DATE: NAME: CLASS:

CHAPTER 10

Predicting Charges (Alternative Format)

BLM 10-7

Goal • To practise predicting charges.

What to Do

Look at this electrostatic series. Complete each sentence.

Material	Strength of Hold on Electrons
Glass	Weak
Human hair	
Nylon	
Wool	
Fur	
Silk	
Cotton	
Lucite (a clear plastic)	
Rubber balloon	
Polyester	
Foam	
Grocery bags (low density polyethylene)	
Ebonite (a hard form of rubber)	Strong

1. Materials listed at the bottom of the electrostatic series have a strong hold on their electrons. When ebonite and glass are rubbed together, ebonite will become _____ (negatively charged/positively charged), while the glass becomes _____ (negatively charged/positively charged).

2. Materials that are close together on the electrostatic series generate a _____ (small/large) amount of charge, and those farther apart generate a _____ (small/large) amount of charge.

3. You wear a wool hat on your head. When you take the hat off, the charge on your hair will be _____ (negative/positive) because _____

_____

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Predicting Charges (Alternative Format)

4. A glass rod is rubbed with a piece of silk. The charge on the glass rod will be _____ (negative/positive). The charge on the silk will be _____ (negative/positive).

5. When plastic wrap is used to rub a piece of wood, the plastic wrap becomes negatively charged. Plastic wrap has a _____ (stronger/weaker) hold on electrons than wood does.

6. **a.** When a rayon cloth rubs a copper pipe, the rayon becomes positively charged. When rayon rubs a foam cup, the rayon becomes positively charged. Complete the electrostatic series for rayon, copper, and foam.

Material	Strength of Hold on Electrons
	Weak ↓ Strong

b. When aluminum rubs a glass rod, the aluminum becomes negatively charged. When aluminium rubs a brass frame, the aluminum becomes positively charged. Complete the electrostatic series for aluminium, glass, and brass.

Material	Strength of Hold on Electrons
	Weak ↓ Strong

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CHAPTER 10

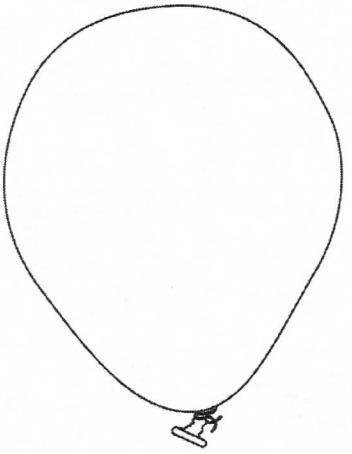
Section 10.1 Review (Alternative Format)

BLM 10-13

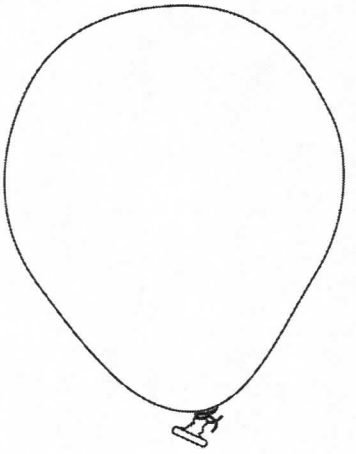
Goal • To review the concepts from Section 10.1.

1. Different materials hold on to electrons with a different strength.
   In _____, electrons are able to move easily from one atom to another.
   In _____, electrons cannot move easily from one atom to another.

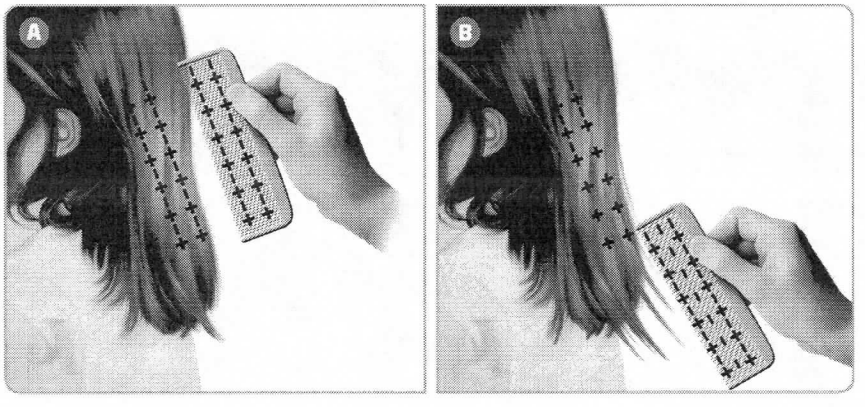
2. Draw charges on each balloon.
   a. Negative balloon



   b. Positive balloon



3. Look at the image below. How would an aluminum comb be different?



_____

_____

_____

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Section 10.1 Review (Alternative Format)

4. Circle nylon and silk in the electrostatic series.

Material	Strength of Hold on Electrons
Glass	Weak
Human hair	
Nylon	
Wool	
Fur	
Silk	
Cotton	
Lucite (a clear plastic)	
Rubber balloon	
Polyester	
Foam	
Grocery bags (low density polyethylene)	
Ebonite (a hard form of rubber)	Strong

Which material holds on to its electrons more strongly? _____

Some nylon and silk are in a clothes dryer together.

What is the charge of the nylon? _____

What is the charge of the silk? _____

5. Place each material in the table.

- aluminum
- copper
- plastic
- rubber
- salt water
- silver
- wood

Electrical Conductors	Insulators

The electrical properties of copper are useful in _____.

The electrical properties of plastic are useful in _____.

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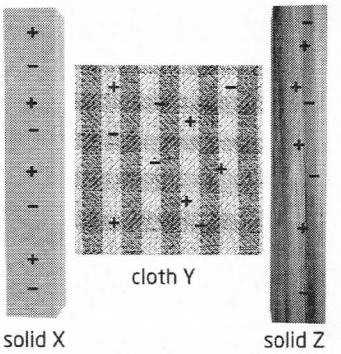
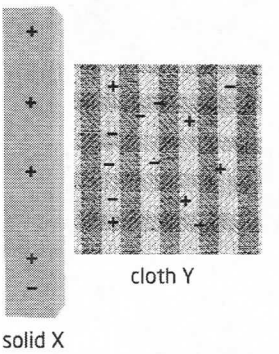
Section 10.1 Review (Alternative Format)

6. a. What type of net charge is on each? _____



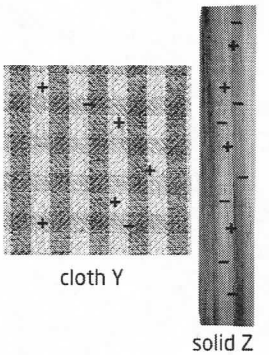
b. Cloth Y is rubbed on solid X.

Which material holds electrons better? _____



c. Cloth Y is rubbed on solid Z.

Which material holds electrons better? _____



d. Which material holds electrons better, solid X or solid Z? _____

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Section 10.1 Review (Alternative Format)

7. Would you be electrocuted if you walked under an electric transmission line during a rainstorm?

   A. Yes, because rainwater conducts electricity.
   B. No, because rainwater does no conduct electricity.
   C. No, because there is no steady stream of rainwater to conduct the electricity.
   D. Yes, because electricity is always trying to go into the ground.

8. The flooring in an operating room is made of a conducting material because

   _____.

   The floor _____ (should / should not) be waxed because _____

   _____.

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