

Summary & Reflection:

Lab folder audit:

Lab #	Lab Title	Is it in your folder?	Did you receive a check mark?	If not, what do you need to do in order to receive credit for this lab?
1				
2				
3				
4				
5				

HW:

1. What is the definition of a mineral?
2. What properties can we use to observe and identify minerals?
3. Why is color not a very helpful way to identify minerals?
4. Look at the Moh's scale of hardness in your notes 3.2 to answer the following questions:
 1. What is the softest mineral on the scale?
 2. What is the hardest mineral on the scale?
 3. If a mineral can scratch Fluorite but cannot scratch Orthoclase, what is its hardness? _____
 4. Glass has a hardness of about 5.5. What minerals would NOT be able to scratch glass?
5. Explain the difference between cleavage and fracture. Draw a picture of what each might look like.

Lab #8: How can we identify different minerals using a flowchart?

Pre-lab questions:

- 1) What is a crystal? _____
- 2) Sometimes people look at pyrite and think that it has cleavage when it really has fracture. Why do people often make this mistake?

- 3) Can a mineral be shiny and have nonmetallic luster? _____ Explain: _____

Purpose: During this lab, you will be observing to helpful properties of minerals: cleavage/fracture and luster. Then, you will use a flowchart in order to identify different minerals.

Section I: **Cleavage/Fracture**

Materials: Minerals at lab table and Kit A

- 1) Observe the minerals at your lab table. All four of these minerals have cleavage. Sketch what they look like in the data table below.

A (Feldspar)	B (Calcite)	C	D (Muscovite)

If a mineral has cleavage then what should happen when you break it? _____

Look at specimen B, Calcite. Look in ESRT p. 16. Under distinguishing characteristics, how does the ESRT describe the type of cleavage that calcite has? _____ What do you think this means? _____

- 2) Take out Kit A. Observe mineral #2 and #4. Both of these minerals have fracture. Sketch what they look like in the data table below.

Kit A #2	Kit A #4

- 3) Now observe mineral #3 and #15. Sketch what they look like in the data table below.

Kit A #3 (Pyrite)	Kit A #15 (Quartz crystal)

Do you think these minerals have cleavage or fracture? Explain.

Check in your ESRT pg. 16 to see whether these minerals have cleavage or fracture. Write your answer next to the name of the mineral below:

Pyrite: _____ Quartz: _____

Did your hypothesis (in the box) match what the ESRT told you? _____ Why do you think some minerals look like they have cleavage when they only have fracture? _____

Section 2: **Luster**

Materials: Kit A

What is metallic luster? _____

What is nonmetallic luster? _____

For the minerals in Kit A, put a check mark under the metallic or nonmetallic luster column.

Mineral #	Mineral Name	Metallic luster	Nonmetallic luster
1	Galena		
2	Magnetite		
3	Pyrite		
4	Milky Quartz		
5	Sulfur		
6	Microcline Feldspar		
7	Yellow Quartz		
8	Nepheline		
9	Lepidolite		
10	Calcite		
11	Muscovite		
12	Chalcedony		
13	Satin spar gypsum		
14	Alabaster gypsum		
15	Quartz Crystal		

What are 2 other minerals that have metallic luster that are not in Kit A? (Hint: ESRT) _____

What mineral can sometimes look metallic and sometimes nonmetallic? _____

Section 3: **Flowchart**

Materials: Minerals at lab table

In the data table below, test and record the properties of minerals A, B, C, and D

Mineral Letter	Luster Metallic or nonmetallic	Cleavage or fracture	Streak color (if it doesn't leave a streak, put colorless)	Hardness Hard =harder than streak plate Soft =softer than streak plate
A				
B				
C				
D				

Use the flowchart at your table to identify the name of mineral C

Mineral C is _____

How do you know? _____
