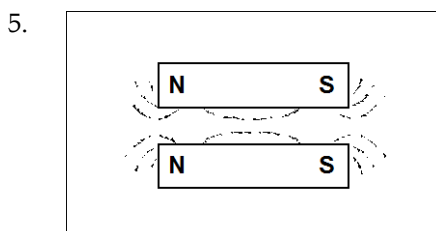
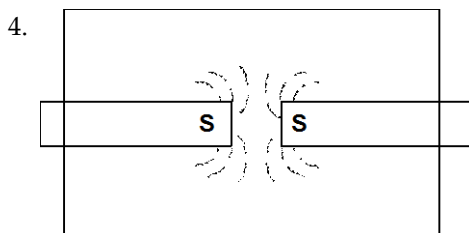
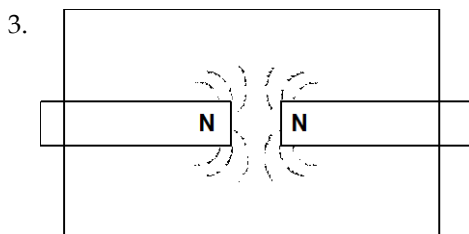
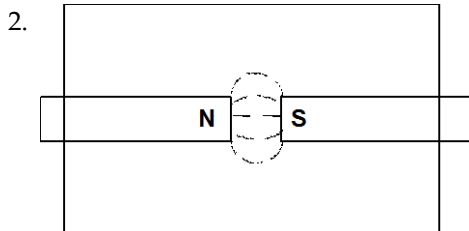
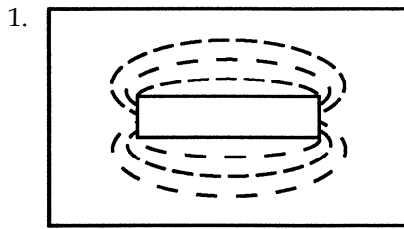


## Seeing Magnetic Fields [Activity]

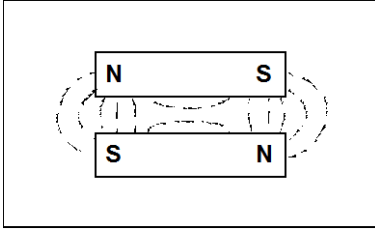
Everybody loves to play with magnets. Their actions are mysterious because the explanation of their attractions and repulsions are far removed from simpler phenomena that we do understand. Explanations involve quantum phenomena, so like the similar attractions and repulsions of electrostatics, we simply say they are fundamental.

Don't underestimate the amount of dry iron filings you may need. Students tend to use too much, and to consider used filings as trash to be thrown away. Field patterns should approximate those shown in the textbook figures of Chapter 10.

### Answers to Procedure Questions



6.



7. Possible: place three north poles or south poles together.

8. Not possible to have three mutually attracting poles.

*Answers to Summing Up Questions*

1. Not possible to identify the poles.

2. Not possible to identify the poles.

3. B is a south pole.

4. D is a north pole.

5. E: north, F: south; G: north, H: south; J: north, I: south; L: north, K: south.

6. Figure 14a is possible; figure 14b is impossible.