**Magnetism Mini Lab Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Directions: Magnetism- refers to the properties and interactions of magnets**. If the following lab you will be using magnets to understand the interactions between magnets and other objects along with the strength of the forces.

Materials:2 bar magnet, paper clips

Procedure:

1. Put the like poles of the bar magnets towards each other. (Both N ends) Do the like ends repel each other or attract each other?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Move the like poles closer and farther apart. What do you notice about the strength as you move the magnets farther apart?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Put the unlike poles of the bar magnet towards each other (one N end and one S end) Do the unlike end repel each other or attract each other?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Move the unlike poles closer and farther apart. What do you notice about the strength as you move the magnets farther apart?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. **Magnetic Poles are regions of the magnet that exert the strongest force**. Where are the magnetic poles on the bar magnet?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. **A magnetic field is the region of space that surrounds a magnet and exerts a force on other magnetics and objects made of magnetic material**. Use a ruler or tape measure and measure how far away the paper clip can be and still be attracted to the magnet.\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Hold a bar magnet horizontally, and put a paper clip on one end. Touch a second paper clip to the end of the first one.
8. Continue adding paper clips until none will stick to the end of the chain. Record the number of paper clips that the magnet holds here \_\_\_\_\_\_\_\_\_\_\_\_ Remove the paper clips from the magnet.
9. Repeat steps 1 and 2 three more times using different parts parts of the magnet. First, start the chain about 2 cm from the end of the magnet. Second, start the chain near the center of the magnet. Third start the chain at the other end of the magnet.
10. Conclude which part of the magnet exerts the strongest attraction. Compare the attraction at the center of the magnet with the attraction at the ends.
11. Try other objects around the room to see which are magnet.
    1. List some items that are attracted to the magnets\_\_\_\_\_\_\_\_\_\_\_\_
    2. List some items that are NOT attracted to magnets \_\_\_\_\_\_\_\_\_\_\_
12. **A magnetic domain is a group of atoms with aligned magnetic poles**. Explain how the first attracted paper clip can act as a magnetic to attract the next paper clip. In your explanation use the vocab words, magnetic poles AND magnetic domain