

# ESC 115 Physical Geology

Spring (Winter?) 2008

## Test 1

The first 10 questions refer to the slides we will view together in class. Please use the space provided to answer the questions.

1. Explain the relationship of the figure shown to the geology and history of Dubuque. Provide at least three examples.

2. How could you test to see if the mineral shown is quartz, calcite, or halite?

3. What is the mineral shown? What element is it made of? How are the atoms bonded?

4. What is the substance shown? What are three of its properties? How are the atoms bonded?

5. What is the age of the rocks that Dubuque is located upon? What is the age of the thin yellow layer shown in the figure? What does it represent? Why are rocks of Mesozoic age missing from Iowa?

6. Specify rock layers from youngest to oldest:

What is the difference between absolute age dating and relative age dating?

7. What is the area marked with an X? Why does it matter to us here in Dubuque? Why is Dubuque's landscape so different from Des Moines?

8. What is the difference between  $^{12}C$  and  $^{14}C$ ? What is  $^{14}C$  used for?

9. What happened at the location circled in red? What are two types of evidence?
10. What process is being shown in the figure? When seawater evaporates, what are two evaporites that may form? What are two effects of hydrogen bonds?
11. It certainly seems to have snowed a lot in Iowa this winter. Explain the process that causes snow.
12. How do the phrase “Resistant rocks stand high in relief,” waterfalls, and underwear, all relate?

13. What are three ways that rocks relate to my dad's heart attack (and mom's separation of the fat from the meat)?

14. *Student question:* Why is it important to take all your antibiotics when you are sick?

15. Construct a diagram of the rock cycle, including the processes for forming the rocks.