Mineral Identification Lab

**Question:** What methods can we use to identify minerals?

**Purpose:** To use the physical properties of minerals to identify them.



**Materials:**

Minerals streak plate penny muriatic acid

Steel nail glass plate goggles dropper

Tray magnifying glass magnet

**Procedure:**

1. Read the procedure CAREFULLY. What data are you trying to collect? Record the data on the data chart.
2. Test each mineral on the following properties and then determine the mineral using the identification chart:
   1. COLOR - Identify and record the color on the chart.
   2. LUSTER – Determine whether the mineral is **metallic (M)** or **non-metallic (NM)**. If it is metallic, that means it looks like a metal. Write it like this: **M**- shiny or dull. If it is a non-metal, classify it as: **NM-**glassy, or resinous (like amber), or greasy, or pearly, or dull or earthy. Record the data on your chart.
   3. STREAK – Record the color of the streak on the data chart.
   4. HARDNESS – Use Moh’s hardness scale to test for hardness and find approximately how hard your minerals are. Record the data.
   5. BREAKAGE – How is the mineral broken? Determine whether the mineral breaks with **cleavage** or **fracture**. Record your data.
   6. SPECIAL PROPERTIES – Does the mineral react with any special properties? Using your gloves and goggles, drop 2 drops of muriatic acid on the mineral and see if it reacts. Record your data.
3. Once you have identified 5 minerals, answer the questions that following questions (in COMPLETE SENTENCES):
   1. Which mineral was hardest to identify? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Which mineral was easiest to identify? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Which physical property was the most helpful in identifying the minerals? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. Which physical property was the least helpful in identifying the minerals? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. Summarize what you learned about identifying minerals: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Mineral Summary Chart**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Characteristics** | **A** | **B** | **C** | **D** | **E** |
| **Color** |  |  |  |  |  |
| **Luster** |  |  |  |  |  |
| **Streak** |  |  |  |  |  |
| **Hardness** |  |  |  |  |  |
| **Breakage** |  |  |  |  |  |
| **Acid Test**  **(+/-)** |  |  |  |  |  |
| **Magnetism**  **(+/-)** |  |  |  |  |  |
| **Mineral Name** |  |  |  |  |  |

Mineral Summary Chart

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Characteristics** | **F** | **G** | **H** | **I** | **J** |
| **Color** |  |  |  |  |  |
| **Luster** |  |  |  |  |  |
| **Streak** |  |  |  |  |  |
| **Hardness** |  |  |  |  |  |
| **Breakage** |  |  |  |  |  |
| **Acid Test**  **(+/-)** |  |  |  |  |  |
| **Magnetism**  **(+/-)** |  |  |  |  |  |
| **Mineral Name** |  |  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Characteristics** | **K** | **L** | **M** | **N** | **O** |
| **Color** |  |  |  |  |  |
| **Luster** |  |  |  |  |  |
| **Streak** |  |  |  |  |  |
| **Hardness** |  |  |  |  |  |
| **Breakage** |  |  |  |  |  |
| **Acid Test**  **(+/-)** |  |  |  |  |  |
| **Magnetism**  **(+/-)** |  |  |  |  |  |
| **Mineral Name** |  |  |  |  |  |