone Possessing All the Colors



A recreation of the high priest's breastplate from Temple Institute

(Below orders are from right to left.)

First row: Sardius, topaz, and a carbuncle

Second row: Emerald, sapphire, diamond

Third row: Ligure, agate, amethyst

Fourth row: Beryl, onyx, jasper

8.2 Ark

Exodus 25:10-11 – “10 And they shall make an ark of shittim wood: two cubits and a half shall be the length thereof, and a cubit and a half the breadth thereof, and a cubit and a half the height thereof. 11 And thou shalt overlay it with pure gold, within and without shalt thou overlay it, and shalt make upon it a crown of gold round about.”

Gold also used for rings, staves, mercy seat, and cherubims (anything associated with the ark).

8.3 Table

Exodus 25:23-29 – “23 Thou shalt also make a table of shittim wood: two cubits shall be the length thereof, and a cubit the breadth thereof, and a cubit and a half the height thereof. 24 And thou shalt overlay it with pure gold, and make thereto a crown of gold round about. 25 And thou shalt make unto it a border of an hand breadth round about, and thou shalt make a golden crown to the border thereof round about. 26 And thou shalt make for it four rings of gold, and put the rings in the four corners that are on the four feet thereof. 27 Over against the border shall the rings be for places of the staves to bear the table. 28 And thou shalt make the staves of shittim wood, and overlay them with gold, that the table may be borne with them. 29 And thou shalt make the dishes thereof, and spoons thereof, and covers thereof, and bowls thereof, to cover withal: of pure gold shalt thou make them.”

8.4 Candlestick

Exodus 25:31 – “31 And thou shalt make a candlestick of pure gold: of beaten work shall the candlestick be made: his shaft, and his branches, his bowls, his knops, and his flowers, shall be of the same.”

Exodus 25:38 – “38 And the tongs thereof, and the snuffdishes thereof, shall be of pure gold.”

8.5 Altar of Incense

Exodus 30:1-5 – “1 And thou shalt make an altar to burn incense upon: of shittim wood shalt thou make it. 2 A cubit shall be the length thereof, and a cubit the breadth thereof; foursquare shall it be: and two cubits shall be the height thereof: the horns thereof shall be of the same. 3 And thou shalt overlay it with pure gold, the top thereof, and the sides thereof round about, and the horns thereof; and thou shalt make unto it a crown of gold round about. 4 And two golden rings shalt thou make to it under the crown of it, by the two corners thereof, upon the two sides of it shalt thou make it; and they shall be for places for the staves to bear it withal. 5 And thou shalt make the staves of shittim wood, and overlay them with gold.”

8.6 Gold Total

Exodus 38:24 – “24 All the gold that was occupied for the work in all the work of the holy place, even the gold of the offering, was twenty and nine talents, and seven hundred and thirty shekels, after the shekel of the sanctuary.”

1 talent = 110 lbs

29 x 110 lbs = 3,190 lbs

3,190 lbs x 16 oz/lb x \$1,324/oz (Feb. 17, 2019) = \$67,576,960

1 shekel = 2 lbs

730 x 2 lbs x 16 oz/lb x \$1,324/oz (Feb. 17, 2019) = \$30,928,640

Total = \$98,505,600

8.7 Silver Total

Exodus 38:25 – “25 And the silver of them that were numbered of the congregation was an hundred talents, and a thousand seven hundred and threescore and fifteen shekels, after the shekel of the sanctuary:”

100 x 110 lbs = 11,000 lbs

11,000 lbs x 16 oz/lb x \$15.81/oz (Feb. 17, 2019) = \$2,782,560

1 sanctuary shekel = 12 grams

1,775 shekels x 12 grams x \$0.51/gram (Feb. 17, 2019) = \$10,863

Where did all of this gold and silver come from?

Exodus 12:35-36 – “35 And the children of Israel did according to the word of Moses; and they borrowed of the Egyptians jewels of silver, and jewels of gold, and raiment: 36 And the LORD gave the people favour in the sight of the Egyptians, so that they lent unto them such things as they required. And they spoiled the Egyptians.”

9 Offering

Following war with the Midianites:

Numbers 31:48-54 – “48 And the officers which were over thousands of the host, the captains of thousands, and captains of hundreds, came near unto Moses: 49 And they said unto Moses, Thy servants have taken the sum of the men of war which are under our charge, and there lacketh not one man of us. 50 We have therefore brought an oblation for the LORD, what every man hath gotten, of jewels of gold, chains, and bracelets, rings, earrings, and tablets, to make an atonement for our souls before the LORD. [CJM – they had saved the women; the women of Midian had caused Israel to trespass against the Lord] 51 And Moses and Eleazar the priest took the gold of them, even all wrought jewels. 52 And all the gold of the offering that they offered up to the LORD, of the captains of thousands, and of the captains of hundreds, was sixteen thousand seven hundred and fifty shekels. 53 (For the men of war had taken spoil, every man for himself.) 54 And Moses and Eleazar the priest took the gold of the captains of thousands and of hundreds, and brought it into the tabernacle of the congregation, for a memorial for the children of Israel before the LORD.”

10 Treasury

Joshua 6:17-19 – “17 And the city shall be accursed, even it, and all that are therein, to the LORD: only Rahab the harlot shall live, she and all that are with her in the house, because she hid the messengers that we sent. 18 And ye, in any wise keep yourselves from the accursed thing, lest ye make yourselves accursed, when ye take of the accursed thing, and make the camp of Israel a curse, and trouble it. 19 But all the silver, and gold, and vessels of brass and iron, are consecrated unto the LORD: they shall come into the treasury of the LORD.”

Treasury
Precious stones

11 Spiritual Metaphors

TBD

12 Sources

https://en.wikipedia.org/wiki/Precious_metal
<https://answersingenesis.org/geology/rocks-and-minerals/gold/>
[https://simple.wikipedia.org/wiki/Talent_\(weight\)](https://simple.wikipedia.org/wiki/Talent_(weight))
<https://www.gotquestions.org/sanctuary-shekel.html>
<https://www.biblestudytools.com/dictionary/shekel/>
<https://tabernacleofmoses.wordpress.com/cost/>
<https://geology.com/gemstones/agate/>
<https://geology.com/gemstones/amethyst/>
<https://en.wikipedia.org/wiki/Bdellium>
<https://geology.com/minerals/beryl.shtml>
<https://geology.com/minerals/garnet.shtml>
https://en.wikipedia.org/wiki/Gemstones_in_the_Bible
<https://en.wikipedia.org/wiki/Peridot>
<https://geology.com/minerals/olivine.shtml>
<https://geology.com/gemstones/chrysoprase/>
<https://geology.com/minerals/diamond.shtml>
<https://geology.com/gemstones/emerald/>
<https://geology.com/minerals/zircon.shtml>
<https://en.wikipedia.org/wiki/Jasper>
<https://www.gemsociety.org/article/what-were-the-gemstones-of-the-breastplate-of-aaron/>
<https://geology.com/gemstones/ruby-and-sapphire/>
<https://en.wikipedia.org/wiki/Onyx>
<https://biblehub.com/topical/s/sardonyx.htm>
<http://www.scienceforkidsclub.com/silver.html>
http://www.templeinstitute.org/begeed/priestly_garments-7.htm