

Session 1 – Homework
Iowa's Geological/Fossil Resources

Name _____

You just received incomplete summary of geologic processes, or the geologic foundation that will set the stage for our future discussions and summer workshop. 1 pt. each for the multiple choice

____ 1. This State Geologist of Iowa stated "The pure science of today becomes the basis of the applied science of tomorrow, and enlightened states, the world over, realize that money expended for the prosecution and encouragement of scientific research, is money well invested.

- A. A.C. Trowbridge B. James Hall C. Samuel Calvin D. Keith Schilling

____ 2. Which famous polymath recognized marine shells/fossils nearly 100km away from western Italy shoreline, sparking a new line of inquiry.

- A. Michealangelo B. Galileo C. James Huton D. Leonardo da Vinci

____ 3. The Earth is ____?____ billion years old.

- A. 1.6 B. 2.6 C. 3.6 D. 4.6

____ 4. The oldest rocks in Iowa are ____?__ billion years old.

- A. 1.6 B. 2.6 C. 3.6 D. 4.6

2a. What accounts for the missing record/time?

____ 5. This Iowan used Uranium to Lead isotopic decay to help date the age of the Earth.

- A. Aldo Leopold B. Norman Borlong C. Clair Patterson D. Raymond Anderson

____ 6. The process of dolomitization replaces calcium with this element.

- A. Silicon B. Iron C. Magnesium D. Sodium

____ 7. The Iowa Formation, Floyd-Mitchell County, is so fine grained/pure that it was once used for....

- A. Lithographs B. Gravel roads C. Pitchers mounds D. Boat docks

____ 8. The sedimentary part of the rock cycle that occurs due to decreased energy...

- A. Transportation B. Lithification C. Cementation D. Deposition

9. Using the following data engines to link Session 1 with an area of Iowa... E.g. could be your School's county OR an area that you find interesting, and you want to learn more about...

Data engines – Links also provided on our webpage...

A. [IGS publications](#) > Select your county of interest > click search

B. IGS GeoSam > Text-Based Search > Select your county of interest > Identify the number of well records in the county, the top five deepest cores and snoop around and find a few wells that interest you (ideally with green dots, they have the most info., click on one or two and try to describe what you find.

C. [IGS GeoLab](#) > Text-Based Search > Select your county of interest > Turn on all options e.g. Grain size, Clay Min. pXRF etc.

Write a characterization of your desired county. No more than two paragraphs that describes the county's bedrock and surficial geology. In addition to the digital search engines please use the Session 1 presentation for information. If your county does not have GeoLab/Geochemical data try an adjacent county. (10)

10. Relative age dating exercises, oldest (bottom) to youngest (top)

