

Name \_\_\_\_\_

Date \_\_\_\_\_

Use with textbook pages 248-254.

## Static charge detective

Use the following diagram to answer the questions.

<p>tendency to lose electrons</p> <p style="text-align: center;">+</p>	<p>tendency to gain electrons</p> <p style="text-align: center;">-</p>
<p>glass   human hair   wool   cat's fur   silk   cotton   paper   balloon   vinyl   plastic   rubber</p>	
<p>When two objects are rubbed together</p> <ul style="list-style-type: none"> <li>• the material closer to the left of the series will have a greater tendency to <b>lose electrons</b> and become <b>positive</b></li> <li>• the material closer to the right of the series will have a greater tendency to <b>gain electrons</b> and become <b>negative</b></li> </ul>	

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?

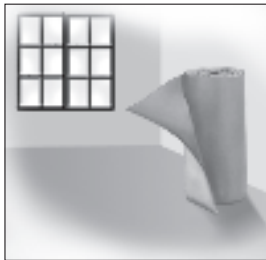
Charge on comb

\_\_\_\_\_

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

\_\_\_\_\_

Use with textbook pages 248–254.

## 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.

