

Mineral Identification

Identifying Minerals

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SUMMARY

We learned there are a number of tests done to a mineral to learn its properties. Scientists compare these properties to known minerals to identify an unknown mineral.

- There is no single test that will identify a mineral. (Much like when you play "Guess Who?" you need to use lots of descriptions to find the correct person.)
- Scientists must use a number of the property tests (hardness, color, streak, etc.) to identify a mineral.
- Some tests are better than others because their results are consistent from mineral sample to sample. For example, all pieces of quartz will have the same hardness and density.
- There are four tests that return consistent results:
 - Streak
 - Density
 - Cleaving/Fracturing
 - Hardness
- These tests remain consistent because of the mineral's chemical composition.
- To identify a mineral, scientists will perform the tests for the properties. When they have their data, they compare it to known minerals. If the properties of an unknown mineral sample match those of a known sample, they found the identity of a mineral.
- Example: you have an unknown mineral. It is clear, has a glassy luster, has a white streak, a hardness of 7, and a density of 2.6. If you compare this to a list of minerals, you would see it has the same characteristics as quartz! Therefore, you can infer that your unknown mineral is quartz.