

# Today's Objectives:



*Students will be able to...*

- Describe how to identify minerals using physical properties
- Define luster, streak, hardness
- State the hardest and softest minerals
- Understand many properties are used to identify minerals – not just one

# Mineral Identification



## MINERAL PROPERTIES

- Over 4,000 minerals have been identified. Yet no two are exactly alike.



# Mineral Properties:



## HOW TO IDENTIFY MINERALS

Color – Can be used for identifying only a few minerals.

Example: Mineral sulfur is always yellow.



Fluorite comes  
Many colors



# Mineral Properties:



**Luster** – Is the way light reflects from its surface (“Shine”).

## **Two Types of Luster**

1. Metallic – shiny, like metal
2. Nonmetallic – dull, earthy

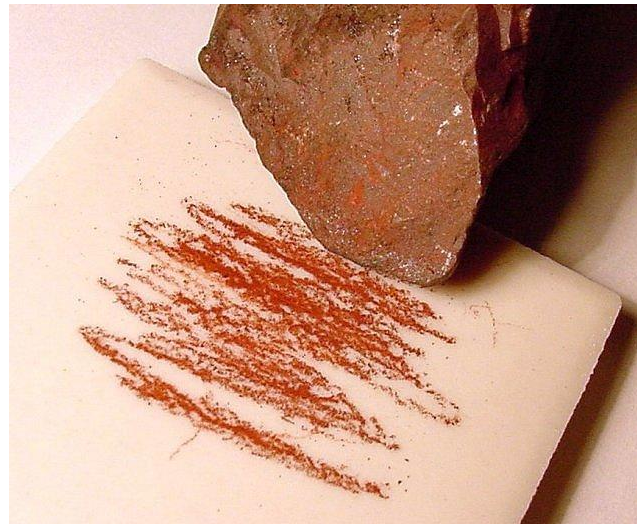


# Mineral Properties:



**Streak** – Is the color of the powder left when a mineral is rubbed against a hard rough surface.

**Example:** Mineral hematite makes red streak



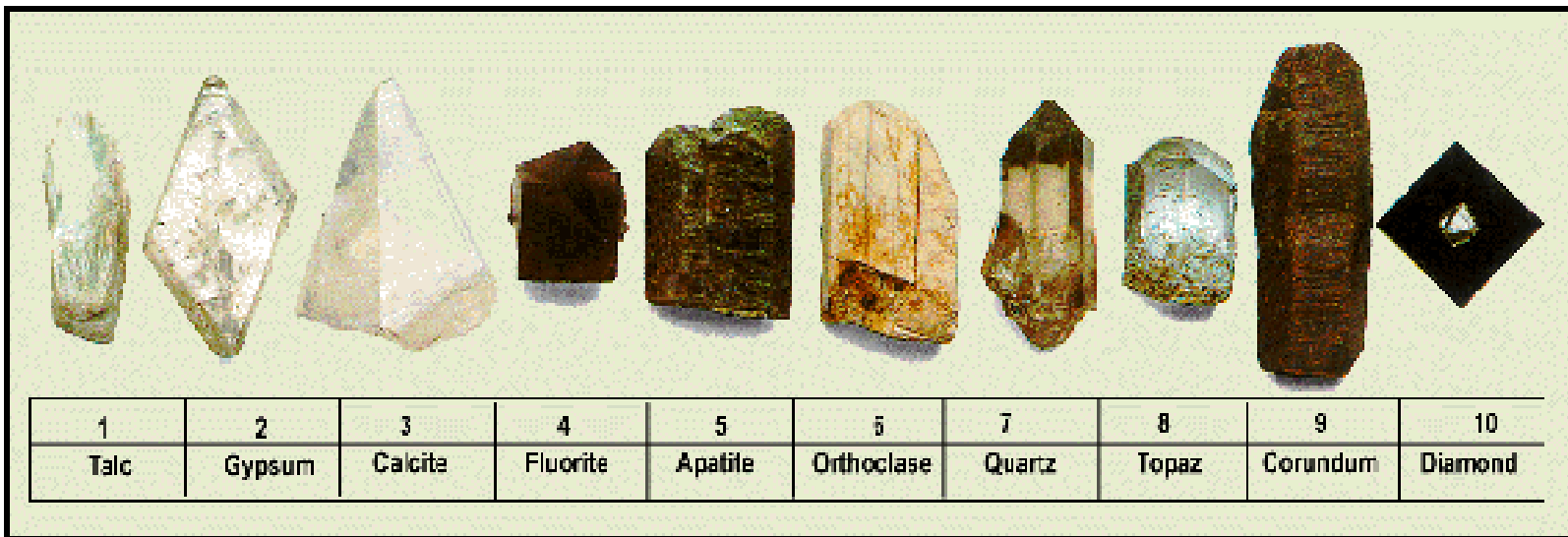
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# Mineral Properties:



**Hardness** – Is a mineral's resistance to being scratched.



1	2	3	4	5	6	7	8	9	10
Talc	Gypsum	Calcite	Fluorite	Apatite	Orthoclase	Quartz	Topaz	Corundum	Diamond

# Mineral test kit used in the field (geologist always take with them)

Carbonate

Hardness test

penny: 3.5  
nail: 5.5  
glass: 6.5

Streak plate

magnet



# Mineral Properties:



## Moh's Hardness Scale

Hardness	Mineral	Sample Test
<u>1</u>	<u>Talc</u>	Easily Scratched by fingernail
<u>2</u>	<u>Gypsum</u>	Scratched by penny
<u>3</u>	<u>Calcite</u>	Scratched by penny
<u>4</u>	<u>Fluorite</u>	Easily scratched by steel blade



Hardness	Mineral	Sample Test
<u>5</u>	<u>Apatite</u>	Scratch by steel blade
<u>6</u>	<u>Feldspar</u>	Can scratch glass
<u>7</u>	<u>Quartz</u>	<u>Can easily scratch glass &amp; steel blade</u>
<u>8</u>	<u>Topaz</u>	Scratches quartz
<u>9</u>	<u>Corundum</u>	Scratches topaz
<u>10</u>	<u>Diamond</u>	<u>Cannot be scratched</u>

**1 Softest – 10 Hardest**



1. Talc
2. Gypsum
3. Calcite
4. Fluorite
5. Apatite
6. Feldspar
7. Quartz
8. Topaz
9. Corundum
10. Diamond

Mohs  
Hardness  
Scale

# Hardness

