

## Lab: Mineral Identification Online Instructions (under development)

Your lab this week is on minerals, the building blocks of rocks (which we will study in detail later). Minerals are also essential material components of our modern civilization. A knowledge of minerals broadens our understanding of the sources for many of our everyday items, like cellphones and highways. Some minerals are very abundant in earth's crust, while others are quite uncommon or even rare.

Your overall learning objectives include the following:

- learn the properties of minerals and how to recognize them in samples
- learn how to use mineral properties to identify them by name
- learn some uses for minerals

Although a traditional lab experience in mineral identification includes working with samples and some simple equipment, almost all of the traditional procedures for determining mineral properties important in identification may be viewed and evaluated through online media, including images, short videos, and relevant text.

As always, consult your instructor or teaching assistant with any questions.

Access materials online that you will need to complete this assignment. Here is the website

**Mineral ID – A Practical Online Study Guide by Scott Brande (UAB)**

<https://sites.google.com/view/mineral-study-guide/>

This online resource collection will be a useful supplement while you identify minerals during the lab period, when you need to review procedures after lab, and as preparation for the quiz that follows the lab.

If you miss the mineral identification lab, you should be able to work through the online resources included here, study this material, and learn essential information that you'll need for the quiz that follows this lab.

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## Pre-Lab Assignments

Access materials online that you will need to complete this assignment. Here is the website

### Mineral ID – A Practical Online Study Guide by Scott Brande (UAB)

<https://sites.google.com/view/mineral-study-guide/>

In preparation for lab, you should complete these pre-lab assignments. You will be better prepared for the lab activities, and you will learn more and learn faster. These pre-lab assignments should take you no more than about an hour to complete.

- These assignments will help you to begin to acquire a vocabulary of terms associated with minerals.
- The Mineral Demand activity will introduce you to the geographic distribution of non-fuel minerals in the U.S.
- Hit the new website that holds resources for mineral identification. Spend a few minutes of your time with the navigation menus and sections to familiarize yourself with the site's organizational structure. Your time spent before lab will be rewarded with a faster completion of its activities.

Submit your completed assignments per instructions.

#	Pre-Lab Assignment	Webpage Link	Special Instructions (if any)
1	A Concept Map for Minerals	<a href="https://sites.google.com/view/mineral-study-guide/activities?authuser=0#h.p_ynorOuNTn2o8">https://sites.google.com/view/mineral-study-guide/activities?authuser=0#h.p_ynorOuNTn2o8</a>	Click to open, download, print, and complete the assignment in this PDF document.
2	Vocabulary	<a href="https://sites.google.com/view/mineral-study-guide/activities?authuser=0#h.p_vFo5U6Nt-Wjx">https://sites.google.com/view/mineral-study-guide/activities?authuser=0#h.p_vFo5U6Nt-Wjx</a>	Read the section <b>Vocabulary</b> on the webpage. Click to open, download, and complete the assignment in this PDF document.
3	Review Organization and Navigation of Website	<a href="https://sites.google.com/view/mineral-study-guide/home?authuser=0#h.p_gCzxNzqnWanS">https://sites.google.com/view/mineral-study-guide/home?authuser=0#h.p_gCzxNzqnWanS</a>	Familiarize yourself with the website, its sections, and topic pages. Click around and confirm you can read text, see images, and watch videos. Report any problems to your instructor.
4	Access Data Form	<a href="https://sites.google.com/view/mineral-study-guide/data-form?authuser=0">https://sites.google.com/view/mineral-study-guide/data-form?authuser=0</a>	Download and print one or two copies and bring them to lab. These are for recording your data when identifying mineral samples.
5	Review Mineral Properties for Identification	<a href="https://sites.google.com/view/mineral-study-guide/testing-mineral-properties?authuser=0">https://sites.google.com/view/mineral-study-guide/testing-mineral-properties?authuser=0</a>	Read explanatory text. Review webpage for each mineral property. You will need to be familiar with these to observe them in lab.



## In-Lab Activities

Access materials online that you will need to complete this assignment. Here is the website  
**Mineral ID – A Practical Online Study Guide by Scott Brande (UAB)**  
<https://sites.google.com/view/mineral-study-guide/>

Whether you attend the mineral identification lab in person, or if you miss lab and you need to complete the lab assignments later, use the online resources and submit your work according to directions from your instructor.

Technology requirements: access to the web; laptop (any type), or cellphone

### Review Navigation and Content of Online Study Guide

The website includes numerous sections and webpages. When you are familiar with the organization of the website through the navigation menu and buttons, you will be able to work faster and more efficiently.

If you didn't finish familiarizing yourself with the website in the pre-lab assignment, you should do so now. **Follow instructions (above) in Pre-Lab Assignment #3, #4, #5.**

### Make Observations and Identify Minerals

You will identify minerals by making observations of their properties (now you know why you need to be familiar with mineral properties!) and comparing the properties of these unknown samples to a table of known minerals and their properties.

Your set of unknown minerals assigned for identification are found on the page of **Unknown Samples**. The unknown minerals assigned are the following.

<b>A01</b>	<b>A03</b>	<b>A04</b>	<b>A05</b>	<b>A06</b>	<b>A07</b>	<b>A08</b>	<b>A09</b>	<b>A11</b>	<b>A13a</b>
<b>A14</b>	<b>A20</b>								

On the webpage **Identify Unknowns**, follow **Student Instructions** for observing and identifying unknown mineral samples.



## Post-lab Assignments

It would be presumptuous to say that we “learn” what we need to know while identifying minerals for the first time. It may be more accurate to say that we “become acquainted with” new vocabulary, new knowledge and concepts, and new procedures the first time we encounter them.

So it may be better to say that a lot of “learning” actually takes place after that first encounter with new information. The formation of longer-term memory, cognitive psychologists tell us, occurs with repetition and over time.

Your post-lab assignments include review of what you learned in lab, and some web activities that broaden your knowledge of minerals through applications.

#	Post-Lab Assignment	Webpage Link	Special Instructions (if any)
1	Mineral Resource Demand	<a href="https://sites.google.com/view/mineral-study-guide/activities?authuser=0#h.p_wiFZaDrQ5F2a">https://sites.google.com/view/mineral-study-guide/activities?authuser=0#h.p_wiFZaDrQ5F2a</a>	Read the section <b>Mineral Resource Demand Activity</b> on the webpage. Click to open, download, and complete the assignment in this PDF document.
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