EPSc 116A: Resources of the Earth  
Lec.3: Questions to Guide you through the Video “How Was the Earth Formed?"


Watch and listen for:
– The sequences of events, as described, e.g., what led to what and why?

– The evidence given for why the ideas presented are at least plausible.

– How specific events described control/affect the nature of the resources available on Earth.

Questions

1. Why is it so hard (even for geologists!) to find clues to the birth of the Earth?

2. Why would scientists rely on meteorites to provide clues a) to what happened at the beginning of Earth’s existence and b) to the age of the Earth?

3. In the discussion about Earth’s formation as the culmination of repeated aggregation of initially dust-size particles, what evidence was given for what causes particles to glom together?

4. What were those particles in space made of?

5. In the very beginning of the development of our solar system, why did objects that already were quite large early on quickly become bigger?

6. What happened shortly after the entire early Earth fully melted?

7. How/why did cooling and solidification of the molten Earth occur?
8. What were some of the ways used to gain knowledge of how old the Earth is?

9. How old is the meteor that made Meteor Crater in Arizona?

10. How do many scientists now believe that Earth’s moon formed? Based on what evidence?

11. How does the proposed formation mechanism (question 10) account for the fact that rocks brought back from the moon have a much lower concentration of iron than do Earth rocks?

12. What was the young Canadian Ph.D. student looking at/for in those strange-looking rocks?

13. What information and insights came from the age-dating of those strange-looking rocks?

14. From what depth did those rocks appear to come from, and what can we infer based on the answer to that question?

15. What did some different, still very old rocks (> 4 billion years old) called banded iron formations, tell us about the history of water on Earth?

16. Where do many scientists think that the water on Earth actually came from? Why?

17. What did the Allende meteorite (found in Mexico) contain that was important to the question of the origin of life on Earth?

18. How old are the oldest coral-like stromatolites now found as fossils on Earth?

19. How did ancient bacteria, like those in modern stromatolites, change Earth’s atmosphere?

Please note that your assignment for next Monday is to read Chapter 11 in your text and to turn in the write-up on the Science News article passed out in class on Monday.

In preparation for next class: There are more elements than just hydrogen and oxygen in natural waters (e.g., streams, lakes, well water). Ask 2 people why they think that is so.