STATIC ELECTRICITY

When electricity gathers in one place it is known as Static electricity (the word static means something that doesn´t move) Electricity that moves from one place to another is called Current electricity.

Static electricity is usually created when materials are pulled apart or rubbed together like wool on plastic or the soles of your shoes on the carpet. This process causes positive (+) charges to collect on one material, and negative (–) charges to collect on the other surface.

Results from static electricity may be sparks, shocks or materials clinging together.

The material that loses negative charges or electrons ends up with an excess of positive charges.

The material that gains electrons ends up with excess of negative charges on its surface.

Opposite charges attract and like charges repel. Either charge will be attracted to something of neutral charge.

A. Translate the text.

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B. Write T (True) or F (False)

1. Current electricity is electricity that moves. T F

2. Static electricity goes from one place to another. T F

3. If you rub on plastic, it generates static electricity. T F

4. Sparks, shocks, cracles, are the result from static electricity. T F

5. Opposite charges don´t attract. T F

C. Choose the correct answer.

1. _____ occurs when electric charges build up on objects, such as when materials are pulled apart or rubbed together, causing positive (+) charges to collect on one material and negative (−) charges on the other surface.

A. Static Electricity

B. Magnetism

C. Dynamic electricity

D. Capacitance

2. A Van de Graaff generator can produce a larger static charge than rubbing a ballon on a sweater. First, a high voltage power supply puts electric charge on a moving insulating belt. The belt carries electric charges upwards where a metal

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contact _____. This accumulation of voltage can reach up thousands or even millions of volts

A. conducts the charges to the ground.

B. conducts the charges onto a metal conducting sphere.

C. conducts the charges back around the loop of insulating belt.

D. conducts the charges out into the air.

3. What is a name for negatively charged subatomic particlcles?

A. Protons

B. Neutrons

C. Electrons

D. Ions.

4. Particles that have the same kind of charge will attract each other.

a. True

B. False

5. Materials with loosely-bound, outer electrons can lose those electrons easily and become positively charged. One such material is _____.

a. Silk

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B. Rubber.

C. Wood.

D. Water

6. Materials with weakly bound electrons tend to lose them, while materials with sparsely filled outer shells tend to gain them. What is this effect called?

A. electron exchange effect.

B. triboelectric effect.

C. photoelectric effect.

D. piezoelectric effect.

7. A material's place in the triboelectric series is determined by how strongly the material holds on to its electrons.

A. True

B. False

8. Silicon is a material ranked very low in the triboelectric series. This means that it has the tendency to _____ electrons.

A. Repel

B. reject.

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C Gain

9. Materials placed very close to each other in the triboelectric series exchange maximum charge.

A. True

B. False

10. The amount of charge that builds up due to the friction between two materials depends on the:

A. weight of the materials.

B. lattice structures of the materials.

C. electrical conductivity of the materials.

D. surface area in contact

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