

SCIENCE FUN #4

MAY THE (MAGNETIC) FORCE BE WITH YOU!!!

We all have experienced forces. In fact we feel one force all the time – the force of gravity! When we drop a ball, it falls down to the ground due to gravity. Whenever we jump up, we come down because of gravity. But what is gravity? Gravity is an invisible glue that ties things to the earth. So things always fall down and not up!

But there is another force called magnetism. Some things called MAGNETS have a different kind of invisible glue that lets them “stick” to other things.

EXPERIMENT #1 – WHAT DO MAGNETS STICK TO?

Take a magnet, and find three things that it sticks to from the bag on your work station. List these things here. What is the same about these things?

Now, find three things from the bag that the magnet doesn't stick to. List these things here. What is the same about these things?

EXPERIMENT #2 – DO MAGNETS STICK TO EACH OTHER?

Now let's take another look at the magnet. Notice one end on each magnet is labeled "N" and the other is "S". This means the "north" and "south" ends of the magnet that we call the "poles". Take the south end of one magnet and try and put it next to the south end of the other magnet. What happened?

Now take the south end of one magnet and put it next to the north end of the other magnet. What happened?

**Do you see what's pushing or pulling the magnets?
NO!! The magnetic force is invisible, but we can make it
show itself!**

EXPERIMENT #3 – LET'S SEE THE INVISIBLE GLUE OF MAGNETS!!!

Let's do a group experiment. I'm going to put a magnet under a sheet of paper. Then I'll sprinkle some iron dust over the paper. What do you see? Can you explain why the iron dust behaved the way it did?

EXPERIMENT #4 – MAGNETIC MONEY

Is money magnetic? Take a penny, nickel, dime and a quarter. Will your magnet pick any of them up? Why or why not? Now I'll try this with a dollar bill. Is that magnetic? Why or why not?

Here are some other cool experiments we can try

MAGNETIC CEREAL

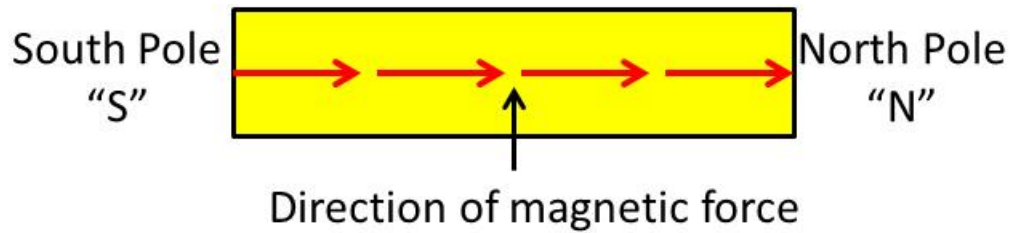
Is cereal magnetic? Some cereal has iron added, so yes! Try this at home and see what cereal you have that might be magnetic!

CAN WE MAKE A MAGNETIC HAMMER?

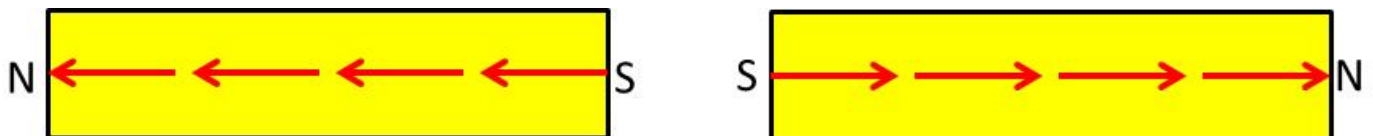
Can you make a hammer pick up nails all on its own using magnetism? How? Write down some ideas.

MAGNETIC FORCE

The invisible glue in magnets is called the “magnetic force”. In a magnet, this force goes in ONE direction from the south pole to the north pole:



So, when you place the south poles of two magnets near each other, the magnets push each other away because the magnetic forces in the two magnets are going in opposite directions!



If you place the north pole of one magnet next to the south pole of another, the magnets get pulled together since the magnetic force in both magnets is going in the same direction!

