Discovery Channel School's CURRICULUM CENTER

peak their interest

Magnetism

You can take the magnetism out of a magnet by hitting it soundly with a hammer. The vibrations you cause when you strike the magnet will shake up the magnet's atoms and knock the domains out of alignment, so it will no longer be magnetic. To remagnetize it, you'd have to put it in touch with a magnetic field.

Before the invention of the compass, people used a bowl and spoon to navigate. The Chinese were probably the first to recognize the direction-finding ability of magnets. In A.D. 83, during the Han dynasty, magnetic lodestone was carved into a bowl and spoon. The spoon was free to orient itself within the bowl to the direction of Earth's magnetic field, always pointing in the same direction.

Magnetism helps keep our currency free of counterfeit money. The ink that's used to print bank checks and paper money is treated with magnetic dust so that it can be distinguished from ink used in counterfeit currency. Vending machines and coin sorters also use magnetism to identify slugs, or metal disks.

Some lobsters use a built-in compass to migrate each fall. Spiny lobsters have tiny bits of magnetite—the same material that's in lodestones—in their brains. In late autumn, the lobsters detect the Earth's magnetic field and use their internal compass to travel through the dark of night and huge waves. Every year, without fail, they successfully find their way to warmer water before the chilly winter arrives.