

Name \_\_\_\_\_

Date \_\_\_\_\_

Use with textbook pages 248–254.

## Charge it

### Vocabulary

acetate	negative
atoms	neutral
conductors	neutrons
coulomb	nucleus
electric	positive
electrons	protons
grounding	static charge
insulators	Van de Graaff generator

Use the terms in the vocabulary box to fill in the blanks. You may use terms more than once. You will not need to use every term.

1. Static electricity is also known as \_\_\_\_\_.  
This refers to the build-up of electric charge in one place.
2. All matter is made of tiny particles called \_\_\_\_\_.
3. The positively charged \_\_\_\_\_ is the centre of the atom.  
It consists of positively charged subatomic particles called \_\_\_\_\_  
and subatomic particles with no charge called \_\_\_\_\_.
4. The negatively charged subatomic particles called \_\_\_\_\_  
occupy the area around the nucleus.
5. An object is uncharged or \_\_\_\_\_ when the number of  
positive charges equals the number of negative charges.
6. If an atom loses an electron, it has more protons than electrons. This atom will have  
an overall \_\_\_\_\_ charge.
7. If an atom gains an electron, it has more electrons than protons. This atom will have  
an overall \_\_\_\_\_ charge.
8. Glass and acetate are examples of \_\_\_\_\_ because they  
do not allow electrons to move easily through them. Metals like copper and aluminum  
are good \_\_\_\_\_ because they allow electrons  
to move freely through them.
9. The \_\_\_\_\_ is a unit of electric charge.
10. Scientists use a(n) \_\_\_\_\_ to create static charge.
11. Lightning rods on top of buildings allow static charges from lightning to flow into  
Earth's surface. This is known as \_\_\_\_\_.

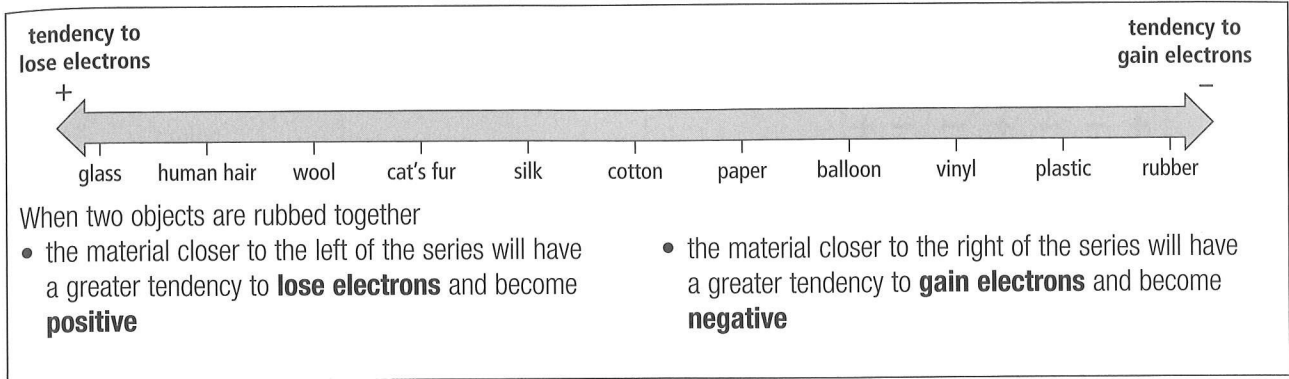
Name \_\_\_\_\_

Date \_\_\_\_\_

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## Static charge detective

Use the following diagram to answer the questions.



1. As you take your clothes out of the dryer, your wool socks are clinging to your silk skirt. What is the charge on the wool socks and on the silk skirt?

Charge on socks

\_\_\_\_\_

Charge on skirt

\_\_\_\_\_

2. You use a plastic comb to comb your hair. What is the charge on your hair and on the comb?

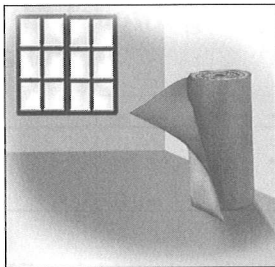
Charge on comb

\_\_\_\_\_

Charge on hair

\_\_\_\_\_

3. You use a paper towel to rub off some dirt on a glass window. What is the charge on the glass and on the paper towel?



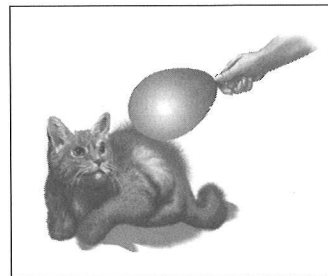
Charge on window

\_\_\_\_\_

Charge on paper towel

\_\_\_\_\_

4. You rub a balloon along your cat's back, causing the cat's fur to stand up. What is the charge on the balloon and on the cat's fur?



Charge on balloon

\_\_\_\_\_

Charge on cat's fur

\_\_\_\_\_

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## Conductors and insulators

Define and identify conductors and insulators as directed below.

1. Define the following terms.

(a) conductor \_\_\_\_\_

(b) insulator \_\_\_\_\_

2. On the first line, indicate whether the object is a conductor or an insulator. On the second line, state whether or not the material allows electrons to move freely.

