Name _____ Period _____ Date _____

SECTION 1.1 | MATERIALS CAN BECOME ELECTRICALLY CHARGED.

Study Guide

BIG IDEA Moving electric charges transfer energy.

KEY CONCEPT Materials can become electrically charged.

Vocabulary

electric charge the property that allows one thing to exert an electric force on another without touching it. Protons and electrons have electric charges.

electric field the space around something through which an electric charge can exert a force

static charge a build-up of electric charge in an object caused by charged particles

induction a build-up of a charge without direct contact

Review

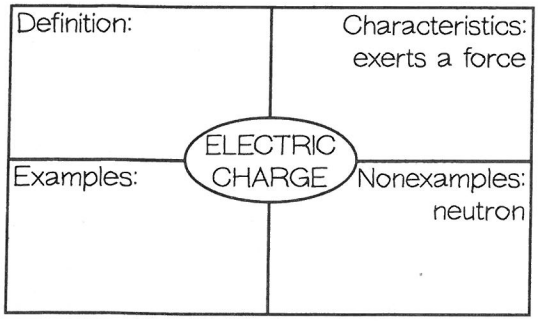
1. Atoms are made up of three particles: _____, _____, and _____.

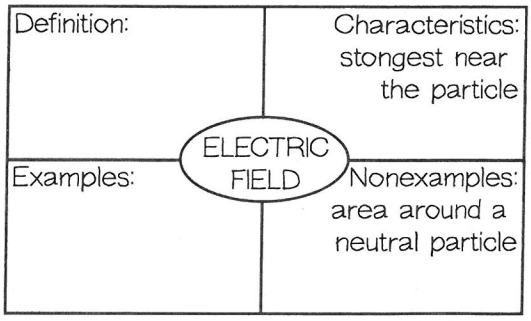
2. Do any of the particles listed in question 1 have an electric charge? _____.

Take Notes

I. Electric charge is a property of matter. (p. 9)

3. Fill in the four-square diagrams for *electric charge* and *electric field.*





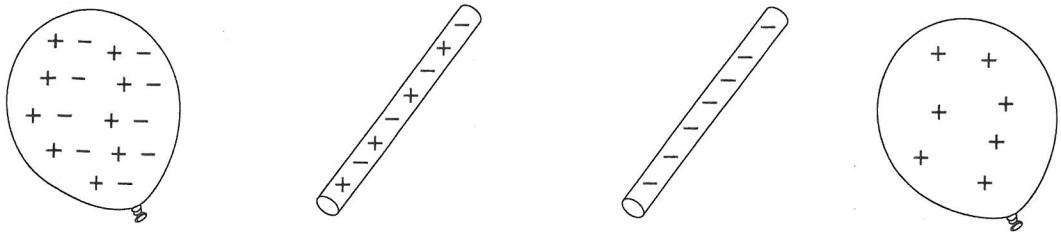
II. Static charges are caused by the movement of electrons. (p. 11)

4. Write *more protons, more electrons,* or *build-up of electric charge* to complete the table below.

Charge	Cause
Positive	
Negative	
Static charge	

A. Charging by Contact (p. 11)

5. Circle the two objects that were charged by contact.



A. _____ B. _____ C. _____ D. _____

6. Label each object in the diagram as *negative, positive,* or *neutral.*

B. How Materials Affect Static Charging (p. 12)

7. Charging by contact occurs when _____.

A material sometimes _____ electrons and sometimes _____ electrons.

C. Charging by Induction (p. 13)

8. Fill in the four-square diagram for *induction.*

Definition: building up a charge without touching through an electric field	Characteristics:
Examples:	Nonexamples: charging by contact

INDUCTION

D. Charge Polarization (p. 14)

9. Why does a charged balloon stick to a wall?

_____

III. Technology uses static electricity. (p. 15)

10. Fill in the combination notes for the main idea shown.

Notes	Sketch to Explain
Examples of static electricity in technology: • _____ • _____ • _____	