

MAGNETISM

Magnetic Poles

A **magnet** is any substance that attracts the element iron or anything with iron in it. All magnets have opposite ends or **poles**. These are referred to as the **north** and **south** poles. Because similar poles repel each other and opposite poles attract each other, magnets can either repel or attract each other. The degree to which they do this depends on the **magnetic force** of the magnet. In addition, because of **polarity**, all magnets will point toward the magnetic north pole of the earth.

While the greatest **magnetic force** is at the poles, there is some degree of magnetism all around a magnet. This is called the **magnetic field**.



PREVIEW

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Inside a Magnet

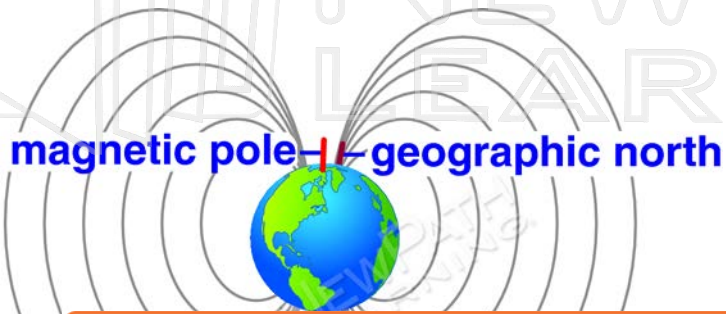
Deep inside the magnet are the clusters of atoms that are responsible for magnetic properties. These clusters are called **magnetic domains**.

In a domain, the atoms line up with similar magnetic fields. Substances in which all or most of the domains are lined up in the same direction are said to be **magnetized**. Substances in which these domains line up in different directions are considered to be non magnetic.

LESSON CHECKPOINT:
What are magnetic domains?

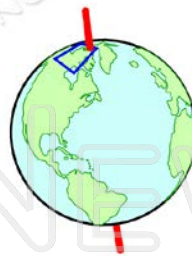
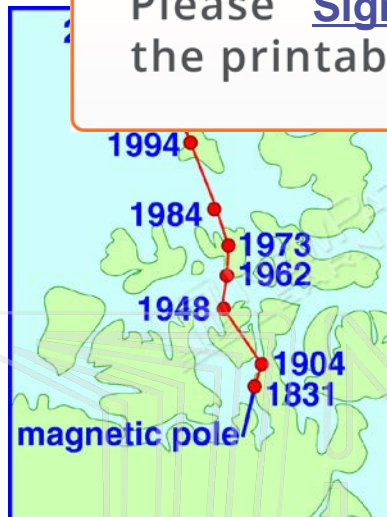
Earth's Magnetism

The earth acts like a giant magnet. While the magnetism of the earth is difficult to explain, there is no question that it has two opposite poles and a strong magnetic field. While the earth has a geographic north and south pole, it also has a magnetic north and south pole.



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LESSON CHECKPOINT: How is the Earth like a magnet?