



Static Electricity Demonstrations and Notes



I. Static Electricity: Definition; _____

II. How is static electricity produced ?

A. Examples:

1-Electrophorus Plate _____

2-Rubber rod and fur _____

III. Characteristics of Static Electricity

A. What effect does a charged object have on uncharged objects ?

1-Rubber rod and paper _____

2-Comb/Balloon and stream of water _____

B. There are different types of charges

1-Negative Charges: due to a _____

2-Positive Charges: due to a _____

C. Law of Electrostatics

1-Like charges _____ each other.

(a)-a charged rubber rod _____ another charged rubber rod.

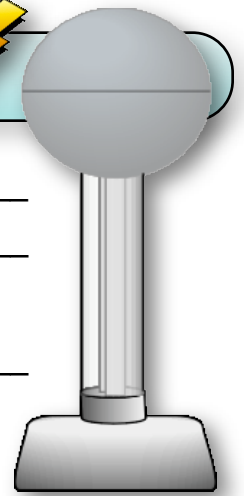
2-Opposite charges _____ each other.

(b)- a charged rubber rod _____ a charged glass rod.

D. Do Static charges occur on the inside or outside of an object?

1-Observe what an electroscope does when a charged object approaches it while it is first outside of a wire cage and then when it is inside of a wire cage?

2- Based on the above observations, we can conclude that static charges occur on the _____ of an object.



2-What practical use is there for this information? _____

E. Static electricity can be stored

1- Leyden jar: a type of capacitor _____

2- Person's hand on top of generator: _____ store a charge

F. Static electricity can be conducted across object surfaces and person to person.

Describe what happens in each of the examples below.

1-Spark board _____

2- Leyden jar and a human chain _____

IV. Uses and Applications

A. Possible power source for microscopic machines(nanotechnology)

1-Static spinner _____

2-Racing ball _____

B. Jacob's ladder:

What causes the _____ ?

C. Wireless transmission of electricity?

1- Tesla coil _____

D. Electrostatic wind

1-Plastic streamers _____

E. Electrostatic precipitator

1- Dust/Smoke removal _____

F. Photoelectric Copiers

1- Xerography _____

