Mineral Identification Lab: Pre-Lab Reading

Read through this sheet before beginning the lab

Property Descriptions and Testing Procedures:

Color: This is probably the most easily observed property of minerals. However, color often varies widely and is the least reliable property for identification.

Streak: The color of the mineral when powdered. To test for streak, draw the mineral against an unglazed porcelain tile (streak plate). Streak is more useful for identification than color is.

Hardness: A mineral's hardness is it's resistance to scratching**.** ***Mohs Scale of Hardness,*** this scale uses common everyday objects to test hardness of each mineral sample. Below is the resulting table.

Moh's scale of Hardness	
Rating	*Object used to test Hardness*
1	
2	Fingernail-2.5
3	Penny-3.5
4	Nail-4.5
5	Glass-5.5
6	Steel file-6.5
7	Streak plate-7
8-10	Diamond -10

Cleavage or fracture: These two properties refer to the way in which a mineral breaks. *Cleavage* is an orderly breakage in well-defined planes, meaning the mineral has flat sides. *Fracture* is a random breakage. If a mineral breaks with rough, random surfaces, it is said to have fracture.

Heft: Compare the relative "heft" of a mineral by holding it in your hand and comparing it to other minerals of about the same size. In general, metallic minerals are heavier than non-metallic minerals. For ease, minerals are classified as 1.) light, 2.) heavy, 3.) very heavy.

Luster: Refers to the way that a mineral reflects light. The simplest distinction is between metallic luster (shiny and gold or silver color) and nonmetallic luster (does not look like a metal in color, although it may be shiny). Particular types of nonmetallic luster include pearly, vitreous (glassy), resinous (has the appearance of resin), silky, and earthy (dull).

Other Tests: MAGNET TEST: if one of your rocks is attracted to a magnet, it may be magnetite. But check all the other properties too because other iron ores are also easily magnetized.

Questions to answer on the back of your lab report before beginning the lab.

1. What are the 6 properties used to identify minerals
   a. d.
   b. e.
   c. f.

2. Briefly describe how you would test a mineral for each of these properties
   a. d.
   b. e.
   c. f.

3. What tool is used to determine the streak of a mineral?

4. What is the name of the scale used to determine hardness?

5. What is the difference between cleavage and fracture?

   _____

   _____

6. What are the two major categories of luster?

7. List the various descriptions for Non-Metallic Luster.

*****<u>DATA TABLE (Draw on the back of your lab report. Use extra paper if necessary)</u>.*****

SAMPLE	**Mineral Name**	**Color**	**Streak**	**Hardness**	**Cleavage or Fracture**	**HEFT** Light, Medium, Heavy	**Luster Metallic/ Non-Metallic**	**Magnetic ? Y or N**
A								
B								
C								
D								
E								
F								