

Minerals



The building blocks of rocks!

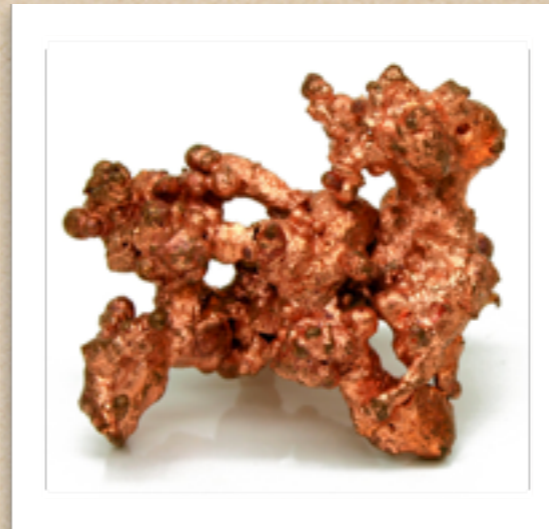
Mineral or Rock? What's the difference?

- ◆ A rock is actually made of minerals!
- ◆ A mineral is a naturally-occurring, non-living, solid material.



Minerals

- ◆ If a mineral is made from one material (pure), it is called an element.



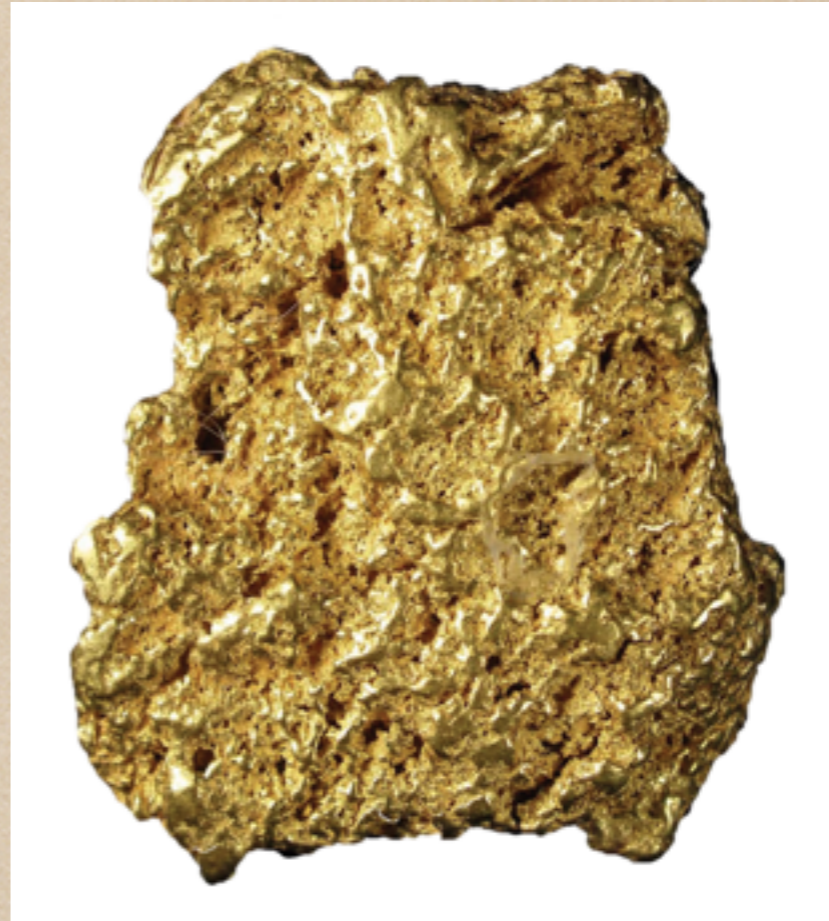
Copper is only made of one material. It is an element.

- ◆ If a mineral is made from multiple materials it is called a compound.



Quartz is made of multiple materials. It is a compound.

Pyrite vs. Gold

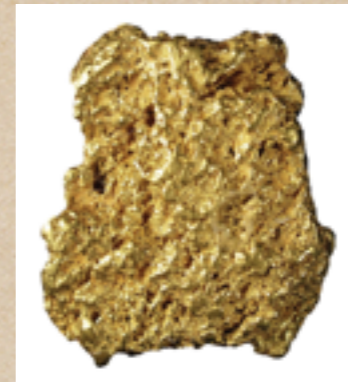


One of these minerals is valuable and the other is completely worthless.

How can you find out which one?

Clue #1: Colour

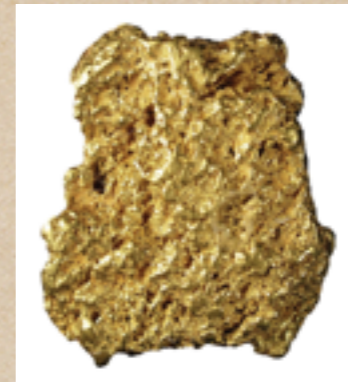
The outside colour of the mineral can help to narrow down its identity.



Can you tell the difference now?

Clue #2: Lustre

The “shininess” of a mineral is also helpful. Is it shiny or dull? If it reflects light, it has lustre.



Can you tell the difference now?

Clue #3: Mohs Hardness Scale

The German Scientist Friedrich Mohs developed a scale of ten minerals with a “hardness” value of 1 to 10.



Clue #3: Mohs Hardness Scale

He then made a list of common objects to use in order compare the hardness.



Pencil



Fingernail



Copper



Iron Nail



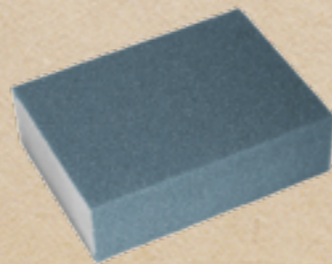
Glass



Steel File



Streak Plate



Sandpaper




Emery Paper

Clue #3: Mohs Hardness Scale

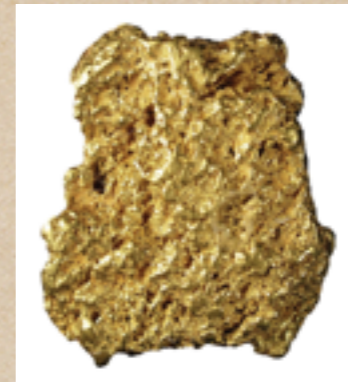
Use the tools on the scale to test your unknown mineral. Start with the pencil. If it scratches the mineral, that means that the mineral is softer than 1.5.

MOHS HARDNESS SCALE

I N C R E A S I N G H A R D N E S S ↓		Talc	1	
		Gypsum	2	← Fingernail
		Calcite	3	← Copper Coin
		Fluorite	4	
		Apatite	5	← Knife/Glass
		Feldspar	6	← Steel Tool
		Quartz	7	
		Topaz	8	
		Corundum	9	
		* (not included)	Diamond	10

Clue #4: Streak

A streak is the colour of the powdered form of the mineral. Rub the mineral across the streak plate.

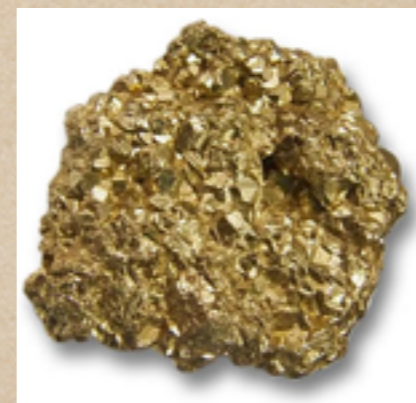
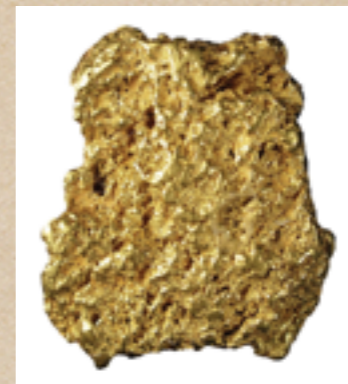


Can you tell the difference now?

Clue #5: Cleavage & Fracture

When minerals break apart one of two things happens:

- 1) Fracture: jagged, rough edges
- 2) Cleavage: can be pulled apart into sheets



Can you tell the difference now?



Stibnite is a compound. It is used for engine bearings, matches and even medications.

This sample of Jade was made by countless earthquakes. It is rich in sodium and aluminum.



Mineral Mystery!