

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**EES 104 – SPRING 2008  
INTERNET ASSIGNMENT #1  
due Tuesday February 26  
(15 points)**

This exercise introduces aspects of an on-line resource that will be helpful when preparing for laboratory tests on identifying minerals and rocks, as well as being introduced to on-line data bases that search the professional literature. When you have finished the assignment you should:

- (1) have a better understanding of the procedure used to identify minerals,
- (2) be able to use the Georef to locate geologic papers

### What to hand in?

This assignment is due Tuesday February 26. All reports **MUST** be stapled and include:

- a) A simple title page complete with name of report, student name, date, instructor and course number.
- b) Completed answers to all questions using the space provided in the question sheet.
- c) Original black and white or color printouts (photocopies will **not** be accepted) for Internet questions as requested in part II (please **do NOT** hand in pages that are not required). Any pages added to the report should be stapled to the end of the report and **should have the question number written on them.**

Points will be deducted if these instructions are not followed.

### SPECIAL COMPUTER REQUIREMENTS FOR PART #1

LTES makes extensive use of streaming video content which is not guaranteed to work on all computers. However, all parts of this assignment have been tested and will work on computers on the second floor of the library and the computer lab on the 4<sup>th</sup> floor of Webb Hall. Be aware that you will need to both view the video and hear the audio. This will require that you bring headphones or sign them out from the library. Please read the following carefully before completing part 1:

- If the web site does not play properly on your dorm room computer or some other computer you are using, go to either the 2<sup>nd</sup> floor of the library, or the 4<sup>th</sup> floor computer lab in Webb Hall
- Bring headphones, or sign them out from the library.
- Log on to a PC and use Internet Explorer (some content does not work on Mac's or with other browsers).
- You may need to allow blocked content (follow directions that appear if a pop-up blocker message arises)
- Uncheck any and all mute boxes for the audio control on the computer you log on to. To do this:
  - (1) right-mouse click on the small speaker phone in the lower right corner of the screen (if you don't see a speaker you may need to click on the left-pointing white arrow in order to expand the view of options for the computer).
  - (2) Click on "Open Volume Control" and make sure all mute boxes are unchecked.
  - (3) Please **DO NOT** leave part #1 to the night before the assignment is due !!!

## Part 1 – Learning Tools in Earth Science

As mentioned above, LTES is an on-line resource developed at ECSU. To use this resource you will need to log on to the internet using **Microsoft Internet Explorer** on a **PC** with a **high-speed connection** (other browsers, computer types, or connection speeds will not work properly; computers in the ECSU library and 4<sup>th</sup> floor Webb computing room will work). Utilizing a computer with this configuration navigate to the LTES home page (either by typing in the url below, or clicking the link from my home page):

<http://www.easternct.edu/depts/LTES/LTES-ver5/>

Navigation for LTES is performed by accessing one of four drop-down menus below the front-page photograph. “About LT’s” and “Other Resources” provide background information about the site. All questions below pertain to either the “Mineral Module” or the “VFT Module”, where VFT stands for virtual field trip. Mouse over each heading to see what the drop-down menus connect to.

### Mineral Identification Questions

1. Mouse over the “Mineral Module” heading and select “Explanation of Tests.” This page provides video explanations for a number of physical tests performed on minerals. View the explanation for mineral hardness and answer the following:
  - a) What is Moh’s scale of hardness?
  - b) What mineral has a hardness of 2 on Moh’s scale of harness?
  - c) Is this mineral twice as hard as talc?
2. Navigate back to the LTES home and then mouse over the “Mineral Module” heading and select “Mineral Gallery” to access images of identified minerals that can be rotated and viewed by dragging across the image. Click on “Calcite” which is the 4<sup>th</sup> mineral to the right in the first row. Left mouse click on the image that comes up, hold your finger down and drag across the image to change your view.
  - a) What is the chemical formula for calcite?
  - b) Left-mouse click and drag across the image (again, you must use a PC and MS Internet Explorer as your browser for this to work). As the sample rotates take note of the angle between flat surfaces for the orange colored sample. Does this angle differ from a 90° angle?
  - c) Return to the mineral gallery and select “Dolomite – sample 1” (second row down, second sample from left). Click and drag across this sample. Note that, while the chemistry differs, this sample also contains crystals with a similar angle between faces. What is the name given to the shape of these crystals (read the headings on this page carefully)?

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3. Close this window, and navigate back to the “Explanations of Tests” page. View the “Special Properties – reaction with acid (bottom row, left-most icon).
  - a) In what way do calcite and dolomite reactions with acid differ?
  
4. Close the window, and return to the LTES home page, by mousing over “About LT’s” and clicking on “Learning Tools home.” Now, mouse over “Mineral Module” and click on “select a mineral.” You are presented with a virtual mineral box that contains 24 unidentified minerals (incidentally, these minerals are the same ones used in lab – you may want to use this resource to help study for your mineral identification lab test!). Click on “mineral number 21.” This mineral should be familiar to you by now.
  - a) Mouse over “Luster” and click on “Test Mineral’s Luster.” Click and drag across this image and decide whether this mineral has a metallic or non-metallic luster. Once you have decided, close the test window to return to the main testing page. Mouse over “Select a Mineral Table.” Which table (1, 2, or 3) would be most helpful for identifying this mineral?
    - b) Is this mineral harder or softer than a glass plate?
  
    - c) Mouse over “Cleavage/Fracture” and click on “break sample.” Does this sample display cleavage? If so, how many planes of cleavage are there?
  
    - d) Mouse over “Additional Tests” and “Test with Acid.” What is this mineral?

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5. Close the window, mouse over “Home/Another Mineral” and click on “Select Another Mineral.” Select and identify 4 additional minerals of your choosing, indicating whether the mineral you selected has a metallic or nonmetallic luster, its hardness range, and the name of the mineral.

Mineral Number	Luster (M or NM)	Hardness Range	Mineral Name

6. Return to the LTES home page and click on “Mineral Module” and choose “Explanation of Tests.” Select one of the tests presented, indicate which test you viewed, and summarize how the test is performed and its purpose.

7. Please provide feedback on the mineral part of this web site – indicate problems that you encountered, whether you thought the site was useful, suggestions for improvements (everyone who gives a serious answer to this will receive full points regardless of what you say – i.e. be honest please!).

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### **FINDING PROFESSIONAL PERIODICAL LITERATURE USING ECSU SEARCH ENGINES**

Although the Internet does provide a wealth of information, in the sciences conventional sources (books, journal articles, etc.) are almost always superior. This is largely because books and journal articles have undergone peer review, and therefore are usually more reliable. Happily, the Internet has also improved the ability to find conventional sources of information for virtually all disciplines.

To answer this question you must either use a computer in the ECSU library (where data base connections are easy to access), or have spoken with people in the library to learn how you can access library data bases from your home computer. It is most likely that you will not be able to answer this question from your home computer (unless you live on campus).

Log on to a machine in the ECSU library and navigate to the library home page at:

<http://www.easternct.edu/smithlibrary/>

There are many useful resources that may be accessed from this site. The following walks through using one of the on-line data bases capable of searching the professional periodical literature.

8. Place your cursor on "databases" near the top of the screen, and select "Database A to Z", then choose letter "G" and click on the database called "**Georef**" (make sure you select Georef!).

Georef is the premiere search engine for locating geologic articles and books. You will find many other data bases that do similar searches for other topics (i.e. this information may be helpful as you write essays for other classes).

**Perform a Quick Search** to locate a paper on volcanoes that interests you. To do this simply type an appropriate key word (something geologic) in the blank panel left of the "Search" button. Click the panel "Peer-reviewed Journals" and click on the title of a paper that looks interesting.

- a) In order to avoid some pop-up blocking software, create a print out of this page by clicking "**File**" and then "**print**" from the top of your screen. Include the print out with your report making sure to write the question number on the top of the printout, and stapling the print out to the end of this assignment.
  - b) Notice that the records that come up have many hot links (blue text). Select a hot link and complete the search that it initiates in order to find a second article on volcanoes that differs from the first. **Print out** the results of this second search the same way you did in part (a). Include the print out making sure to write the question number on the top of the print out.
9. Navigate back to the library home page, then select "Databases by subject" and click on a topic that relates to your academic interests. Give the name of a data base (other than Georef) that relates to your interests.
  10. Make sure your report follows the guidelines indicated under "What to Hand In?" on the first page of this assignment.