

## Static Electricity Demo Skill Builder ANSWER KEY

- Which particle of the atom does the atom most easily give up?
  - Neutron
  - Electron
  - Proton
  - Megatron
  - Ultron
- The form of energy is caused by the movement of electrons.
  - Electric
  - Light
  - Chemical
  - Mechanical
  - Heat
- The accumulation of excess electrons on an object is known as
  - Current electricity
  - Static electricity
- Which of the following situations are true?
  - $+ \rightarrow \leftarrow +$
  - $- \rightarrow \leftarrow -$
  - $- \rightarrow \leftarrow +$
  - They are all true
  - None are true
- Electrons have a \_\_\_\_\_ charge.
  - Positive
  - Negative
  - Neutral
  - Variable
- Static discharge (a spark) is caused when  
there is an accumulation (excess) of electrical charges and when they get near enough to an accumulation of opposite chards there is a discharge
- Metals and other materials in which electrons are free to move are known as conductors
- Plastic and other materials which electrons do not easily move through are known as insulators
- Describe charging by contact.  
transfer of charges between two objects that are touching  
\_\_\_\_\_  
\_\_\_\_\_
- Describe charging by induction.  
transfer of charges between two objects that are near each other  
\_\_\_\_\_  
\_\_\_\_\_

11. Which of these demonstrated how static electricity builds naturally?

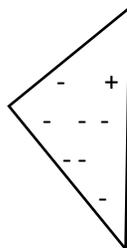
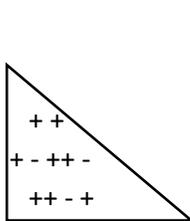
a. Van de Graaff Generator

b. Tesla Coil

12. In the box, create a composite (combined) drawing of a Van de Graaff generator and the drawings of how lightening is formed on page 197. Your drawing should be able to identify how what happens inside of a cloud is similar to a Van de Graaff generator. AND the similarity between what comes OUT of the cloud/generator. Add labels and captions to increase understanding.

There should be detailed drawings of the Van de Graaff generator alongside a drawing of a cloud. The drawings and captions should demonstrate a clear comparison of the rotating belt of the generator and the convection current within the cloud causing friction and accumulation of charge.,

13. Count the + and – in each shape and decide if the objects would attract or repel.



attract

repel

14. Explain why understanding the conditions which cause static electricity is important. Be specific.

response could refer to safety or applying the static electricity for useful purposes

15. Explain why if charge cannot be created or destroyed, electrically neutral objects can become electrically charged.

Charges are not gain or lost but they can be transferred