

Electricity and Magnetism

Select the word that makes each statement true.

1. When a current is passed through a coil of wire with a piece of iron inside, (an electromagnet, a commutator) is formed.
2. An electromagnet is a (permanent, temporary) magnet.
3. Adding more turns to the wire coil (increases, decreases) the strength of an electromagnet.
4. Increasing the amount of current that flows through a wire (increases, decreases) the strength of an electromagnet.
5. Electromagnets change electrical energy into (chemical, mechanical) energy.
6. An instrument that is used to detect current is (an electromagnet, a galvanometer).
7. An electric motor changes (chemical, electrical) energy into mechanical energy.
8. Like a galvanometer, an electric motor contains (a switch, an electromagnet) that is free to rotate between the poles of a permanent, fixed magnet.
9. A coil's magnetic field can be flipped by (reversing the direction of current, increasing the number of loops) in the coil.
10. In a motor, a reversing switch that rotates with an electromagnet is called a (voltmeter, commutator).
11. In a motor, the stronger the magnetic field in the coil, the (weaker, stronger) the force between the permanent magnet and the electromagnet.
12. The speed of an electric motor can be controlled by varying the amount of (electric current, mechanical energy) to the motor.