

HOMEWORK SET 8

Due October 15, Thursday

1. Give two reasons why geologists believe that Earth's core is in a liquid state.
2. What is the ratio of the gravitational force of the Moon on the part of the Earth closest to the Moon to the force on the part of the Earth farthest away from the Moon? Assume that the radius of the Earth is 6,500 km and that the distance from the center of the Earth to the Moon is 400,000 km.
3. At 2 cm/yr, how long would it take a typical plate to traverse the present width of the Atlantic Ocean, about 6,000 km?
4. Given that the Moon lies 384,000 km from Earth's center and orbits once every 27.3 days, calculate the orbit period of the Hubble Space Telescope, 400 km above Earth's surface.
5. How might Earth's magnetic field reversals affect the evolution of life on our planet?