

**What is a mineral?**

*What are the five properties of a mineral?*

- 1.
- 2.
- 3.
- 4.
- 5.

What is Arizona's state mineral?

What is Arizona's state gem?

*Similarities and Differences between Rocks and Minerals:*

<b>Similarities</b>	<b>Differences</b>
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**Mineral Properties**

*Color:*

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- Caused by the trace elements that make up the mineral
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*Luster:*

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- There are many types of luster, but there are two that are most commonly used
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Why is color not a useful property?

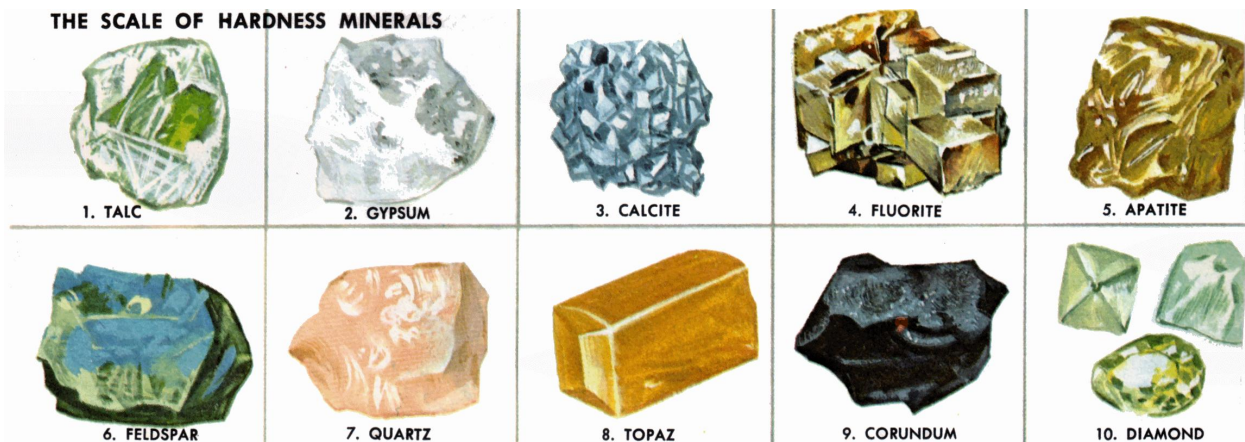
*Streak:*

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*Mineral Hardness:*

- Scale created by the mineralogist Friedrich Mohs
- The scale was created to have one set method to determine the hardness of minerals studied and mined for because many people had different tests

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What are the tools that measure hardness and what hardness values do they represent?

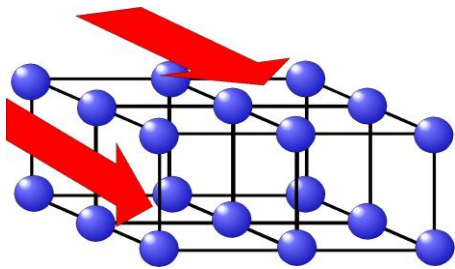
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*Cleavage:*

In the youtube video clip, happened to the calcite when it was broken into several pieces? Were the pieces broken to similar shapes or completely irregular shapes?

Should we mine for uranium bearing minerals in Grand Canyon National Park? – Mining and Mineral Unit

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- Defined by planes from chemical make-up and crystal structure
- When broken using some force, the minerals displaying cleavage break along weak bonds
- Has different shapes
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When looking at a mineral with cleavage, you want to see whether it has planes or sides that are parallel on the opposite side of the prism or mineral.

*Fracture:*

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- Can break into curved, splintered, and jagged pieces
- Bonds are equal throughout mineral crystal structure

Quartz is the most common type of mineral that fractures.

***Magnetism:***

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- Mineral contain Iron (Fe), Nickel (Ni), or Cobalt (Co)
- To test magnetism, use a magnet to see whether it is attracted to a mineral
- Example: Magnetite

***Reaction with Acid***

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- Example: Calcite

***Density:***

- Some minerals look the same
- Density can help distinguish minerals apart
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Example: Gold and Pyrite

***Odor:***

- Refers to smell
- Some minerals have a very distinctive smell
- Example: Sulfur

***Taste:***

- Some mineral have a specific taste
- Some examples are salty, sweet, etc
- Example: Halite

***Double Refraction:***

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- Produces a double image
- Often seen in clear minerals
- Example: Calcite

***Fluorescence***

- Glows in dark light
- Deals with wavelength of light trying to pass through the mineral
- Examples: Fluorite and Calcite

***Radioactivity:***

- Affected by chemical make up
- Some elements decay or lose particle to change the properties
- Use a Geiger counter to keep track of the decay rates