

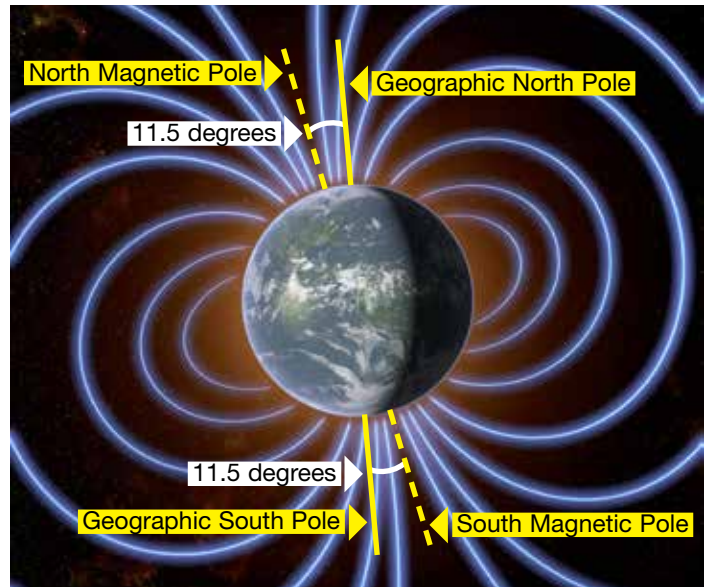
Name: _____

PROTECTIVE SHIELD

In “Ghostbusters!” (p. 20), you learned that exposure to changing electromagnetic fields may be the reason some people have “paranormal” sensations. One field that people are constantly exposed to is the natural magnetic field that surrounds Earth. The diagram below shows the planet’s protective field. Use the diagram and the information in the article to answer the questions that follow.

EARTH’S MAGNETIC FIELD

Scientists believe that Earth’s magnetic field is created by molten iron and nickel found in the planet’s core. As Earth spins on its axis, the liquid metal core also rotates. That movement generates electric currents that create a magnetic field around the planet. These fields stretch from the South Pole and curve around Earth to rejoin at the North Pole. Earth’s magnetic field protects the planet by deflecting some of the flowing, high-energy particles from the sun. Without the magnetic field, this solar wind would blow away Earth’s protective atmosphere and expose the surface—and everything that lives there—to harmful radiation.



ANALYZE IT

1. What is represented by the curved lines running around Earth in the diagram?
2. Where does Earth’s magnetic field run parallel to its surface?
3. Use your own words to explain how Earth’s magnetic field is generated.
4. Mars does not have a magnetic field. Based on what you learned in the diagram, how do you think the conditions on the planet’s surface would compare with those on Earth?
5. What do you think would happen if we no longer had a magnetic field? Do you really think it causes people to have paranormal sensations? On a separate piece of paper and using information from the texts and your own research, write a 200-250 word essay answering these questions.