**Unit 10: Magnetism** (50 points)

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| --- | --- | --- | --- | --- |
| Monday | Tuesday | Wednesday | Thursday | Friday |
| *Block Schedule* 18-Apr | 19-Apr | 20-Apr | 21-Apr | 22-Apr |
| Due: --- |  | Due: PS1 | Due: --- |  |
| Lab: Intro to Mag Fields |  | Return Unit 9 Test | Lab: Electromagnets |  |
| Lect: Intro to Magnetism |  | Review Lecture/PS1 | Lect: Magnetic Force |  |
| PS1 |  | Lect: Magnetic Force | PS2 |  |
| HW: Finish PS1 |  | HW: --- | HW: PS2 |  |
| *Block Schedule* 25-Apr | 26-Apr | 27-Apr | 28-Apr | 29-Apr |
| Due: PS2 |  | Due: PS3 & PS4 | Due: --- |  |
| Lecture: EM Induction |  | Magnetism Review | Finish Review |  |
| PS3 & PS4 |  |  | **Magnetism Quiz** |  |
| HW: PS3 & PS4 |  | HW: Quiz Tomorrow | HW: |  |

**Magnetic Fields Intro Lab**

**Purpose:** To explore the shape of magnetic fields

**Equipment:** 2 bar magnets, small compass, iron filings, sheet of clear plastic

**Procedure:**

1. Obtain two bar magnets and a small compass. Note which end of each compass points toward the north. As you proceed with the activity, represent each compass as an arrow whose point is the north-pointing end.
2. Trace one of the bar magnets on this paper. Move the compass around the magnet, and use arrows to draw the directions it points at each location. Link the arrows together by continuous lines to show the magnetic field.
3. Obtain a small quantity of iron filings and a sheet of clear plastic. Place the plastic on top of one of the bar magnets, and sprinkle a small quantity of iron filings over the plastic. **DO NOT SPRINKLE THE FILINGS DIRECTLY ONTO THE MAGNET – THEY ARE VERY DIFFICULT TO REMOVE.** It may be necessary to gently tap or jiggle the plastic sheet. The filings will line themselves up with the magnetic field. In the following space, sketch the pattern that the filings make.
4. Repeat step 3 for two bar magnets with like poles facing each other, such as N and N or S and S, and with unlike poles facing each other. Sketch the pattern of the filings in both situations.

**Conclusion:** What did you learn about magnetic field lines?