Minerals

Magnetite

$Fe^{+2}Fe_2^{+3}O_4$ (Spinel Group)

Crystallography:
Isometric; *4/m32/m*. Frequently in octahedral crystals; rarely dodecahedral. Commonly coarse-to fine-grained granular, massive.

Physical Properties:
Cleavage: None. Commonly shows distinct parting on {111}. Fracture subconchoidal to uneven; brittle.
Hardness: 6.0.
Specific Gravity: 5.18.
Luster: Splendent to dull metallic.
Color: Iron-black; opaque.
Streak: Black.

Composition/Features:
A common iron oxide characterized by its strong magnetism, black color, and hardness. Slowly soluble in HCl. Infusible. Strongly magnetic varieties, that act as natural magnets, are known as *lodestone*.

Occurrence/Use:
Magnetite is a widespread oxide mineral often found as a product of magmatic segregation. May also be associated with crystalline metamorphic rocks, or found as a common constituent of sedimentary and metamorphic Precambrian iron--formations. An important commercial ore of iron.