

Lab: Identifying Minerals

Directions: Use different tests to identify the 3 different minerals. Be very careful with your observations

Test 1 – Hardness

Materials: Copper Penny, nail, steel file, and 3 minerals

1. Procedure: For each mineral, start the hardness by doing the scratch method. Always start with your finger nail. Simply attempt to scratch the minerals with your finger nail. If your finger nail scratches the mineral it has a hardness level of 2.5 or less. You do not need to perform any more tests to identify the hardness. If your finger nail did NOT scratch the mineral, grab a copper penny and try to scratch the mineral. If the copper penny scratches the mineral, then the mineral's hardness is harder than 3.0 but less than and 3.5 and no more tests are needed. If the copper penny did **not** scratch the mineral then grab the nail. If the nail scratches the mineral, the hardness is identified as hard as 4.0 but less than 5.5. If the nail did not scratch the mineral, grab the steel file. If the steel file scratches the mineral, it is as hard as 6.0 but less than 6.5.
- 2.

	Mineral 2	Mineral 3	Mineral 7
Material scratched			
Hardness range			

Test 2 – Streak Test

Materials: streak plate and minerals.

3. Each mineral has its own unique color streak when it is rubbed across a streak plate. Test each mineral by rubbing it against the plate. Some may match the color of the mineral, some are different colors, and others can be colorless.

	Mineral 2	Mineral 3	Mineral 7
Color of mineral			
Color of powder on streak plate			

Test 3 – Breakage

Materials: minerals

4. Cleavage and fracture describe how a mineral comes apart or breaks. Cleavage tends to break into flat, smooth edges while fractures are uneven. Please do not break or damage the minerals, as they are already broken, simply use your eyes to identify how each of the minerals broke.

	Mineral 2	Mineral 3	Mineral 7
Breakage			

Test 4 – Luster

Materials: Minerals

5. Luster describes how a mineral reflects light. Use the descriptions for the different types of luster and classify each mineral sample.

Non-metallic: may still be shiny and brilliant like glass or they can be dull and earthy like soil. A diamond has a glassy luster while soil has an earthy luster.

Metallic: Minerals that have a metallic luster shine brightly and resemble a metal. Gold, copper, and aluminum all have a metallic luster.

	Mineral 2	Mineral 3	Mineral 7
Type of Luster			

Use the field guide information to name each of the 3 minerals. Be careful to look at all of the information, so you can identify them correctly.

Mineral #	Name of mineral
2	
3	
7	

1. Why can't we use only the color of the mineral to identify the minerals? _____

2. Which of the tests help you to best identify the different minerals? _____

3. Why do you think you needed to conduct so many different tests to help you identify the different minerals? _____
