

Questions for discussion 4

The answers to these questions may be found in the reading, but occasional outside references may be needed. These questions are due Tuesday, May 2, in class.

1. What's a "facies"? How are they figured out? How do they help make a map of an area during the Eocene epoch?

2. After the material of the Earth initially accreted (gravitationally clumped together), it is thought that the whole Earth was solid. Yet shortly after that (what the book calls the "embryonic Earth"), the entire planet becomes molten. Describe a couple of theories as to where all the heat needed to melt all of the rocks of Earth came from.

3. Describe a couple of theories as to how the Earth got its first large biological precursor (not living, but living things need them) molecules. Hint: abiotic synthesis.

4. What does the text define as the two distinguishing characteristics of life on this planet?

5. Where did all of this free oxygen (O_2 gas) come from, initially? Is this still a major source today, or is there a more recently developed major source of oxygen? How do we know when lots of free oxygen shows up in the Earth's atmosphere, anyway?