

ESC 115 Physical Geology

Spring, 2010

Test 1

The first 12 questions refer to the slides we will view together in class. Please use the space provided to answer the questions.

1. **4 pts** How were the rocks shown likely transported? Why do you think so?
2. **6 pts** Sodium (Na) is an explosive metal. Chlorine (Cl₂) is a poisonous gas. How are they bonded together in this mineral? What are two properties of the mineral the mineral?
3. **6 pts** How could you tell if the mineral shown is calcite, quartz, or halite? Explain.
4. **4 pts** The bonding shown is for a silicate mineral. Is it likely to be felsic or mafic? Explain.
5. **6 pts** What are three properties of water that result from hydrogen bonds, as shown in the figure?
6. **4 pts** What type of bond is present in the mineral shown? How is it similar to graphite? How is it different?

7. **4 pts** What is an isotope? What is a radioactive isotope used for? What is C^{14} in particular useful for?
8. **4 pts** How does the picture shown relate to the history of Dubuque, in terms of geology? Explain.
9. **4 pts** How does geology relate to the making of underwear in North Carolina? Explain.
10. **4 pts** The fossil shown is a trilobite. How does it relate to the age of rocks beneath Dubuque? What is the geologic term for their age? What is the age of the rocks under the Dubuque airport?
11. **4 pts** Dubuque is on the edge of the Driftless Zone. What are two effects?
12. **4 pts** Explain the figure shown. Bonus: Name the mineral.

13. **9 pts** Sketch and label the rock cycle, including the processes for forming the rocks.

14. **4 pts** Explain the competition for resources in the Boundary Waters Area.

15. **4 pts** Why is it important to take all your antibiotics when you are sick? Explain.

16. **4 pts** What are two ways nutrients enter Iowa's surface water?

17. **3 pts** What is the difference between absolute and relative age-dating?

18. **3 pts** If we get snow this week in Iowa, explain the likely cause.
19. **4 pts** What are two types of evidence for the meteorite impact that caused the dinosaurs to become extinct?
20. **10 pts** Construct a chart to show at least 4 differences between felsic and mafic silicate minerals. Which is more commonly found on continents? Why?
21. **5 pts** What was one review question not used on the test that you prepared for? Answer it.