

1. How does the method of dating climate records vary with the type of archive?
2. How does the resolution from sedimentary archives vary with depositional environment?
3. How do the processes that control $\delta^{18}\text{O}$ changes in ice sheets differ from those that control $\delta^{18}\text{O}$ fluctuations in ocean cores?
4. What climate factors affect the removal of CO_2 from the atmosphere by chemical weathering?
5. Where did the extra CO_2 from Earth's early atmosphere go?
6. What is the central concept behind the BLAG (spreading rate) hypothesis?
7. The volume of water in the world ocean is 48.5 times larger than the amount stored in the two largest ice sheets. The average $\delta^{18}\text{O}$ value of the ocean is near zero, while the mean $\delta^{18}\text{O}$ value of ice on Antarctica and Greenland is 250‰. Show a calculation indicating how much the mean $\delta^{18}\text{O}$ value of ocean water would decrease if the two ice sheets melted.
8. Why does Earth have seasons?
9. When is Earth closest to the Sun in its present orbit? How does this "close pass" position affect the amount of radiation received on Earth?
10. Do insolation changes during summer and winter have the same or opposite timing at any single location on Earth? Why or why not?
11. In what way is the orbital monsoon hypothesis an extension of processes driving modern monsoons?
12. What is the best method of measuring the melting of ice sheets over the last 17,000 years?