

Learning Target: I can describe and explain how static electricity occurs through conduction, induction, and friction.



[The Shocking Truth About Static Electricity Video Notes](#)

1. Most atoms have no overall _____. An atom usually has as many _____ as it has protons. This leaves the atom uncharged or _____.
2. How can an uncharged object become charged? _____
If an object loses electrons, it is left with more _____ - giving it an overall _____ charge.
If an object gains electrons, it will have an overall _____ charge.
3. The build up of charges on an object is called _____. In static electricity, charges _____ up on an object, but they do not flow _____.
4. What does the law of conservation of charge state? _____

Charging by Conduction

Charging by conduction is the transfer of _____ from one object to another by _____.
contact. Conduction occurs on a _____ neutral object when a charged object is in _____ with it.

5. Look at the picture at 1:56 seconds in the video. How does a neutral object get a negative charge? _____

Quick Check for Understanding!

In what type of temperature do most people experience static shock? _____ Explain why. _____

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Charging by Induction

Electrons can react to the electric field of a _____ object without _____ the object itself. In some materials like _____, electrons can easily _____ their atoms.

6. (3:32 seconds) What happens when you put a negatively charged object close to a metal object? _____

7. (3:45 seconds) Look at diagram (b). Why did the negative charges come closer to the rod and the positive charges moved away from the rod even though the rod was not touching the balloons? _____

Quick Check for Understanding! (4:15 seconds)

What made balloon A have a negative charge, and what made balloon B have a positive charge? _____

Charging by Friction

_____ is the transfer of electrons from one uncharged object to another by _____ the two objects together. Some electrons can _____ from one object to the next when you rub them _____

8. What does rubbing a balloon on your hair do to the overall charge of a balloon? _____

What overall charge does your hair have now? _____

Quick Check for Understanding!

What makes the balloon attracted to your hair now? _____

9. What is the difference between static induction and static conduction? _____

10. What do you have to do to create static friction? _____