**Lab Activity Handout #2 KEY**

1. Sprinkle iron filings over the glass, tap glass gently to define lines of force, and sketch the resulting pattern.

**The sketch should look like the picture on slide 6.**

P. Sketch the resulting pattern.

**The sketch should look like the picture on slide 6.**

Answer the following questions and turn in for a grade.

1. Explain the reactions of the magnets in steps A, B, C, and D. **o Like poles repel, unlike poles attract.**
2. Explain how the sketches of like poles and of unlike poles show that there are forces of repulsion and

attraction.

**o Like poles repel, and the field lines curve away from each other; unlike poles attract, and the field lines go from one magnet to the other.**

1. What happened to the lines of force as they passed through the small piece of iron?
   1. **Iron is a good conductor of magnetic field lines; the lines of flux will bend and distort to go through the iron.**
2. What happened to the lines of force as they passed through the small piece of brass?
   1. **Brass is not a magnetic material or a good conductor of magnetic field lines, so there is no effect.**
3. Do the lines of force also pass through the glass?
   1. **Yes**
4. Explain your sketch made in step P.
   1. **The filing line up according to the external magnetic field lines of force.**
5. Clean up and return all materials to their storage area.