

Name: _____

Period: _____

Electricity and Magnetism Review

All sections marked with a are considered essential concepts and must be completed to receive full credit on WS.

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|---------------|---------------|
| 1. Voltage | A. 8 amps |
| 2. Resistance | B. 8 volts |
| 3. Power | C. 8 coulombs |
| 4. Charge | D. 8 watts |
| 5. Current | E. 8 ohms |

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| 1. Current | A. A path for electricity to flow. |
| 2. Voltage | B. A material that allows electricity to flow. |
| 3. Resistance | C. A material that resists electricity. |
| 4. Insulator | D. Slows down electricity |
| 5. Conductor | E. What pushes electricity in a circuit. |
| 6. Circuit | F. The flow of electrons thru wires. |

What moves: electrons or protons?
Why?

An object has a charge of -8 C .

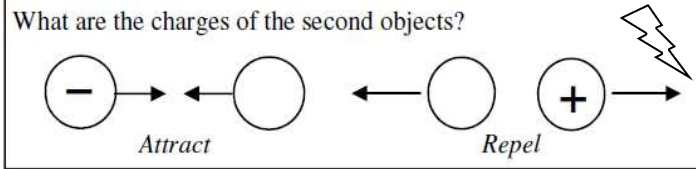
A) Is the object positive or negative?
B) Did it gain or lose electrons?
C) If you touch it to ground, will it lose electrons to ground or gain electrons from ground?
D) What will its charge be after it is grounded?

A _____ allows electricity or heat to pass through it.

Electricity flows through paths called _____. A _____ circuit has no breaks in it, while an _____ circuit has a break and stops the flow of electricity.

An _____ will not allow electricity to pass.

Electricity is made up of flowing _____.



Like electric charges attract/repel. Opposite charges attract/repel.

What is electricity?

Draw a circuit of two batteries, a light bulb, a resistor, and a switch, all in series.

- Will electrons flow between the two objects?
- A. B.

Why does electricity move?

You have two light bulbs and a battery in a circuit. If you add another battery, do the light bulbs get brighter or dimmer? Why?

What is arcing?

When and why does arcing occur?

You have two light bulbs and a battery in a circuit. If you add another light bulb, do the light bulbs get brighter or dimmer? Why?

If a 12 v battery is connected to a $24\ \Omega$ resistor, how much current is flowing?

Increases (I) Or Decreases (D)	Increasing resistance _____ current Decreasing resistance _____ current Increasing voltage _____ current Decreasing voltage _____ current
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How much voltage is needed to produce 2 amps through a 4 ohm light bulb?

If a light bulb in your house (120 V) draws 0.5 amps, how much power does it use?

How can you tell if two light bulbs are in parallel?

How can you tell if two light bulbs are in series?

Is your house wired in series or in parallel? Why?

What is the change of voltage across a wire?
 Why can a bird sit on a wire and not be electrocuted?

What happens when you short circuit one light bulb in a two light bulb circuit?
 What happens if you short circuit a battery?

Fill in the missing information on the following graphics.

$I_T = \underline{\hspace{2cm}}$ $R_T = \underline{\hspace{2cm}}$ $V_T = \underline{\hspace{2cm}}$

Where do most of the electrons come from that run thru a circuit?

$V_T = \underline{\hspace{2cm}}$
 $R_T = \underline{\hspace{2cm}}$
 $I_T = \underline{\hspace{2cm}}$
 $I_{R3} = \underline{\hspace{2cm}}$
 $V_{R2} = \underline{\hspace{2cm}}$

Series or parallel?

$V_T = \underline{\hspace{2cm}}$ $I_2 = \underline{\hspace{2cm}}$
 $V_{DF} = \underline{\hspace{2cm}}$ $I_3 = \underline{\hspace{2cm}}$
 $V_{HG} = \underline{\hspace{2cm}}$
 $V_{at F} = \underline{\hspace{2cm}}$
 $I_1 = \underline{\hspace{2cm}}$

The three magnets are **repelling** each other. Fill in the missing information.

N
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The two magnets are **attracting** each other. Fill in the missing information.

S
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Someone asks you how what a circuit is and how it works. Tell them.

What will a magnet attract?
 What will a magnet repel?

A house is wired with this type of circuit? Explain why.

What does moving electricity cause?
 What do moving magnets cause?
 What is an electromagnet?
 How do you strengthen an electromagnet?

What is a motor?
 How does it work?
 What is a generator?
 How does it work?