

Oct 19, 2011

- Discharging Electrically Charged Objects
- Practice Questions

Warm-Up

Name and give an example of each of the three ways objects can be charged using static electricity.

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We need to be able to discharge charged objects

i.e. when using a gas pump the flow of gas through the nozzle to your car generates huge amounts of static electricity. What would happen if a spark jumped to your car? The spark could ignite.

If a charged object has all the excess electric charges removed it is said to be **discharged** or **neutralized**.

Grounding

when a charged object is connected to Earth, the charge is shared with the entire Earth, all excess charges are safely removed.

Ex. lightning rods are grounded to the Earth, gas pumps are attached to the ground carefully.

only used when it is easy to attach to the earth sometimes this is not possible. i.e. an airplane

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Discharge at a Point

Used on airplanes, car or other objects that cannot be grounded.

Electrons repel each other off of the tip of a sharply pointed rod in a continuous stream. These rods are called **static wicks**.

Other Ways to Discharge Objects: exposure to humid air (recall why more static in winter), shine a light on it, or expose the object to radioactivity

Complete Questions pg. 281 #1,4,6
pg 282 #1,4,6,9