PHYSICS
IN MOTION
gpb.org/physics-motion

Unit 5B
Static Electricity
Questions to Consider

Name:

Date:

> **Main Ideas, Key Points, Questions:**

After watching the video segment, write down key points, main ideas, and big questions.

> **Objective(s):**

- *Define conductors and insulators and what makes them different.*
- *Understand charging by friction, electrical conduction, and induction.*

> **Notes:**

During the video segment, use words, phrases, or drawings to take notes.

> **Summary:**

After watching the video segment, write at least three sentences explaining what you learned. You may ask yourself: "If I was going to explain this to someone else, what would I say?"

PHYSICS IN MOTION
gpb.org/physics-motion

**Unit 5B
Static Electricity**
Questions to Consider

Name:

Date:

Answer the following.

1. What is an insulator? Give two examples of insulating materials.

_____

_____

2. What is a conductor? Give three examples of conducting materials.

_____

_____

3. What is the difference between charging an object by conduction and charging by induction?

_____

_____

_____

4. What does it mean when an object is "grounded"? What happens to excess charge on a grounded object?

_____

_____

_____

5. After rubbing a balloon with a towel, the balloon will be attracted to certain surfaces, such as walls, even though they have no net charge. What causes this attraction to occur?

_____

_____

_____

_____

PHYSICS IN MOTION
gpb.org/physics-motion

Unit 5B
Static Electricity
Questions to Consider

Name:

Date:

6. An uncharged metal sphere hangs by an insulating thread. When a positively charged rod is brought close to the sphere, the sphere moves toward the rod. However, when the two objects touch, the sphere immediately moves away from the rod. Why?
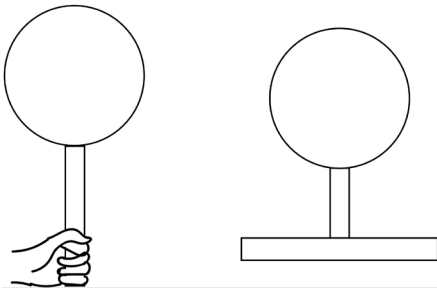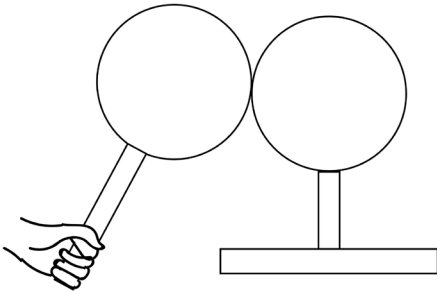
_____

_____

_____

_____

7. While holding a wooden dowel attached to a positively charged metal sphere, perform each of the following actions. Draw the resulting electrical charge distributions in the associated diagrams.

Note: Student diagrams should show charges on the surfaces of the sphere:

a. Bring the sphere near an insulated, uncharged metal sphere.

b. Touch the spheres together.

c. Pull the sphere away, out of contact.