***InterActions* Unit 1 Cycle 2 Sample Quiz**

(Final formatting and images to be done after August 14)

1. A magnetic material is

    a. a metal that interacts with a magnet.

    b. a metal that is magnetic.

    c. any material that interacts with a magnet.

2. An electrical conductor is

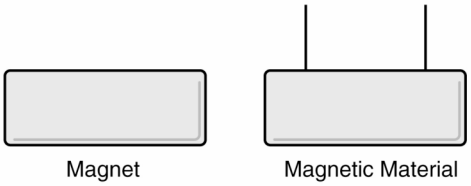
    a. a material made of metal.

    b. a material that does not allow electric current to exist in it.

    c. a material that allows electric current to exist in it.

    d. a material that is not made of metal.

3. A magnet is brought very near to a suspended magnetic material that is free to move. The suspended magnetic material …



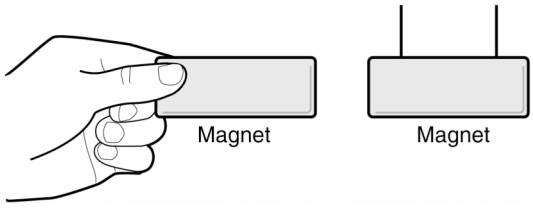
    a. moves toward the magnet.

    b. moves away from the magnet.

    c. moves toward or away from the magnet, but we can't say which way without more information.

    d. stays in the same place.

4. A magnet is brought near another magnet that is suspended and free to move. The suspended magnet …



   a. begins to move toward the magnet.

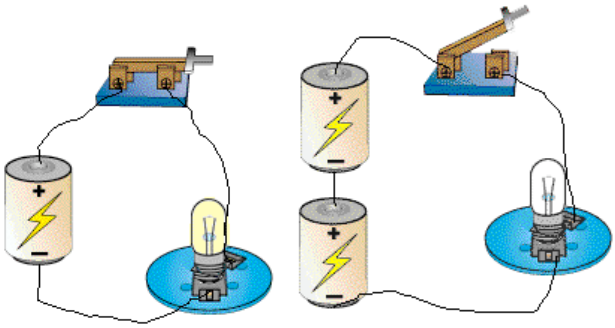
   b. begins to move away from the magnet.

   c. begins to move either toward or away from the magnet.

   d. stays in the same place.

   e. There is not enough information to decide.

5. A closed electric circuit consists of one battery and one bulb. If a second battery is added as shown, what happens to the brightness of the bulb when the circuit is closed?



   a. The bulb becomes brighter.

   b. The bulb becomes dimmer.

   c. The brightness of the bulb does not change.

   d. There is not enough information to say what happens.

6. When an electrically charged object is brought near an uncharged charged object it _____.

    a. repels the uncharged charged object

    b. attracts the uncharged charged object

    c. attracts or repels the uncharged charged object depending on the type of electrical charge

    d. neither attracts nor repels the uncharged charged object

7. When an electrically charged object is brought near another electrically charged object it _____.

    a. repels the electrically charged object

    b. attracts the electrically charged object

    c. attracts or repels the electrically charged object depending on the type of electrical charges interacting

    d. neither attracts nor repels the electrically charged object

8. Which of the variables listed below will increase the strength of the magnetic interaction between an electromagnet and a magnet?

        I. The number of turns of wire.

        II. The amount of magnetic material placed within the turns of wire.

        III. The amount of electric current in the wires.

    a. I and III

    b. II and III

    c. I and II

    d. I, II, and III

9. An electromagnet interacts with a magnetic compass. As the compass is brought closer to the electromagnet the number of degrees the compass needle deflects by changes. Data is provided below.

Distance between compass and electromagnet (cm)	**Deflection of compass Number of degrees (°)**
30	8
25	14
20	22
15	40
10	54
5	70

(a) Write a question in relationship form for this experiment.

(b) The manipulated variable is

(c) The responding variable is

(d) The variables that are controlled are

(e) Do the compass and electromagnet interact? If so, what is the evidence of the interaction.

(f) Write an experiment conclusion and your reasons