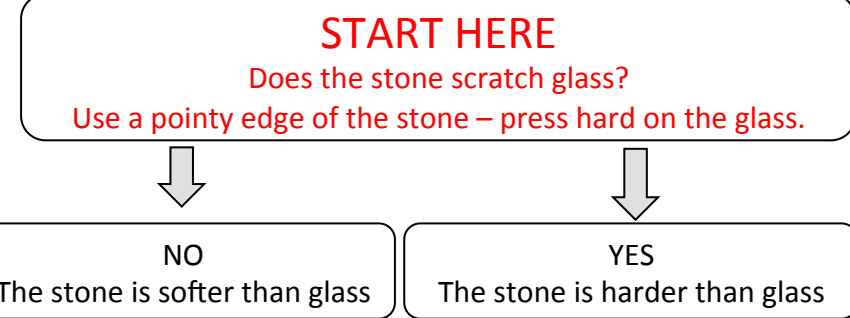


Your handy guide to natural stone identification

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Does the surface of the rock bubble when a drop of 10% hydrochloric acid is put on it?

YES: limestone, marble, travertine, onyx

NO

Does the rock bubble with hydrochloric acid **when powdered first**?

YES:
DOLOMITE OR DOLOMITIC MARBLE

Dolomite looks like limestone.
Dolomitic marble looks like marble.
There is no reliable way to tell dolomite and calcite apart, aside from the powdered rock acid test.

NO:
SOAPSTONE or SERPENTINE
(see back for details)

Soapstone is dark green, black, or grey.
Often has light colored veins.
You can scratch soapstone with a fingernail or a copper penny.

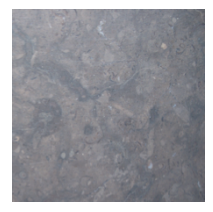
Serpentine can look like soapstone but is harder (and sometimes greener). If it's harder than a copper penny it's likely serpentine.

Some green marbles are called serpentine, but they will bubble with hydrochloric acid.

LIMESTONE FAMILY

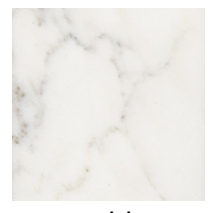
All the stones in this group are made of the mineral calcite. Even though they are made of the same thing, these stones have different textures and appearances.

LIMESTONE
Earthy luster, not sparkly or shiny (on a non-polished piece)
May be layered, but not always
May have fossils or shell fragments
Most commonly grey, tan, beige, or black
Uniform, muted color



Limestone

MARBLE
Characterized by wavy bands throughout the rock, but also may be one solid color
Can be white, grey, or black
Has a satiny shine
Broken edges have a sugary sparkle to them



Marble

TRAVERTINE
Wavy layers with visible holes and pore spaces
"Lacy" texture
White, light grey, tan-pinkish, or beige color
Pore spaces are often filled with grout



Travertine

Image by Andrei Pripasu

ONYX
Distinctly banded appearance; very fine layers
Usually cream or amber color, but may be dyed other colors
Translucent when cut thin and backlit



Onyx

Wikimedia Commons

HARD ROCK FAMILY

Granite, gneiss, schist, quartzite, sandstone
These rocks are made from quartz and feldspar

GRANITE
This is a large family of igneous rocks. They are classified by their color and the size of the crystals in the rock.

light colored

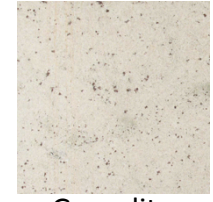
- "True granite" - is overall light colored and has white, light grey, tan, and/or pinkish colored feldspar crystals, along with smaller amounts of dark colored minerals, but no garnets. (Tropic Brown, Barcelona, Blanco Real, Gris Perla)
- Pegmatite - has large crystals several inches across. It's usually light colored (Alaska White, Patagonia)
- Granulite – mostly white with a small amount of dark minerals, including garnets. Garnets are dark pink to burgundy and are usually small, round specks. Granulite is actually a metamorphic rock but it looks and acts much like "true" granite (River White)



Granite



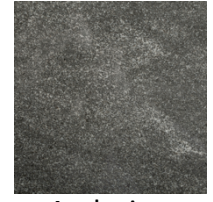
Pegmatite
image by MSI



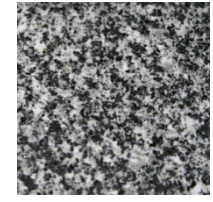
Granulite
image by MSI

medium grey

- Diorite - has large, visible crystals and is speckled with an even blend of dark and light colored minerals (Nero Africa)
- Andesite - has small crystals and is overall medium-grey in color (Azul Noche)



Andesite



Diorite

Wikimedia Commons

dark grey to black

- Basalt - fine-grained, dark grey to black (Absolute Black)
- Gabbro - has larger crystals, dark grey to black (Crystal Black, Black Pearl)



Gabbro

GNEISS
Distinctive bands of color
Bands of dark minerals, alternating with white or light-colored minerals. Layers may be straight or wavy. Often contains garnets. (Silver Cloud, Viscont White, White Wave)



Gneiss

image by James St. John

SCHIST
Similar to gneiss, but contains abundant mica minerals and is sparkly or glittery. May be flaky on the edges. (Magma Gold, Kosmos). Fine-grained schists are less flaky (Galaxy Schist).



Schist

image by James St. John

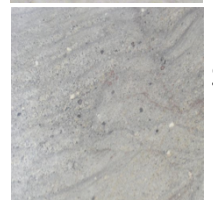
QUARTZITE
Usually light colored, but may have shades of green, iron-red, or (rarely) blue
Can have soft, wavy patterns similar to marble



Quartzite

image by MSI

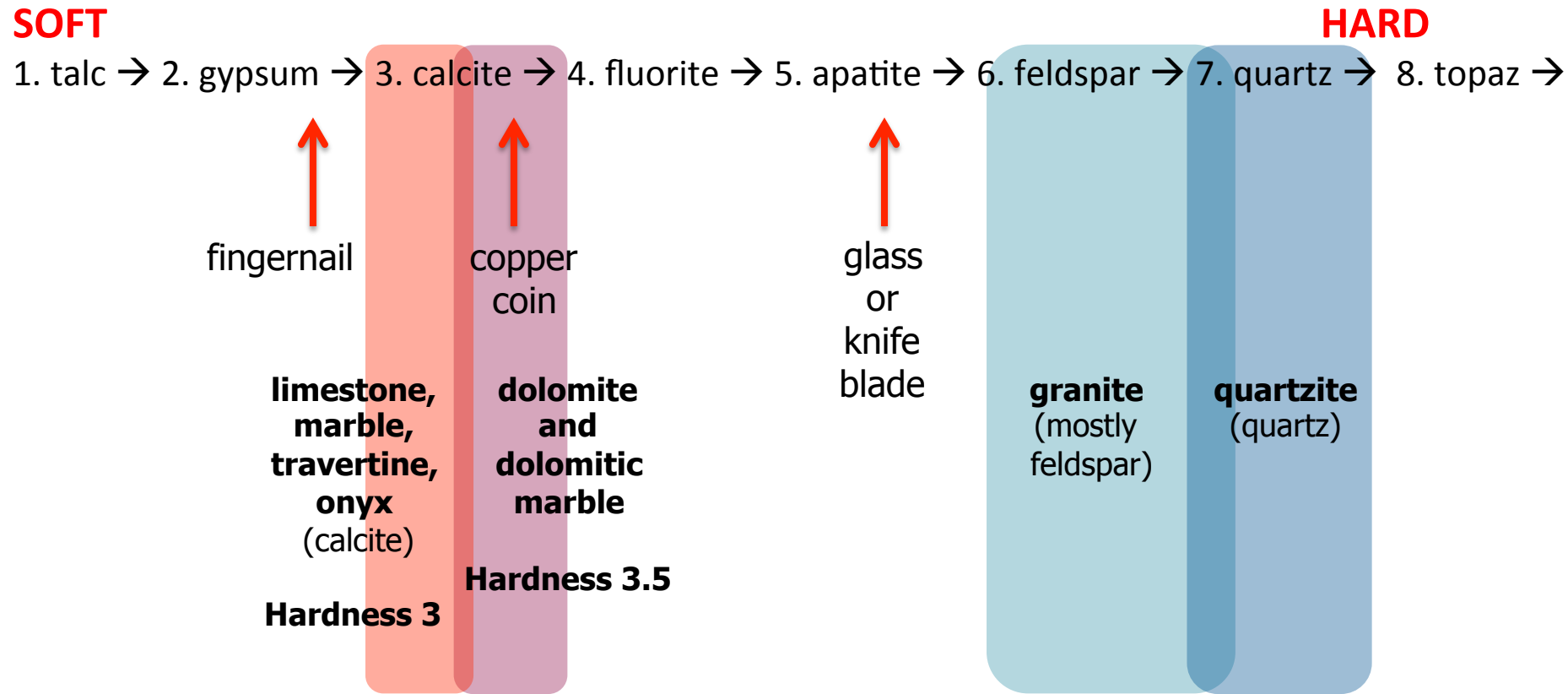
SANDSTONE
Individual sand grains are visible, particularly with a magnifying glass
Light colored: tan, light grey, white
May have wavy layers or straight layers
May be very porous (Palomino) or tightly-cemented (Wild Sea)



Sandstone

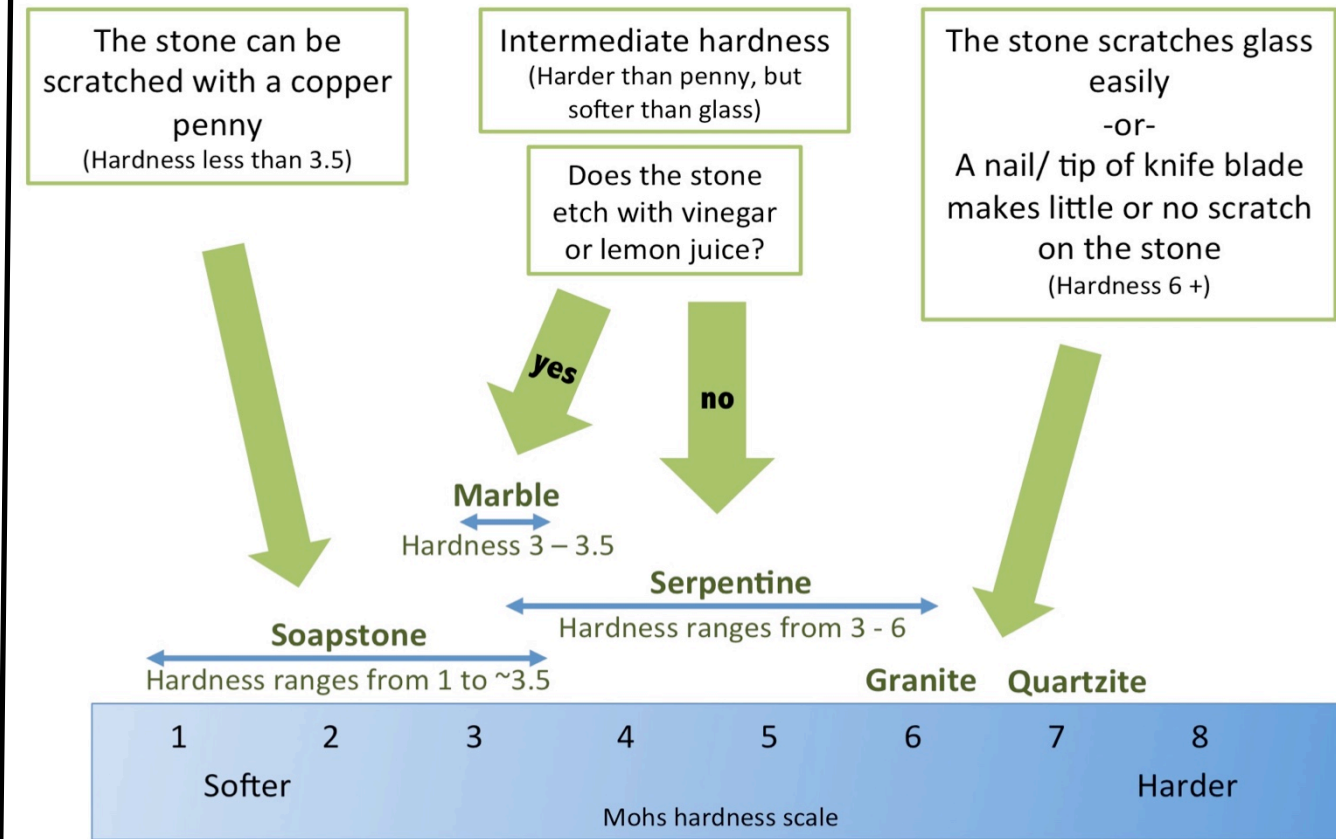
Images from MIA + BSI Stone Selector unless otherwise specified.

Using hardness to differentiate soft and hard stones



It's easy to use hardness to tell the difference between quartzite and marble. You can't use hardness to tell granite from quartzite.

What is this green stone?



The Metamorphic Continuum

Increasing heat and pressure
Increasing metamorphism

No metamorphism → low-grade metamorphism → medium-grade metamorphism → high-grade metamorphism



Shale (image by GorissenM) → **Slate** → **Phyllite** (image from Wikimedia Commons) → **Schist** (image by James St. John) → **Gneiss** (image by James St. John)

Geologic and commercial names often differ

Geologic names



Commercial names

often categorized as slate

often categorized as granite