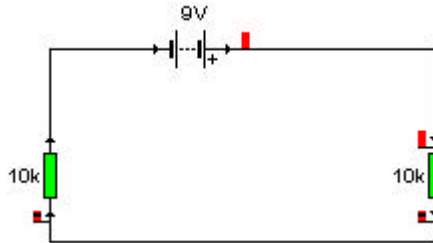


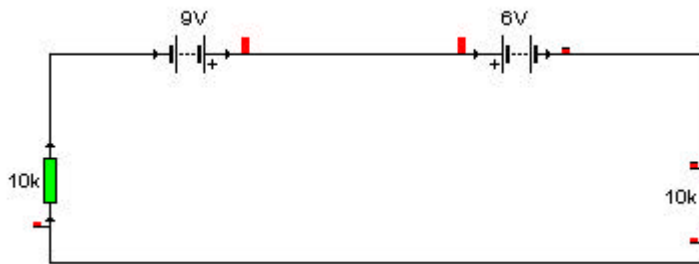
## KIRCHHOFF'S LAWS

Set up the circuit below. The red energy bars and arrows, indicate that the current is flowing from high potential to low potential. The cursor will indicate the value of the

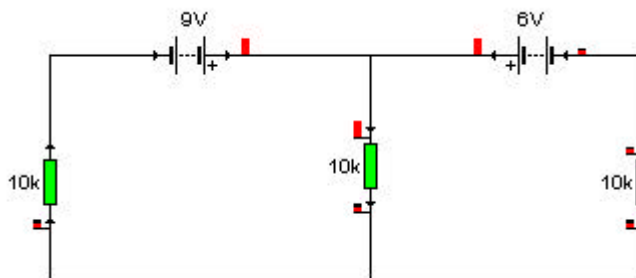


current when it is pointed at a wire.

Set up this circuit below. Look at the energy bars. Note energy is used as the current goes through the **6V battery** and the resistors. The current is flowing from High potential to low potential. Change the value of the voltages. Is the pattern consistent?



Set up the circuit below.



This circuit has three branches. Point the cursor at the left-hand branch. What is the current in this branch?

\_\_\_\_\_

What is the current in the right hand branch?

\_\_\_\_\_

What is the current in the central branch? \_\_\_\_\_

What can you say about the current in the top junction point? \_\_\_\_\_

What can you say about the current in the bottom junction point? \_\_\_\_\_

Write a general conclusion about the current through a junction point. \_\_\_\_\_

This circuit has two loops.

Go around the left-hand loop and see what is happening to the energy.

How much energy does the central resistor use? \_\_\_\_\_

How much energy does the left-hand resistor use? \_\_\_\_\_

How much energy does the battery provide? \_\_\_\_\_

What can you say about the total energy in the loop? \_\_\_\_\_

Go around the right-hand loop and see what is happening to the energy.

Is the same pattern evident? \_\_\_\_\_

Alter the values of both battery and resistors.

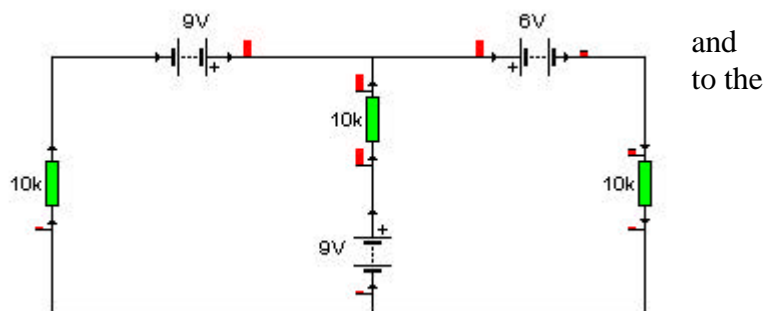
Does this change either the current or the energy use pattern?

Set up this circuit.

Go around the loops  
see what is happening  
energy and current.

Is the same pattern  
evident? \_\_\_\_\_

Alter the values of both  
batteries and resistors.



Does this change either the current or the energy use pattern? \_\_\_\_\_

What general Law can we write about the current through a junction point?

\_\_\_\_\_

What general law can we write about the energy used in a circuit loop?

\_\_\_\_\_