

Gems

Gems

precious or semiprecious stones formed from rock materials that were subjected to high temperature and pressure over a long period of time

rare and expensive

used mainly for jewelry and other ornamental purposes

Diamond



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best example of an expensive gem

comes from what used to be wood millions of years ago but was buried deep under Earth

biggest diamond mines are in Africa

Nephrite or Jade

a common gemstone found in the Philippines

Philippine Jade

not of common variety

a type of nephrite

Two types of mineral that are classified as jade:

nephrite

jadeite

Gemstones

found in continents that are geologically older than islands

Corundum or Aluminum Oxide

with passage of time and under high temperature and pressure becomes either ruby (blood red stone) or sapphire (deep blue stone)

Chromium

responsible for the red color in ruby

Titanium and Iron

gives sapphire its deep blue color

Ruby (red) and Sapphire (blue)

often found together in

> Myanmar

> Thailand

> Cambodia

> Vietnam

> Tanzania

> Madagascar

> Australia

Emerald

a green gemstone is a type of beryl (a mineral consisting of beryllium and aluminum silicate)

found in **Asia, America, Africa, and Europe**

Emerald

From 1995 to 2005, **47% of the world's production** by volume came from **Columbia** in South America. Other major producers were **Zambia - 21%, Brazil - 20%, and Russia - 7%**.

Turquoise

an opaque blue-green gemstone

a hydrous phosphate of copper and aluminum

first mined in the **Sinai Peninsula** and **China**

also found in the **United States, Chile, and Australia**

Uses of Gemstones

used as ornamental stones

bearings in highly precise and small mechanical devices such as watches

render lubricants unnecessary

Ruby and other transparent gems are used in laser-emitting devices to focus light.