

SECTION 1: WHAT IS A MAGNET?

LAB

INTRODUCTION

The spinning of the electrons around the nucleus of an atom creates a tiny magnetic field. Most objects are not magnetic because the atoms are arranged so that the electrons spin in different, random directions, and cancel out each other.

Magnets are different; the molecules in magnets are arranged so that the electrons spin in the same direction. This arrangement of atoms creates two poles in a magnet, a North-seeking pole and a South-seeking pole.

ASSESSMENT ANCHORS ADDRESSED

- S4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem.
- S4.C.1.1** Describe observable physical properties of matter.
- S4.C.3.1** Identify and describe different types of force and motion, or the effect of the interaction between force and motion.

PURPOSE

Students use ferrite magnets and alnico magnets to discover basic magnetic properties. Through experimentation, students will find that magnets attract steel, iron, cobalt, and nickel.

MATERIALS

For Each Pair of Students	For the Class: Trays of metal to test
2 ring magnets	copper penny*
1 alnico magnet	brass brad*
1 ferrite magnet	Lead or graphite pencil ‘leads’*
1 magnetite rock	
2 paper clips	

*Teacher provides items marked with **

