Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_

**Lab: Identification of Minerals**

**Purpose/Focus Question:** Which physical property/ test is most useful to identify an unknown mineral?

**Prediction:** Based on notes, demos and previous activities, predict which test(s) will be most useful to identify an unknown mineral:

**Procedure:**

1. Perform the tests and complete the Data Table on the next page.
2. Ask your teacher to check your results.
3. Once your results are okayed, complete the Analysis Questions.

**Analysis:**

1. Which of your minerals had a color different from its streak color? List all that apply.
2. Which is more dependable, color or streak color? Explain.
3. What tests/properties did you find most helpful in identifying your minerals. Explain why they were helpful.
4. Which mineral property did you find the most difficult to determine? Explain your answer.
5. Using only a fingernail and glass, the lab was only able to determine rough ranges for the hardness of the minerals. What other materials could you use to specifically determine the hardness of a mineral that in the lab had a hardness of 2.5 to 6.0. Be specific –**name** the materials you would use..

**Conclusion:** Use a few **sentences** to discuss **all** of the following:

\*\* Restate your prediction. Then **explain** why it was or wasn’t supported.

\*\* What was the most important thing you learned about minerals or mineral identification by doing this lab activity?

\*\* To have enough space, you will need to use a piece of notebook paper to write your conclusion. Staple your conclusion to this lab sheet.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | **Hardness**  (Check one) | | | **Other properties:**  Peels in sheets,  Fizzes with HCl,  Magnetic,  Double image, etc. |  |
| **Mineral ID** | **Color** | **Streak Color** | **Luster** –  check one | | **The mineral shows**:  (check one) | | Scratched by fingernail  **Less than 2.5** | Scratches glass  **More than 6.0** | Not scratched by fingernail **AND**  doesn’t scratch glass  **2.5 – 6.0** | **Mineral Name** |
| Metallic | Non-metallic | Cleavage | Fracture |
| Example |  |  |  |  |  |  |  |  |  |  |  |
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**Other common objects** to further determine hardness:

Copper penny = 3.5 Iron Nail =4.5 Steel nail 5.5 – 6.5 Streak Plate 7.0

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| --- | --- |
| **Hardness** | **Description** |
| less than 2.5 | Mineral can be scratched by fingernail (H = 2.5) |
| 2.5 to 3.5 | Mineral cannot be scratched by fingernail (H = 2.5) and cannot scratch penny (H = 3.5) |
| 3.5 to 5.5 | Mineral can scratch a penny (H = 3.5) and cannot scratch glass (H = 5.5) |
| Greater than 5.5 | Mineral can scratch glass (H = 5.5) |

