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**Mineral Identification Lab**

**Introduction:** In this activity you will be identifying common minerals by observing physical and chemical characteristics, and matching your observations to those made by mineralogists.

**Procedure:**

1. For each of the minerals in your kit, fill in the properties on the one page chart provided. In order to become familiar with the samples, you should concentrate on one mineral at a time. Do all the necessary tests on that sample before moving on to the next one rather than doing all the colors, then all the streaks, and so on. You can begin with any mineral sample you choose, **but be sure to match the number on the mineral with the same number on the chart!**

* For mineral name: save this box for last (see step 2)
* For color and streak: Try to describe the mineral and its streak using “ordinary” colors. Avoid colors like fuchsia, magenta, etc. These colors are not used on any identification key.
* For luster, cleavage and fracture: Use only the terms discussed in class (in your notes), or your chart won’t match the Key.
* For cleavage, first decide whether or not the sample has cleavage (this may be the best you can do), then try to make more detailed observations if possible. The more precise your observations, the more likely you will be to find a match on the Mineral Identification Key.
* For hardness: **Try to scratch glass first.** The find the mineral with the highest Moh’s number that your sample will scratch, and the one with the lowest number that will scratch your sample. Be sure to try to wipe the scratch off – it may not be a scratch, but rather a “streak”. Scratch your sample with the known hardness sample, then scratch the known sample with yours to be sure. With hard minerals, you may have to bear down a bit when scratching. If you can’t tell which mineral is scratching which, they may have the same hardness. **Return the samples to the proper container!**
* For other: Look for special properties (magnetism, reaction to acid, odor, etc.) and other observations that may come in handy (crystal shape). You may perform the acid test (for calcite) on only one sample in your kit, and only after you have completed all the other observations.

1. When your chart is complete, show it to your instructor and receive a copy of the Mineral Identification Key. Compare your observations with the properties on the Key to identify your samples by name. Do the ones you consider to be the easiest first. Do not expect your observations to exactly match those on the Key, but try to make the best match possible. Concentrate mostly on the distinguishing properties (in italics on the Key). **Do not change your observations to try to match the Key!** Carefully collected, honest data that differs from the Key will not have a negative effect on your lab grade, but misleading yourself with bogus data will.

S. Dacey 2000