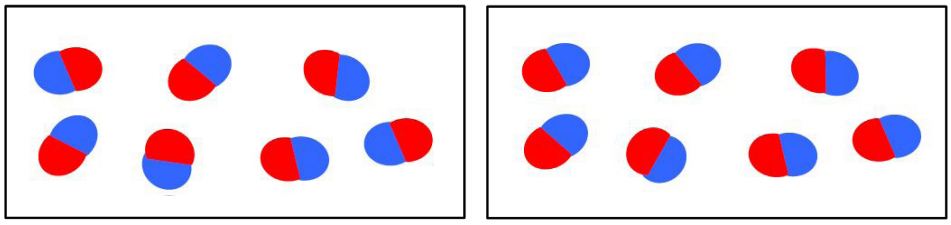
Checkout Questions

Lab 10. Magnetic Force

How Is the Strength of an Electromagnet Affected by the Number of Turns of Wire in a Coil?

1. Malik and Jason are both making electromagnets. Malik wants to use two batteries to make his electromagnet the strongest. Jason plans on using only one battery but wrapping his wire twice as much as Malik. Use what you know about electromagnets to explain why both students have good strategies for making strong electromagnets.

2. Below are two samples of different materials. The samples show the general alignment of atoms within that material. Each individual atom acts like a miniature magnet, with the light gray side representing the south end of the magnet and the dark gray side representing the north end of the magnet. Which sample as a whole would be better for making a large magnet?



Sample A Sample B

   Explain your answer. Why did you make that decision?

3. In science, laws are more important than theories because laws are true.

   a. I agree with this statement.
   b. I disagree with this statement.

   Explain your answer, using an example from your investigation about magnetic force.

4. In science, evidence for our claims comes from the data we collect.

    a. I agree with this statement.
    b. I disagree with this statement.

    Explain your answer, using an example from your investigation about magnetic force.

5. The amount of matter and energy in the universe is constant. Explain how understanding the movement of energy and matter within and between systems is helpful to scientists. Use an example from your investigation about magnetic force to help in your explanation.

6. The structure of an object is usually related to the function of that object. Use an example from your investigation about magnetic force to explain why it is important to understand the relationship between structure and function within science.