

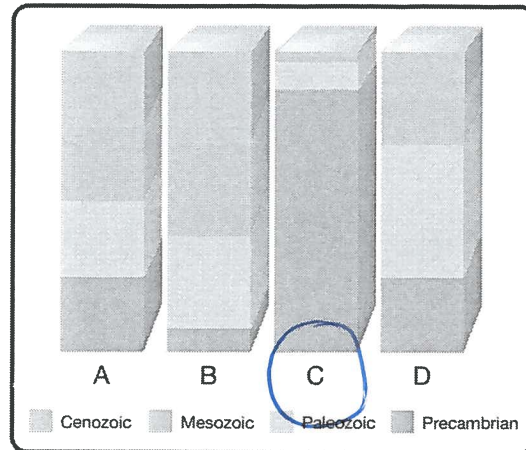
## Chapter 1 Review Questions

Science 20 - Geology

1. List the four eras of geologic time. (1 mark)

Precambrian, Paleozoic, Mesozoic, Cenozoic

2. Which of the diagrams below is the most accurate representation of time for the combined four eras? (1 mark)



3. What is an outcrop? Where can the oldest outcrop in Alberta be found? (2 mark)

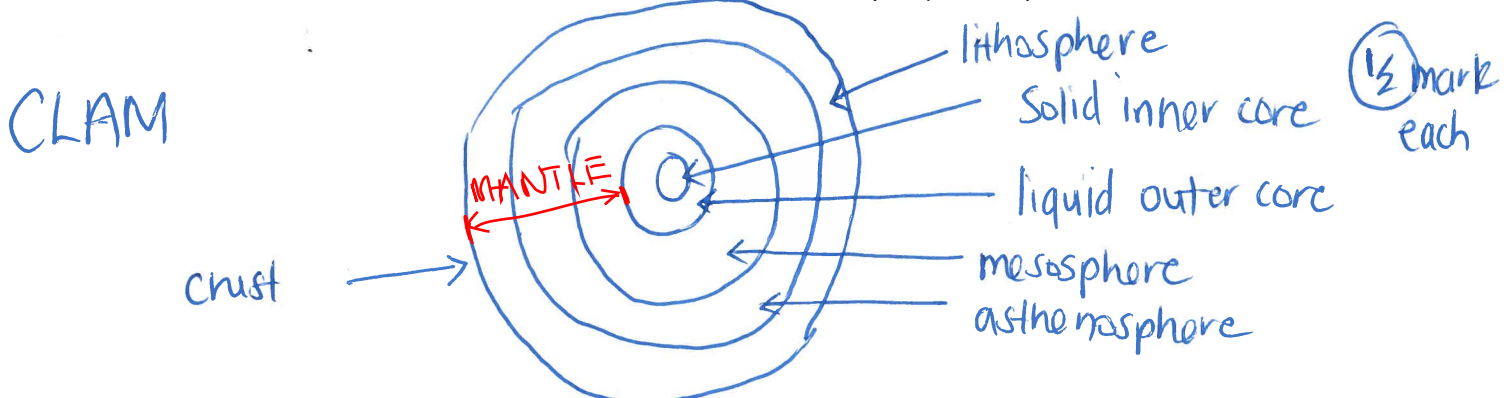
→ exposed rock that was once covered

→ Canadian Shield or northern Alberta

4. Zone of rock within Earth's mantle behave as plastic. Explain this statement. (1 mark)

always moving

5. Sketch a diagram showing the layers within Earth. Label each layer. (3 marks)



6. Briefly explain how fossils are formed and how they end up high above sea level. (3 marks)

animal dies, covered with sediment

more sediment, + pressure + time

water drains - fossil lifts - erosion

7. Explain the difference between relative and absolute dating. Include the major methods used to determine each age. (3 marks)

↓  
in relation to other rocks (1) → # age (1)  
- law of superposition (1/2)  
- index fossils  
- radioactivity (1/2)  
- mass spectrometer

8. Define the term index fossil. What is special about it and what is used for? (2 marks)

/ → only found in 1 layer (1)  
used to correlate rock layers in different locations (1)

9. Describe the theory of uniformitarianism. (1 mark)

history repeats itself = to get answers look at the past (1)

10. Identify and briefly explain how each form of rock is made. (3 marks)

igneous - cooled molten lava (1)  
sedimentary - layers of sediment (1) (1)  
metamorphic - heat/pressure = to other rock = changes

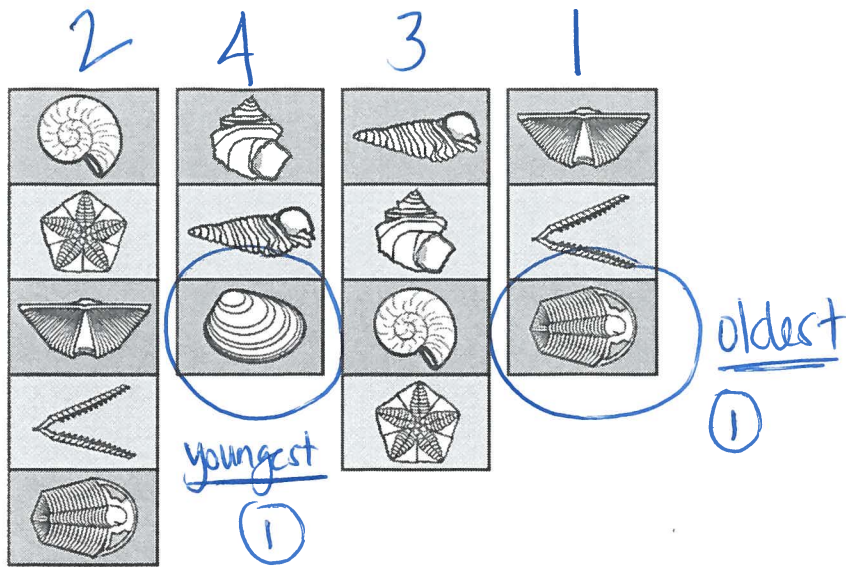
11. Explain why a body of intrusive, igneous rock must be younger than the surrounding rock. (1 mark)

break in pre-existing rock is needed to allow an (1)  
intrusion to occur.

12. Describe the process of radioactive decay. (1 mark)

when an unstable nucleus releases energy to become more stable (1)

13.



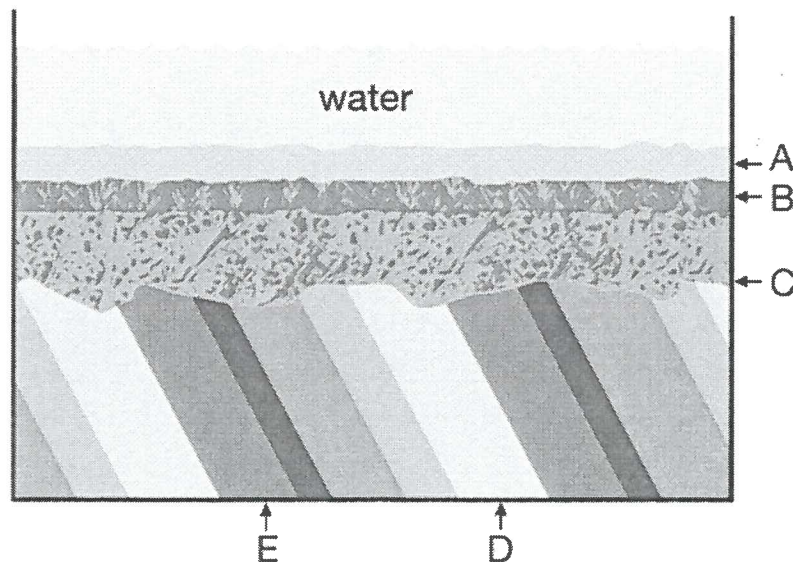
a) Explain how the sequences above can be combined to build a larger stratigraphic sequence. (1 mark)

*same fossil - same layer - then piece them together*

b) Sketch the combined stratigraphic sequence. (1 mark)

c) Label the oldest layer and the youngest layer. What is the law called? (2 marks)

14.



a) List rock layers A, B, D, and E in order of age from oldest to youngest. (2 marks)

*E, D, B, A* (1/2 mark each)

b) Explain how the identified layers become tilted. (1 mark)

*pressure, - shifting plates* ①

c) Explain what event has occurred at C. Define what this is called. (2 marks)

*unconformity* ①

*erosion - long period* ①

