California Content Standards

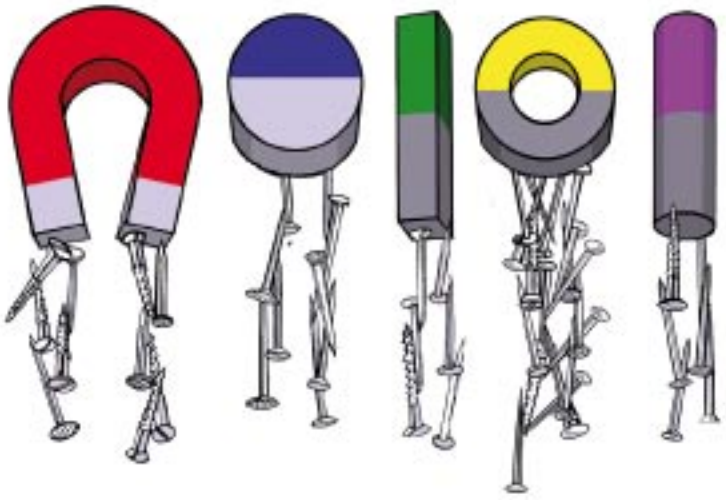
1.f. Students know that magnets have two poles (north and south) and that like poles repel each other while unlike poles attract each other.

Magnets

Poles on a Magnet

Magnets come in many different shapes, like bars, horseshoes, disks, circles, and rods. No matter what the shape of the magnet it still has two poles. The poles of a magnet are the places where the magnetic force is the strongest. Poles are called positive and negative, just like the electrical charges you studied about. Poles can also be called north and south.

The diagram to the right shows many different shapes of magnets.



Q. Which one is the strongest?
A. The one shaped like a donut, because it picked up the most number of nails and screws.

Magnetic Fields

The magnetic fields are the areas around the magnet where the forces are. The lines are imaginary but the forces are real! When the lines are drawn in a picture so we know where they are in real life, they look like this:

The closer the lines are together the stronger the magnetic force. You can see that the magnetic forces are strongest at the poles.

Magnetic Forces

Because the magnetic forces are strongest at the poles, that's where magnets attract the most material. For example, if there were a pile of iron filings you wanted to pick up with a magnet, you would use the end, or the pole, where the magnetic forces are strongest.

These same forces are what cause something you know about already!