PhyzJob: Field Concepts

1. What is a field? What information is communicated when one speaks of a gravitational field or electric field?

2. a. What must an object have to *create* a gravitational field?

   b. What must an object have to *create* an electric field?

3. a. What types of objects are *affected* by a gravitational field, and what effect(s) does the field have on them?

   b. What types of objects are *affected* by an electric field, and what effect(s) does the field have on them?

4. a. At a given place in a gravitational field (for example, near the surface of the earth), are all objects acted on with the same gravitational *force?* If not, what other factor(s) determine the magnitude of the force? Explain.

   b. At a given place in an electric field (for example, near the surface of a charged Van de Graaff generator), are all objects acted on with the same *force?* If not, what other factor(s) determine the magnitude of the force? Explain.

5. a. Describe the dependence of gravitational field strength on
   i. the **mass** of the field-creating object.

   ii. the **distance** from the field-creating object.

   b. Describe the dependence of electric field strength near a spherical charge on
   i. the **charge** of the field-creating object.

   ii. the **distance** from the field-creating object.