



ELECTRICITY & MAGNETISM STUDY GUIDE

Adapted from Troup County School System



MARCH 23, 2016

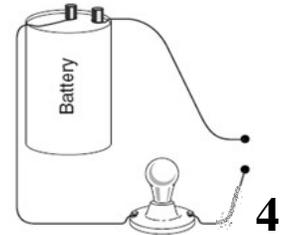
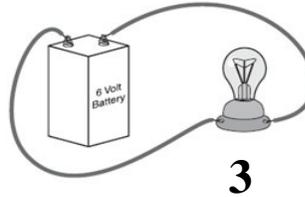
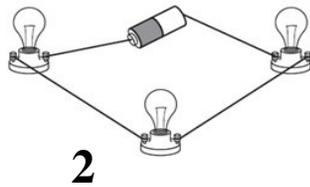
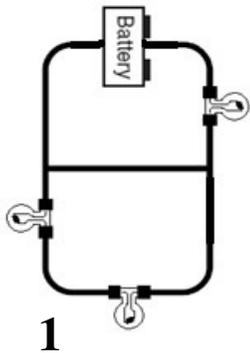
SCS

Electricity & Magnetism Unit Test Study Guide

Name _____

1. Define Insulator and provide examples of insulators. (S8P5c)

2. The diagrams below show charged balls. Draw arrows in each diagram to indicate whether the charged balls will be attracted or repelled by each other. (S6E5c)



3. Look at the diagrams above. In which situation will the light bulb not light up? Explain why. (S8P5b)

4. Which diagram above is a parallel circuit? Explain why. (S8P5b)

5. In diagram 2 above, what will happen to the other light bulbs if one light is pulled out? Explain why. (S8P5b)

6. Look at diagrams 1 and 2 above. Which of the two diagrams will most likely have dimmer (weaker) shining lights? Explain why. (S8P5b)

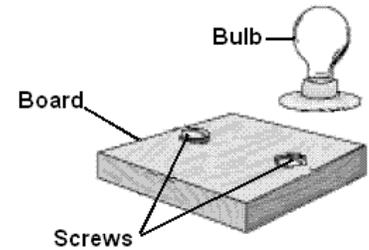
7. What type of circuits would be used to wire a house or building? Why? (S8P5b)

8. Explain how an electrical charge can make a person's hair be attracted to a piece of clothing when the clothing is removed. (S8P5c)

Electricity & Magnetism Unit Test Study Guide

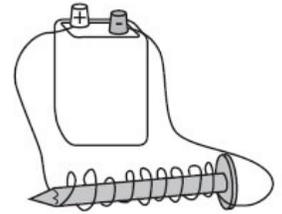
Name _____

9. Students were asked to create a circuit during science class. The diagram to the right shows some of the materials needed to make the circuit. What materials are still needed to complete the circuit? (S8P5b)

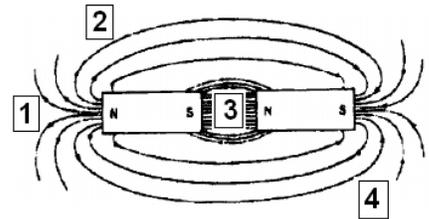


10. Look at the diagram to the right and answer the following questions.

- a. Identify the object.
- b. What causes the object to work?
- c. Explain how you can make the object stronger. (S8P5c)



11. Iron filings and bar magnets were placed on a sheet of paper. The diagram to the right shows the pattern made by the magnetic field. At which location is the magnetic field the strongest? Explain why. (S8P5c)



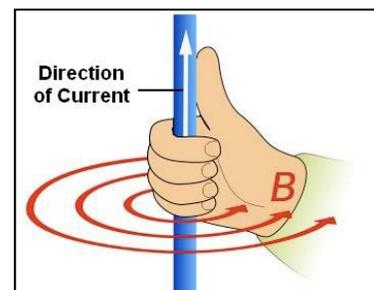
12. A piece of cloth is attracted to a negatively charged object. The cloth is also repelled by a positively charged object. What charge must the cloth have? (S8P5c)

13. The needle of the compass is pointing toward the magnetic north pole of Earth. What would cause the needle of the compass to point toward the east? Explain why. (S8P5c)

14. Label the North and South ends of the magnets to the right that would result in the greatest attraction between the two. (S8P5c)



15. The diagram to the right shows an electrical wire. The arrow shows the direction of the current. What does "B" represent? (S8P5c)



Electricity & Magnetism Unit Test Study Guide

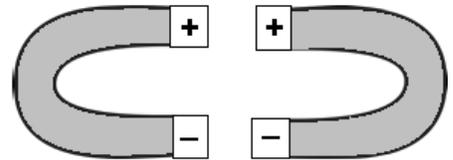
Name _____

16. What is the purpose of using a generator? (S8P5c)

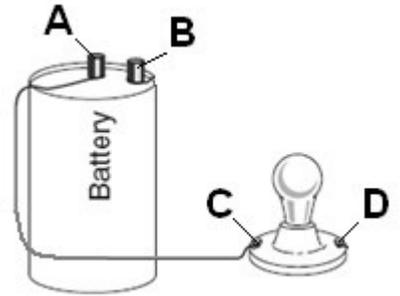
17. Why are many electrical wires wrapped with a plastic coating? (S8P5c)

18. Identify materials that are good conductors of electricity. (S8P5c)

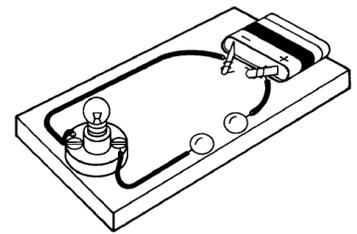
19. Two magnets, shown to the right, are placed near each other on a table. What will happen to the magnets? (S8P5c)



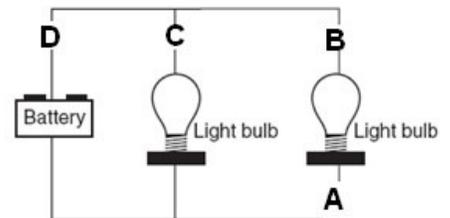
20. In order to turn on the light in the diagram to the right, a piece of wire needs to be connected from which two points? (S8P5b)



21. What types of objects (other than wire) could be used to complete the circuit in the diagram to the right? (S8P5b)



22. Both light bulbs are lit in the circuit to the right. In order to turn off both lights, where must a switch be installed in the circuit? (S8P5b)



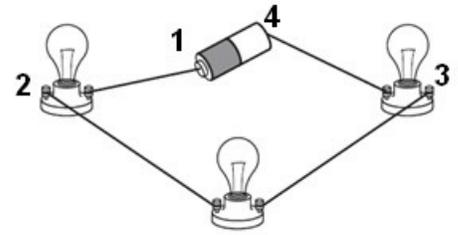
23. In the diagram to the right, what essential part of an electric circuit is missing at position X? (S8P5b)



Electricity & Magnetism Unit Test Study Guide

Name _____

24. Identify the path of the transfer of energy in the diagram to the right.
(S8P5b)



25. What is the source of energy in the diagram to the right?
(S8P5b)

26. A student coils a copper wire around a bar magnet. What action will cause the device to generate electricity?
(S8P5c)

27. Describe how batteries provide electrical charges (or convert energy). (S8P5b)

28. Compare and contrast a series circuit to parallel circuit. Include an example of each type of circuit and a benefit or disadvantage of each type of circuit. (S8P5b)