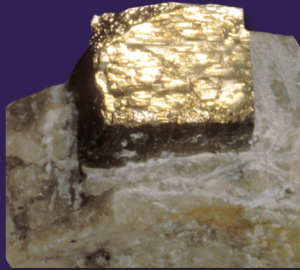


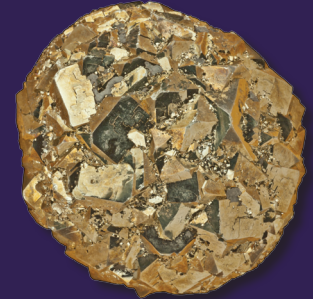
Pyrite – “Fool’s Gold”

Pyrite is a mineral that is sometimes mistaken for gold, hence the nickname “fool’s gold.” By comparing the physical properties, one can easily distinguish between the two minerals. Pyrite is less dense, harder, and more brittle than gold. In addition, pyrite will tarnish when exposed to acid, whereas gold is nonreactive. Pyrite is shiny, metallic, and brass colored. Its cubic crystals are highly sought after by mineral collectors. Composed of iron and sulfur (FeS_2), pyrite may be the most common sulfide mineral in Indiana.

Pyrite is common in a variety of geological settings and is associated with quartz, barite, sphalerite, as well as other minerals. In Indiana, pyrite can be found in organic-rich shale, coal, and limestone. Potential commercial uses of pyrite include iron or sulfur ore, jewelry components, and in the production of sulfuric acid.



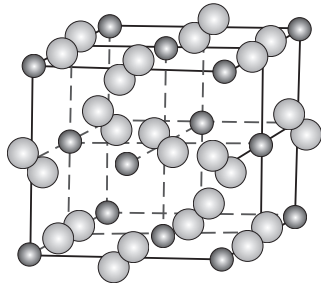
cubic pyrite crystal



pyrite “ball”

The chemical weathering of pyrite can have undesirable effects in coal mines. Pyrite that is exposed to oxygen and water leads to acid mine drainage. This creates a variety of negative environmental conditions, including decreased water quality and soil fertility. Brownish stains on building stones may be the result of oxidized pyrite.

Pyrite Unit Cell



- Iron (Fe)
- Sulfur (S)

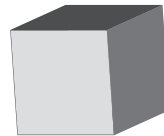
Analyzing the Past to Provide for the Future



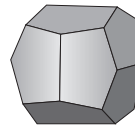
MOH'S HARDNESS SCALE

- SOFTEST
- 1 TALC
- 2 GYPSUM ← FINGERNAIL
- 3 CALCITE ← COPPER COIN
- 4 FLUORITE
- 5 APATITE ← KNIFE / GLASS
- 6 FELDSPAR ← **PYRITE**
- 7 QUARTZ ← STEEL TOOL
- 8 TOPAZ
- 9 CORUNDUM
- 10 HARDEST DIAMOND

Pyrite Crystals



cube



pyritohedron

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