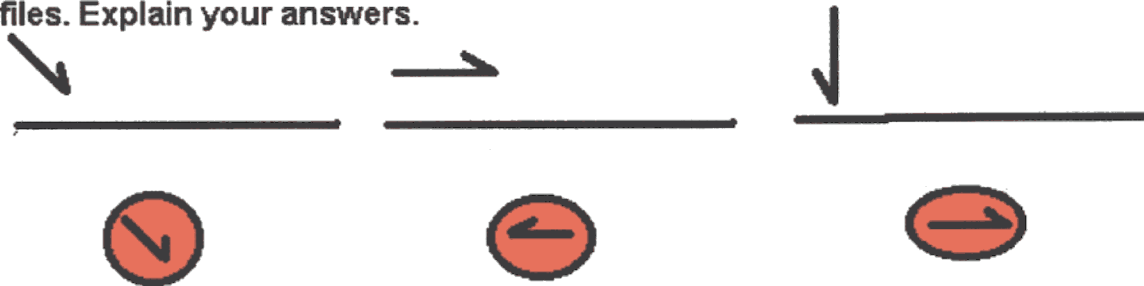


1. Write down the Biot-Savart Law relating magnetic fields to electrical currents. Explain what each variable or constant is. Give units of each. Illustrate the relationship with a simple example.

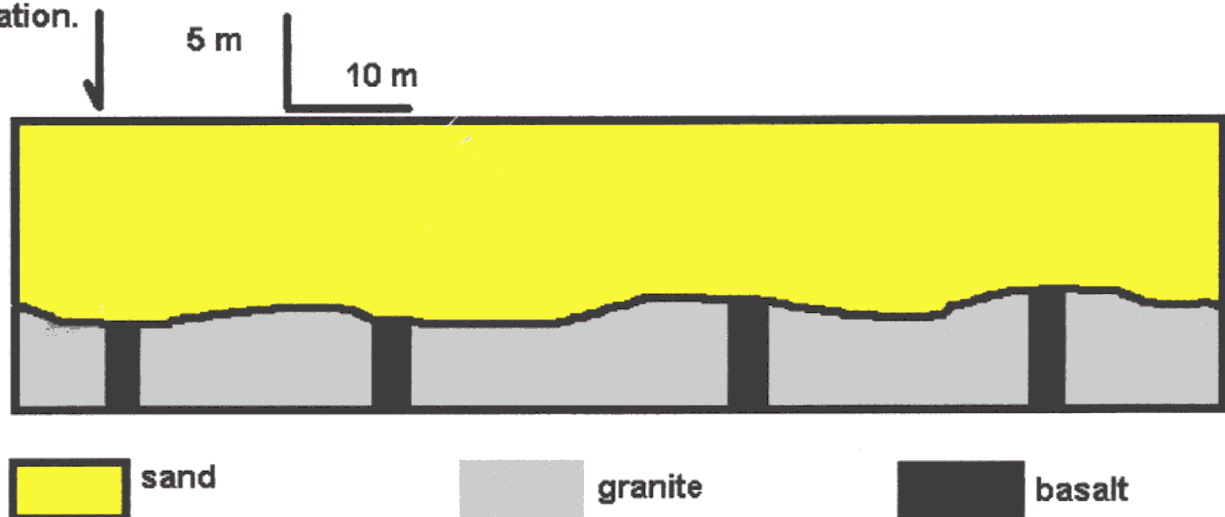
2. Describe the magnetic field of the earth (pattern, intensity, etc.).

3. Write about the diurnal variation of the field OR the secular variation (cause, characteristics, importance, utility, etc.).

4. Sketch expected total field anomalies over these bodies. Consider only south to north profiles. Explain your answers.



5. Compare and contrast two geophysical methods for estimating bedrock depth for this situation.



6. Define "magnetic susceptibility". What are the three main kinds of susceptibility? What are the basic causes of each?

7. Compare and contrast the gravity and magnetic methods for answering these three questions:

- A. the size and location of a karst cavern,
- B. the paleolatitude of a pluton, and
- C. the location of gold-rich placers in sedimentary rock.