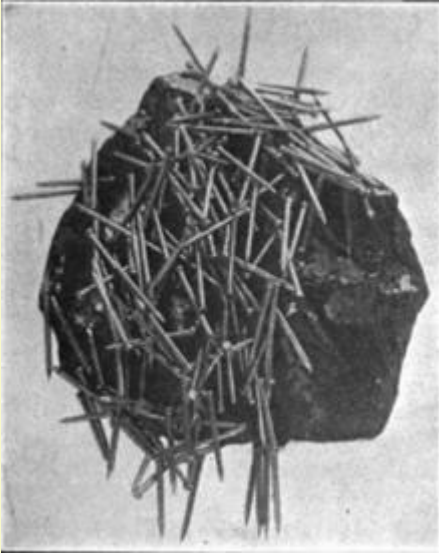


Lodestones



A **lodestone** or **loadstone** is a naturally [magnetized](#) piece of the mineral [magnetite](#)

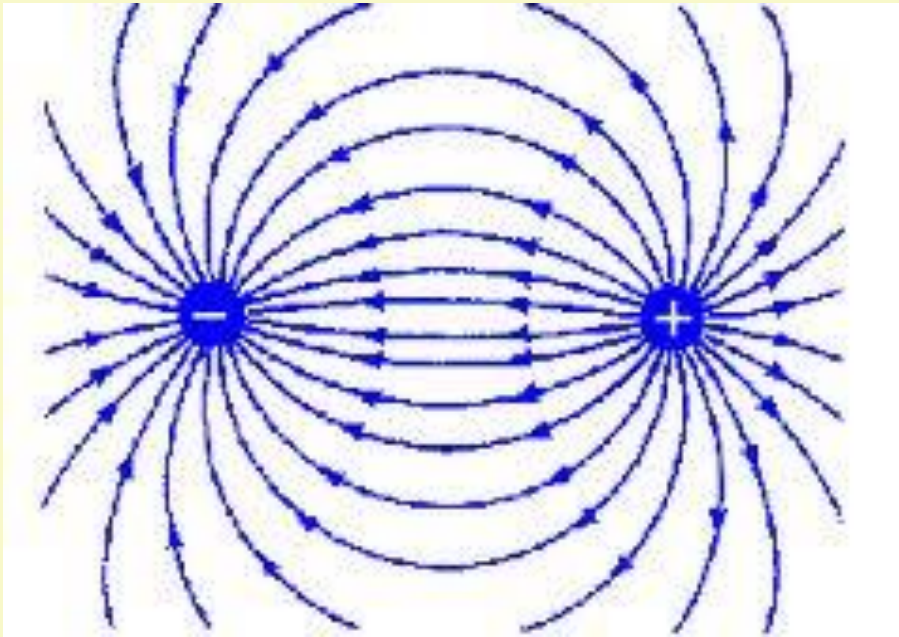
One of the first references to lodestone's magnetic properties is by 6th century BCE Greek philosopher [Thales of Miletus](#) who is credited by the ancient Greeks with discovering lodestone's attraction to iron and other lodestones. The name "[magnet](#)" may come from lodestones found in [Magnesia](#) (Anatolia).

In China, the earliest literary reference to magnetism lies in a 4th century BC book called [Book of the Devil Valley Master](#). The earliest mention of the attraction of a needle appears in a work composed between 20 and 100 A.C.

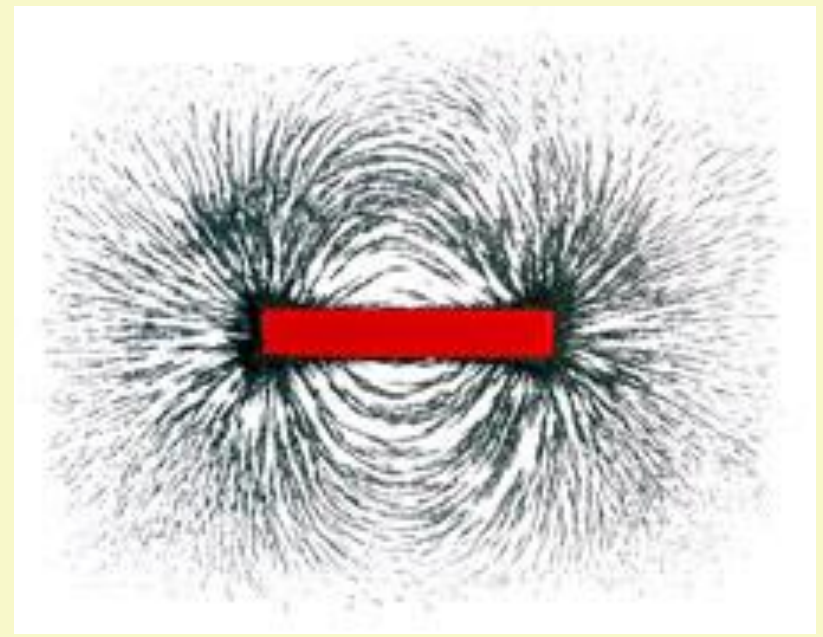
The lodestone compass was used for navigation in medieval China by the 12th century.

However, based on his find of an [Olmec hematite](#) artifact in [Central America](#), the American astronomer John Carlson has suggested that "the Olmec may have discovered and used the geomagnetic **lodestone** compass earlier than 1000 BC".

Electric field lines from
a dipole



Magnetic field lines
from a magnet



Valentine's Day monopole



There have been tantalizing events recorded, in particular the event recorded by [Blas Cabrera](#) on the night of February 14 at Stanford, 1982. There has never been reproducible evidence for the existence of magnetic monopoles. The lack of such events places a limit on the number of monopoles of about one monopole per 10^{29} [nucleons](#).

Problem classes and
Mastering Physics
Assignments restart this
week