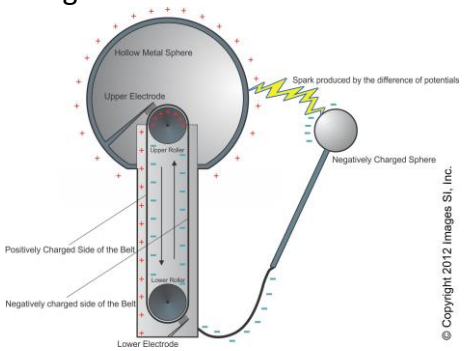
Electrical charges and fields – PHYSICS ONLY

Van de Graaff generator

7. A Van de Graaff generator is an electrostatic generator which accumulates positive charge on the large metal dome and negative charge on the small ball.
8. 

9. Electrons are knocked off the belt by a metal strip and are carried to the small ball.
10. The belt becomes positively charge which moves to the large dome.
11. The like charges on the dome/ball repel and spread out.
12. When the charge on the metal dome has built up, the positive charge is attracted to the negative charge and 'jumps' across the gap as a spark.

Electric charges

1. Some insulating materials become charged when rubbed together (friction).
2. Electrons are transferred which makes objects become charged.
3. Insulating materials become positively charged when they lose electrons.
4. Insulating materials become negatively charged when they gain electrons.
5. Like charges repel, which make objects move away from each other.
6. Opposite charges attract, which can cause a spark (static electricity).

Electric fields

13. The force between two charged objects is a non-contact force.
14. A charged object creates an electric field around itself.
15. If second charged object moves into that electric field it will feel a force.
16. The closer the two charged objects are, the stronger the force becomes.
17. Drawing electric field lines