GLG | Rock-Forming Mineral Lab **Name** _____ _____

A. Match the following terms.

1. _____	the way light reflects from a mineral's surface	conchoidal fracture
2. _____	type of luster than is opaque, often gold or silver	cleavage
3. _____	incapable of allowing light to pass through	dull - earth
4. _____	the breaking with a curved, shell-like surface rather than along a flat plane	fracture
5. _____	fancy term for shiny, glass-like luster	habit
6. _____	thin coating of of oxidation on the surface	hardness
7. _____	the color of a mineral's powder	luster
8. _____	resistance of a mineral to scratching	metallic
9. _____	term for a crystal's shape	opaque
10. _____	tendency to break cleanly along a smooth plane	streak
11. _____	tendency to break unevenly rather than along a smooth surface	tarnish
12. _____	luster reflecting very little light	vitreous

B. Complete the Mohs Scale

1. _____	2. _____	3. _____	4. _____	5. _____
6. _____	7. _____	8. _____	9. _____	10. _____

C. Answer these Questions

1. Why do minerals occur in crystals and/or crystalline forms?

2. What is weird about calcite and aragonite? Use the term polymorphism in your answer.

3. List 5 crystal forms and a mineral that exhibits that crystal.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

4. After your lab, list 5 silicates from your lab and their formula.

_____/ _____

_____/ _____

_____/ _____

_____/ _____

_____/ _____

D. For each of the following analogies, circle the one word of the four which relates to the single word in the same way as the first pair of words.

1. cinnabar:red	malachite: green, red, yellow, blue	Example rocks:geology cells:biology
2. luster:shine	hardness:powder, split, fizz, scratch	
3. two directions:feldspar	one direction: calcite, halite, mica, galena	
4. reddish-brown:hematite	greenish-black: pyrite, calcite, galena, gold	
5. radioactive: geiger counter	fluorescence: ultraviolet light, X-rays, magnet, acid	
6. muscovite:white	biotite: gold, dark brown-black, grey, silver	
7. diamond:corundum	quartz: topic, calcite, feldspar, fluorite	
8. calcite:carbonate	magnetite: dolomite, silicate, sulfide, ferrous	
9. diamond:adamantine	asbestos: resinous, silky, waxy, vitreous	
10. streak:powder	cleavage: splitting, glowing, scratching, tasting	

E. Complete these sentences with a correct answer.

1. _____ has a specific gravity of 19.3.

2. A common mineral that can be identified by the taste test is _____

3. Cold, dilute hydrochloric (HCl) acid will cause _____ to effervesce, but it takes concentrated or warm HCl to do this to _____

4. Double refraction is exhibited by _____

5. A mineral that ACTS as a magnet is _____

6. A bright, yellow mineral is _____.

7. The hardest *common* mineral is _____

8. _____ is identified by its silvery-white thin sheets.

F. Use this link to match the following terms and properties.

_____ very heavy metallic cubes	apatite
_____ four cleavages on octrahedra	biotite
_____ conchoidal fracture, hardness of 7	calcite
_____ hardest mineral	diamond
_____ black or brown with one perfect cleavage	fluorite
_____ striations on long triangular crystals	galena
_____ feels soapy	halite
_____ bright yellow mineral	hematite
_____ pearly luster, conchoidal fracture	magnetite
_____ easy to identify by taste	opal
_____ scratches fluorite but not feldspar	plagioclase
_____ black, metallic luster, attracted by a magnet	quartz
_____ reacts with HCl	sulfur
_____ striations on best cleavage surface	talc
_____ heavy mineral with reddish brown streak	tourmaline

Rock-Forming Mineral Lab Observations

#	COLOR	STREAK	LUSTER	MOHS #	CRYSTAL	FRAC OR CLEAV	OTHER OBSERVATIONS	MINERAL NAME	FORMULA
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

Color - Just record the color. **| Streak** - Use the streak plates. **| Luster -** Metallic / Glassy / Pearly / Dull-Earth / Fibrous
Mohs # - 1-10. You may use half steps. | **Crystal -** Absent / Cubic / Prismatic / Hexagonal / Sheets
Fracture or Cleavages- Absent, Poor, Good, Excellent, Directions, Conchoidal | **Other -** Magnetism / Striation / Exsolution / Taste / Embedded Frogs / Etc.
Approximate hardnesses - fingernail = 2.5 / copper1¢ = 3.5 / steel nail = 5.1 / glass = 5.5 **Your fingernail may differ.**
Handy Mineral Keys - ASU | Namowitz | MIT | Monterey | MSA

The Choose List - Not all are in your mineral kit.

amethyst	**calcite**	**diamond**	feldspar - **orthoclase**	feldspar - **plagioclase**	**garnet**	**graphite**
halite	**hematite**	**hornblende**/amphibole	mica - **biotite**	mica-**muscovite**	**olivine**	**quartz**

Observations of Each Mineral Under the Stereoscope

Using your stereomicroscope, take notes about each mineral - appearance, striations, apparent/shape of crystals, etc. Start on low power. Move up to high power.

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

7 _____

8 _____

9 _____

10 _____

11 _____

12 _____