

### Second Semester Physical Science Quiz 2

Matching: either write the letter or the word that best answers the statement on the blank or write the letter in the blank that is in front of the word.

- A. electrostatic forces
- C. electric charge
- E. grounding
- G. electric field
- I. capacitor
- K. electroscope

- B. Law of Electric Charge
- D. Coulomb's Law of Electric Force
- F. charging by friction
- H. charging by conduction
- J. charging by induction
- L. *elektron*

1. A term used for a force that either attracts another charge or repels it \_\_\_\_\_.
2. \_\_\_\_\_ is the area around an electrical charge, and affecting another charge that enters the area.
3. The force between 2 charges is directly proportional to the product of their charges, and inversely proportional to the square of the distance between them is called \_\_\_\_\_.
4. \_\_\_\_\_ is used to refer to the electrical charges that are stationary.
5. In the case of rubbing a piece of silk over a plastic dowel, as the silk 'polishes' the plastic it takes off electrons leaving the piece of silk with a negative charge and the plastic with a positive charge, a practical way to charge insulators, is called \_\_\_\_\_.
6. \_\_\_\_\_ is a useful way to charge metals and conductors, yet give them a charge that is opposite of the original charged object; the charged object comes close to the metal or conductor, yet does not touch it.
7. \_\_\_\_\_ is to connect an electrical device to anything that is neutral (no charge at all) that has the ability to either take electrons away from an excess charge or give the electrons up.
8. An instrument that is used to observe the intensity of the electric charge an object is \_\_\_\_\_.
9. \_\_\_\_\_ is a device used to store an electric charge.

Short answer:

10. Why did the balloons react the way they did after charging them, without and with the hand between them?
11. What causes electricity to flow?
12. How does lightning 'work'?
13. State one type of lightning (that occurs above the clouds).
14. What does a lightning rod do?

Bonus:

- What is the origin of the word 'electricity'?
- What is an electroscope?
- Why would you use an electroscope?