**PFC2 Chapter 15 Section 1 Guided Reading**

1. What does the term *magnetic* mean?
2. All magnets have two opposite \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, called the north pole and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. These are the areas on a magnet where the magnetic field is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Is it possible to have a magnet with only a north pole or a south pole?
4. Draw arrows to show the direction of the magnetic force for each type of interaction. In the box underneath each diagram, write “attract” or “repel” to describe the type of interaction.

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| The three interactions between magnets |
| N-S | S-S | N-N |
|  |  |  |

1. Name three materials that magnetic forces can pass through with no apparent decrease in strength.
2. Name one way that you use magnets at home or school.
3. What is a magnetic field?
4. What do the arrows in the drawing below tell you about the magnetic field?

5. Magnetic field lines always point \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from a magnet’s north pole and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ its south pole.
6. When magnetic field lines are closer together, this means the force is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ at that location.
a. weaker
b. unchanged—the force is the same at all points in space.
c. stronger
7. Write the letter of the magnet next to the correct description of the net force that is exerted on it. Some descriptions may apply to more than one magnet.

\_\_\_\_ Attracting force
\_\_\_\_ Repelling force
\_\_\_\_ Twisting force (torque)
8. In the diagram above, imagine that you flip magnet C so that its south pole is closer to the source magnet. Now describe the net force felt by magnet C.