Electric forces and charges Mr. Stewart

Physical Science November, 2012

1. What three forces of nature were known by the early 19th century?
2. What had physicists narrowed natural forces down to by the end of the 19th century?
3. What natural forces did physicists believe in the 20th century?
4. Later, they narrowed the natural forces down to what?
5. Like electrical forces \_\_\_\_\_. Unlike electrical forces \_\_\_\_\_.
6. Protons carry \_\_\_\_\_. Protons are located in \_\_\_\_\_\_. Protons are held in place by \_\_\_\_.
7. Ordinary matter contains \_\_\_\_ & \_\_\_\_\_. What makes an object electrically neutral?
8. Objects can lose or gain \_\_\_\_. What is static electricity?
9. What is the unit of electric charge?
10. What causes an object to be negative? To be positive? To be neutral?
11. A coulomb equals how many electrons?
12. What is the structure of an atom? Where is the positive charge located?
13. What direction does a current travel?
14. What is current?
15. What are two basic types of materials?
16. What is the difference between a conductor and an insulator?
17. What is a semiconductor?
18. What is charging by friction?
19. What is a superconductor?
20. What is polarization of an electric charge?
21. What happens to charges if they move closer together?
    1. What happens if the amount (magnitude) of the charge gets larger?
22. Where is the force between charges directed?
    1. What are two electric forces?
23. What happens to the force if you double a charge?
24. What happens to the force if you double the distance between forces?
25. What exerts force on mass?
26. What is the difference between a gravitational field and an electric field?
27. Which are weaker? Gravitational or electric fields?
28. Electric field lines always point \_\_\_\_\_.
29. Charge creates an \_\_\_\_\_\_ that creates \_\_\_\_\_\_ on other \_\_\_\_\_.
30. What is action at a distance?
31. What sets up an electric field?
32. How does the magnitude of an electric field affect the spacing of lines of the electric field?
33. Electric field lines begin on \_\_\_\_\_ and end on \_\_\_\_\_\_.
34. What does electric shielding do?
35. What is a capacitor?
36. How is a capacitor charged?
37. What are 4 things the current flowing into a capacitor depends on?