**Electric Motor or Speaker Project**

Planet Holloway Physics

**Objective**: Build a working model DC electric motor or speaker. Identify the Electromagnetic concepts that are present in your model.

**Requirements**: The motor or speaker must be entirely of your own creation and not assembled from a kit. The speaker will be played by connecting it to a stereo system powered at about 20 Watts. The electric motor must run off of 1.5 – 9 V DC.

There are lots of great websites to help with your design, but the motor must demonstrate the following concepts

* Current
* Resistance
* Magnetic Fields
* Magnetic Force
* Magnetic Flux
* Induced EMF (Voltage)
* Torque (motor only)
* Restoring Force (speaker only)

For each concept above, include a diagram of your model showing the concept and a paragraph describe how your model incorporates that concept. (Describe what the concept does in that part of your model).

**Grading:**

200 points possible: (205 max)

100 points for a working model.

15 points for each concept correctly identified and explained.

Good luck and have fun!