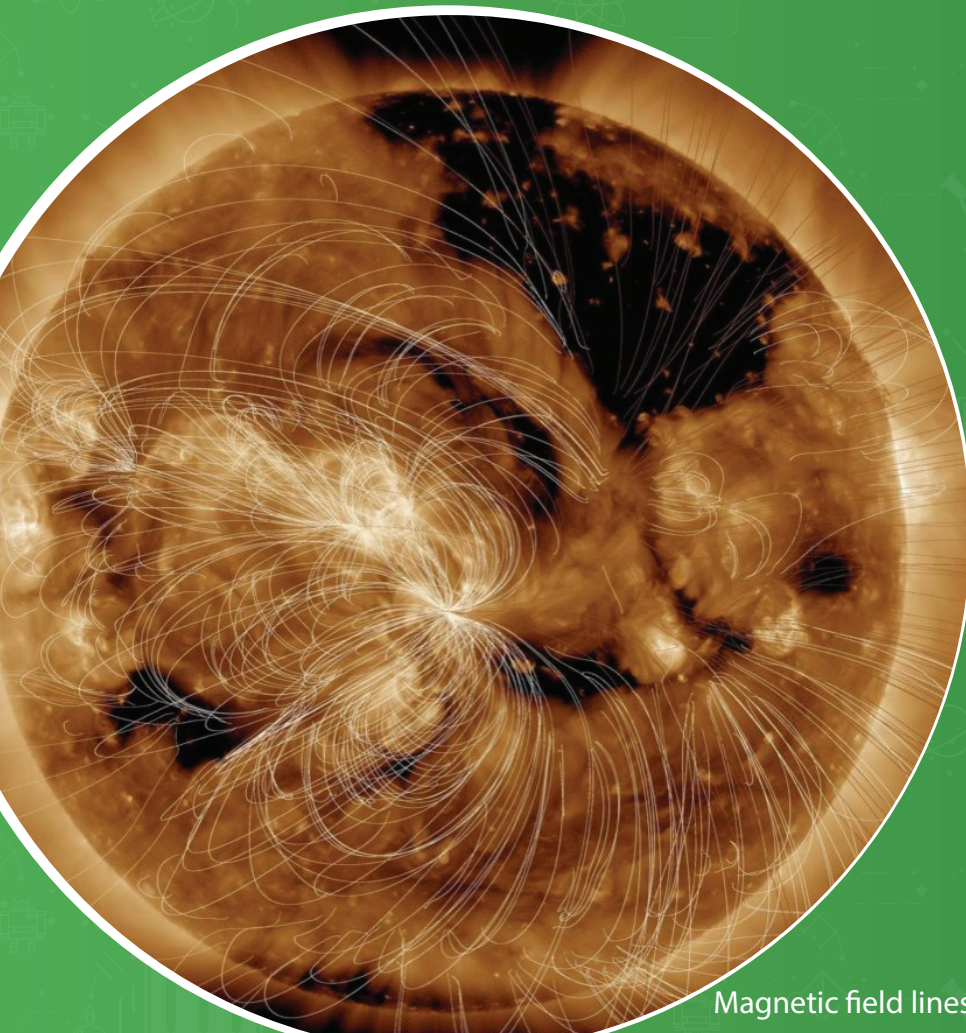


# SCIMON'S LAB REPORT



## INTRO TO MAGNETISM

Today students explored magnetism! They investigated different types of magnets, and compared the strength of magnetic forces exerted by different magnets over a distance. Students also observed how magnets interact with each other, and identified the north and south poles of magnets. Thinking like engineers, students designed ways to use the attractive and repulsive properties of magnets to accomplish different tasks. Students also had the opportunity to visualize the magnetic fields of the different magnets using a box of iron filings. Ask your student to describe what the fields looked like when two magnets were attracting each other compared to what they looked like when the magnets were repelling each other!



## AFTER OUR VISIT

Students may extend this activity at home by exploring magnets in their own home: Learning About Magnetism Away from the Classroom!

“Away from the Classroom” provides simple lesson plans, experiments, and projects that can be done at home using household items. It is available to teachers, students, and parents via <https://sciencefromscientists.org/sfsathome>.

Magnetic field lines on the Sun (NASA)

## IF YOU HAVE A BAR MAGNET WITH ITS NORTH AND SOUTH POLES LABELED, AND YOU HAVE ANOTHER MAGNET WHICH IS UNLABELED, HOW CAN YOU FIGURE OUT WHICH POLE IS WHICH FOR THE SECOND MAGNET?

The north pole of the bar magnet will attract the south pole of the unlabeled magnet, and repel the north pole of the unlabeled magnet. (You could also use a compass. The north pointer of the compass would point to the south pole of the magnet.)

## WHAT IS ONE BIG DIFFERENCE BETWEEN MAGNETISM AND GRAVITY?

Gravity and magnetism are two distinct, different forces. Magnetism can repel, as well as attract. Gravity only attracts!

## WITH A LABELED BAR MAGNET, YOU CAN IDENTIFY THE NORTH AND SOUTH POLES OF ANY OTHER MAGNET. IF YOU BRING A LABELED BAR MAGNET NEAR A COMPASS, THE POINTER ON THE COMPASS THAT INDICATES WHICH DIRECTION IS NORTH, WILL POINT TO THE SOUTH POLE OF THE BAR MAGNET. WHAT DOES THIS TELL US ABOUT THE LOCATION OF THE NORTH AND SOUTH MAGNETIC POLES OF THE EARTH?

The Earth is a big magnet. The magnetic pole located in the northern part of the planet is actually the south pole of the magnet, and the magnetic pole located in Antarctica (in the south) is the north pole of the magnet. People started using magnetic compasses long before they understood the Earth's magnetic field, or even that the Earth itself was the source of the magnetism, so they simply (and logically!) labeled the direction and the compass pointer with matching directions.



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