NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

SO WHAT DO WE KNOW ABOUT MINERALS QUEST

We calculated the specific gravity and density of assorted minerals, and then performed various physical tests on minerals to determine their identity. Then we were assigned a mineral, and created and presented a PowerPoint to show our knowledge. Now it's time to show how much we have mastered. Feel free to use your Density/Specific Gravity results, Mineral identification labs, and notes on the presentations to help you. Answer the following questions in complete sentences.

1. Describe how you found the density and specific gravity of the samples.

2. Based on what the folks said in their PowerPoints, what must be true about a mineral's formation to allow it to carry the name "mineral?"

3. The PowerPoints described four ways that minerals are created. Describe any three of those ways.

Feldspar is the most common mineral found on Earth. Its chemical formula is (K,Na)AlSi3O8. Answer the following questions based on that formula.

4. Why are the K and Na separated by a comma? How does that mean feldspar is probably formed?

5. Using your periodic table, complete the table below by identifying and telling how many of each element is found in feldspar: Note: "Al" = capital "A" and lower case "L"

|  |  |  |
| --- | --- | --- |
| **Symbol** | **Element** | **How Many** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

6. (K,Na)AlSi3O8 represents one \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of feldspar - the smallest piece you can have. Fill in the blank with the proper chemical term.

EXTRA CREDIT -

Babingtonite **Ca 2 Fe 2 Si 5 O 14 OH** - " It is an unusual mineral in three respects. It contains both divalent (+2) and trivalent (+3) iron ions and this causes a very weak magnetism that could turn the needle of a compass. It is opaque and brilliantly vitreous. It also is the only black mineral found with the typically white or pale colored zeolites. This sets it off and makes it easy to see the normally small crystals among the other minerals in a zeolitic pocket. Babingtonite is somewhat scarce and its presence in a specimen tends to raise the value of the specimen considerably. Babingtonite, although scarce, is found in almost all rare mineral collections." (From the Babington website). Now there's a mineral you don't hear much about, but us Massachusetts folks should know it! What is Babingtonite's **big** claim to fame?