Electric Circuits: *Series*

Name/Date: _____

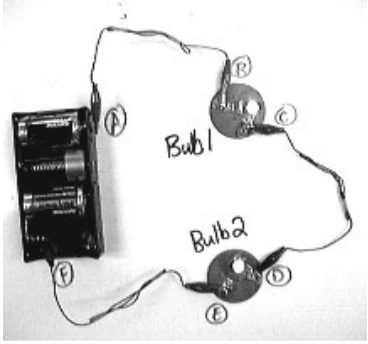
Physical Science

Hr: ____

Kittrell

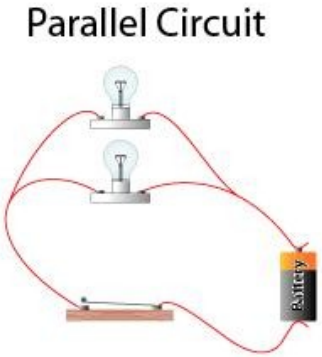
http://www.physics-chemistry-interactive-flash-animation.com/electricity_electromagnetism_interactive/components_circuits_association-series_parallel.htm

Use the web site to set up the diagram to the left. Predict what would happen if you break the *Series Circuit* at any of the labeled locations. Record the prediction in the Prediction Data Table.



Electric Circuits: *Parallel*

Use the same web site to set up the diagram to the left. Predict what would happen if you break the *Parallel Circuit* at any of the labeled locations. Record the prediction in the Prediction Data Table.



Use the site to complete the following: http://www.learningcircuits.co.uk/

Electricity Basics

What are some safety precautions we must remember while working with electricity? [List]

What is a complete circuit?

What is a short circuit? (use glossary)

Draw the symbols for the various components of electrical circuits.

Light	Switch on	Motor
One cell	Switch off	Buzzer
Two cells	Fan	

What happens to the brightness of a light if one adds more batteries?

What happens to the brightness if one increases the length of wire or the resistance?

Use your knowledge of fluids (air), work, surface area and gravity to get the ball through the net. Batteries used for fan 1: _____ fan 2: _____

Define the following:

Conductor:

Ex.

Insulator

Ex.

Predict what would happen if one tries to complete the circuit with the following item:

	Prediction		Observation
Item	Complete Circuit ? (Yes or No)		Circuit Completed (Yes or No)
key			
chalk			
Ink pen			
fork			
Euro (coin)			
Screw driver			
eraser			
nail			

Complete the quiz and record your score: _____

There is a warning on Christmas lights that states users should limit the number of strands of lights that are plugged into one another? Using your knowledge of circuits, why would there need to be a warning Christmas lights?

Why is it important to check the cords and bulbs on each strand of lights before they are used? [Hint: Think about the vocabulary words!]

Develop a warning for a tag to be placed on each strand of Christmas lights sold. The warning must convey the importance message of safety in terms simple enough for the consumer to understand yet still be true to your basic knowledge of electricity.

Practice creating Series and Parallel circuits. *Please watch the volume on your computer!*
http://thefusebox.northernpowergrid.com/page/circuitbuilder.cfm

Sketch a series circuit

Sketch a parallel circuit