

Magnetism worksheet

1. What are the 2 criteria necessary for a substance to be considered a magnet?

2. State where you will see repulsion or attraction between the bar magnets.

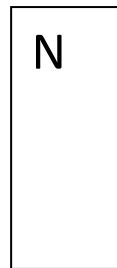


3. Draw a magnetic field for each of the following examples.

A)



B)

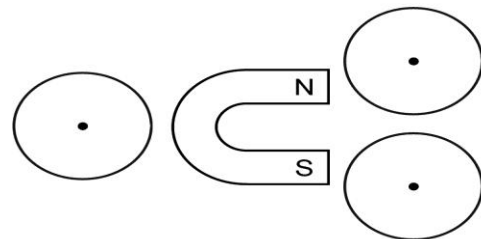


4. The circles below represent compasses. In each situation, draw the needles of the compasses, using an arrow to show the direction they point.

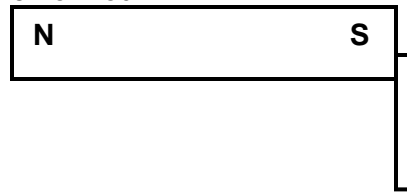
a)



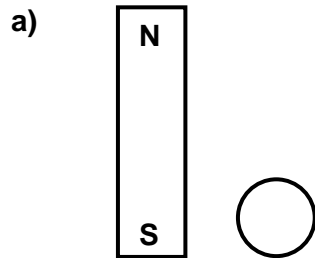
b)



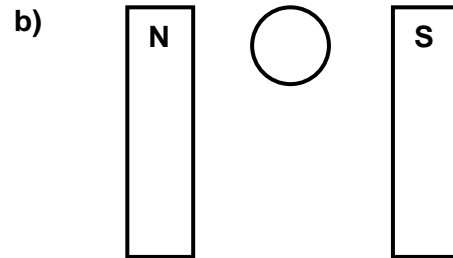
5. A soft iron rod is magnetized with a bar magnet, as shown in the diagram below. Identify the poles of the iron rod.



6. Draw the position of the needle in each of the compasses placed near the magnets or wire illustrated below.

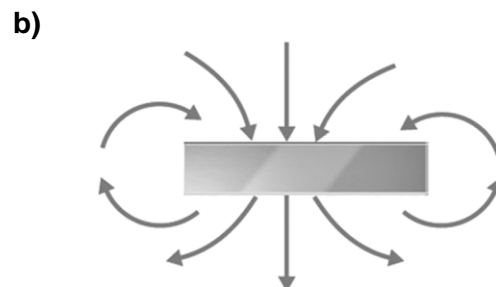
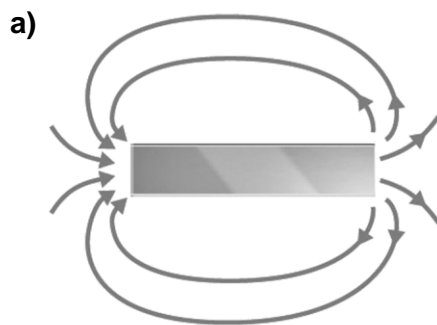


Compass I

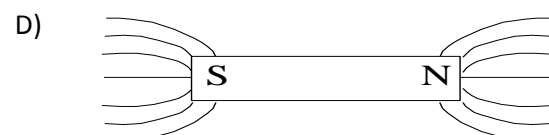
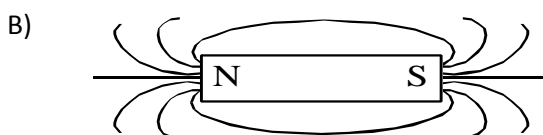
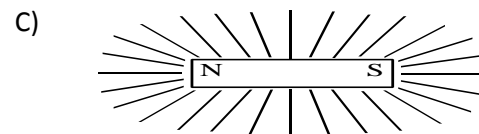
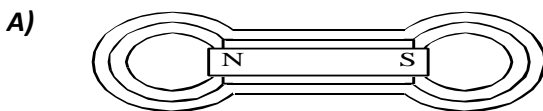


Compass II

7. Which of the illustrations below is an accurate representation of the magnetic field of a bar magnet? Explain your answer.

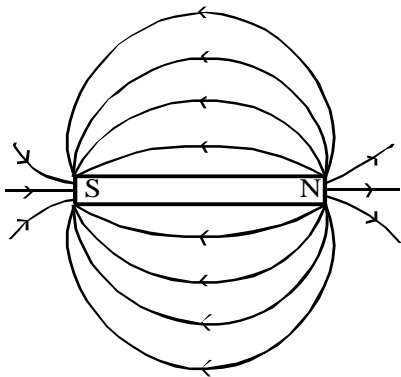


8. Maria sprinkles iron filings on a piece of cardboard placed on top of a bar magnet. Which configuration will the iron filings take?

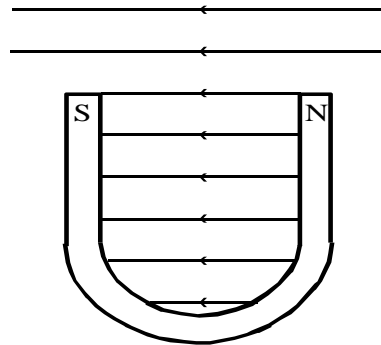


9. A magnet is surrounded by a magnetic field which is shown by lines of force. Which one of the following diagrams correctly represents the magnetic lines of force around a magnet?

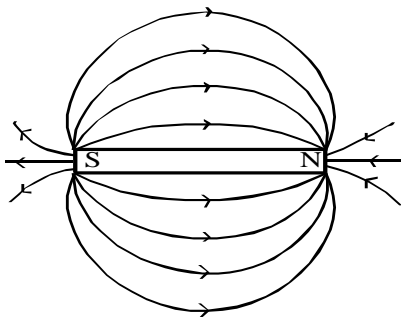
A)



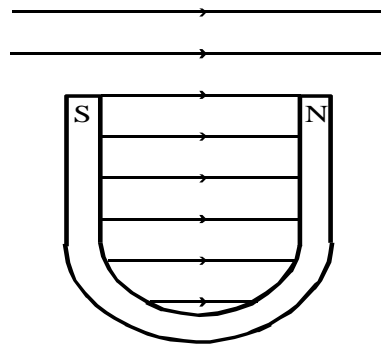
C)



B)

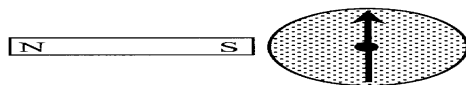


D)

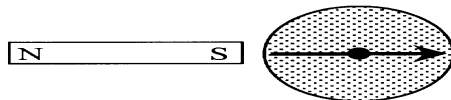


10. Which of the following diagrams correctly shows the direction in which the compass needle will point?

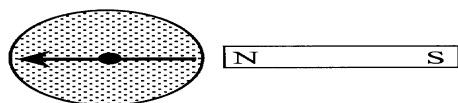
A)



B)



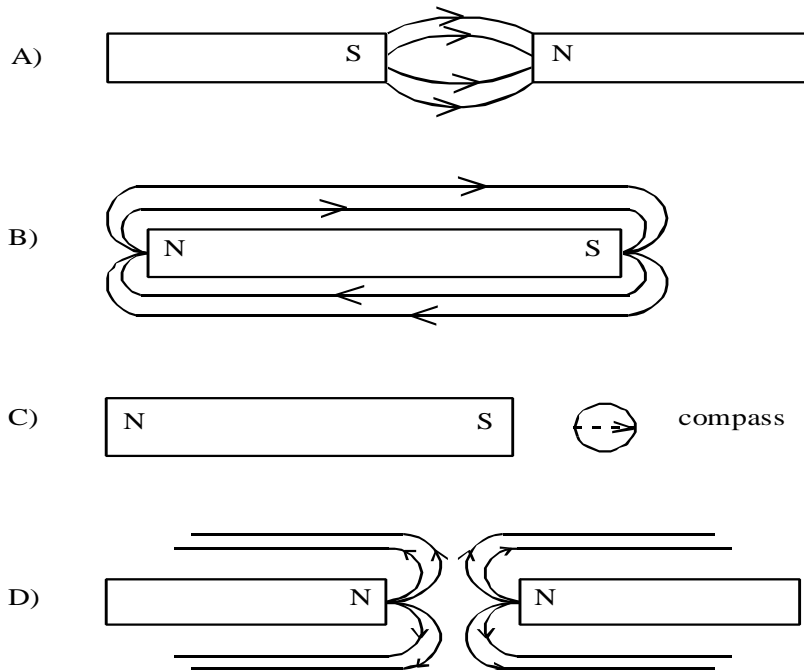
C)



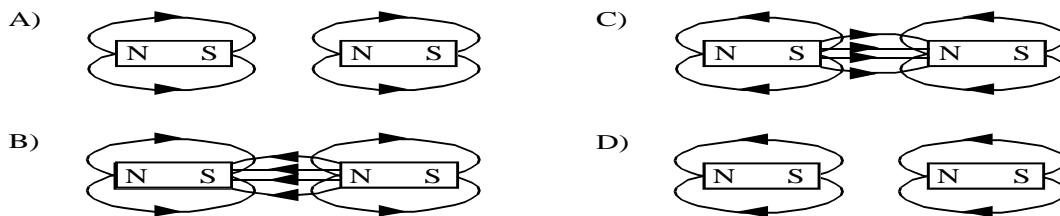
D)



11. Among the following diagrams, which correctly illustrates a magnetic field?



12. Two magnets are placed end to end. Which diagram correctly illustrates the magnetic fields around these magnets?



13. A magnet creates what is known as a magnetic field. A compass can be used to show the magnetic field. Which of the following statements are true?

1. If a bar magnet is broken in two, each piece will only have one magnetic pole.
2. Like poles repel each other.
3. The needle of a compass is a small magnet.
4. Aluminum can be easily magnetized.