**REVIEW FOR ELECTRICITY AND MAGNETISM QUIZ** **Quiz Date: _____**

This quiz will cover information from our unit on electricity and magnetism. It will consist of some multiple choice, fill-in-the-blank, and short answer questions. You should review your DQs, labs, article, mind map, simulations, reading notes, video notes, and concepts from activities we've done. Be able to hit the following targets:

- *I can describe the key factors that affect the strength of electric and magnetic forces and fields.*
- *I can compare and contrast static electricity, current electricity, and magnetism and give examples of how they impact our lives.*

1. Current electricity is the constant flow of _____.

A. charges C. neutrons

B. protons D. electrons

2. When you use a wall outlet, you're using _____ current.

A. direct C. static

B. alternating D. discharge

3. A(n) _____ is the area around an electric charge that exerts a force on other charges.

A. resistor C. electric field

B. conductor D. generator

4. Electricity can only flow if it is in a closed path called an electrical _____.

A. conductor C. magnet

B. circuit D. voltage

5. The strength of an electric field is increased if you get _____ the charge.

A. further from C. less of

B. closer to D. none of the above

6. The electricity made with a battery only flows in one direction, so it is called _____ current.

A. alternating C. generated

B. true D. direct

7. Charges and magnets both create an area of influence around them known as a(n) _____.

8. _____ electricity results from an imbalance of electric charges in an object.

9. These three elements are the main metals that have magnetic properties: _____ _____. Magnetism results from moving _____. Permanent magnets are able to create a persistent _____. Electromagnets, on the other hand, are only magnetic when _____.

10. The opposite ends of magnets are called _____.

11. Magnets and charges are similar because opposites _____.

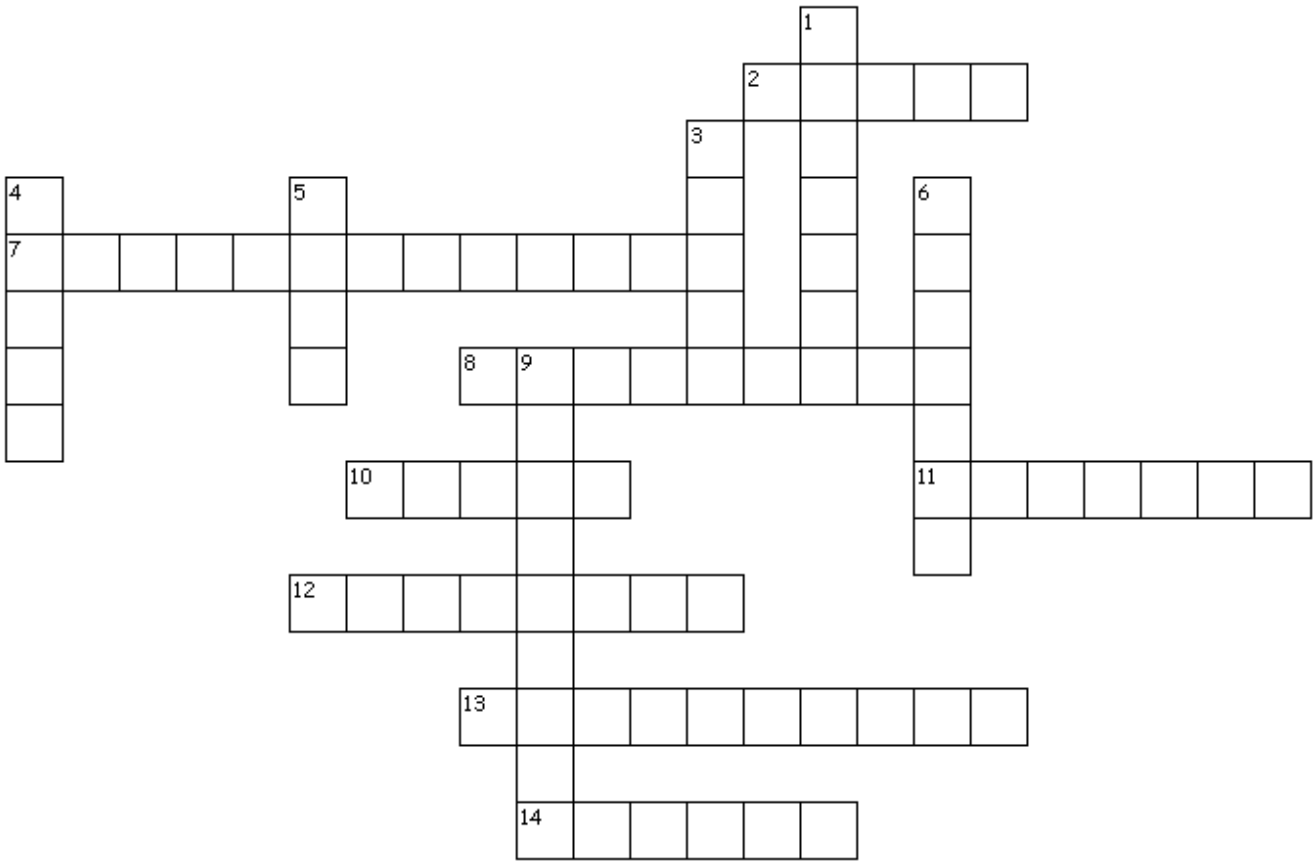
12. Electric and magnetic forces are invisible but very important for living things. Give a specific example of why electricity and magnetism are both needed for life.

13. Little Billy is hoping to create a strong magnetic force. What are two things Billy could do to increase the magnetic force one permanent magnet has on a pile of paperclips?

14. Little Bobby has constructed an electromagnet using a battery, a nail, and some copper wire. What could he do to make his electromagnet more powerful? Why could an electromagnet be more useful than a permanent magnet?

15. Draw a simple electric field between a positive and negative charge. Describe what happens to the field's strength as you get further away from the charges.

16. What happens to the strength of the electric field if you **add more** positive and negative charges in the same locations as the original charges?




**Across**

2. The area around a charge or a magnet that can influence other charges or magnetic items.
7. A magnet that temporarily forms when electricity passes through a coil of wire around a metal core.
8. In power plants, a turbine _____ uses spinning magnets to create electricity.
10. Earth's magnetic field is strongest at the _____.
11. This type of electricity results from a constant flow of electrons.
12. The charge electrons have.
13. Electricity flows easily through a copper wire because copper and metals are good _____.
14. The type of electricity that results from an imbalance of charges on or in an object.

**Down**

1. The closed path necessary for electricity to flow.
3. An electric motor converts electricity into motion.
4. The same poles of magnets will _____ each other.
5. One of the most common magnetic minerals.
6. The opposite poles of magnets will _____ each other.
9. The part of the atom responsible for electricity and magnetism.