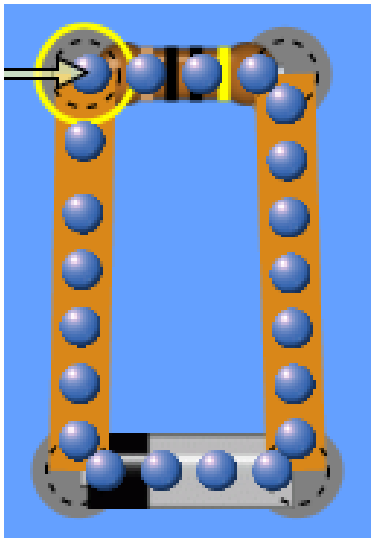
Introduction to Electrical circuits by Trish Loeblein phet.colorado.edu

Learning Goals: Students will be able to

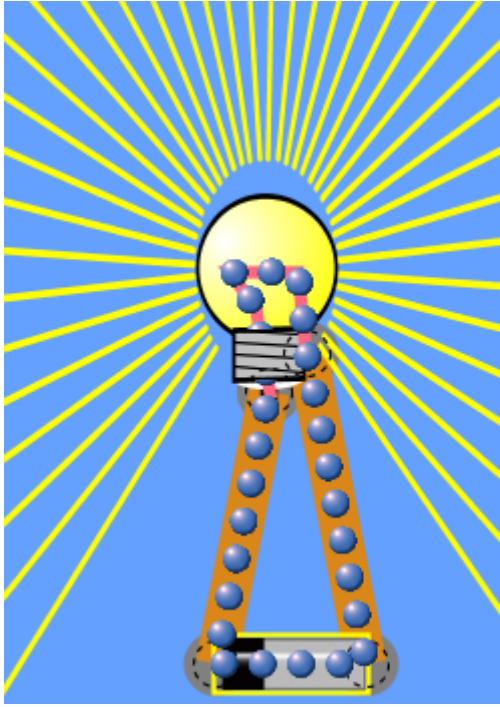
1. **Discuss basic electricity relationships**
2. **Analyze the differences between real circuits and the simulated ones**
3. **Build circuits from schematic drawings**
4. **Use a multimeter to take readings in circuits.**
5. **Provide reasoning to explain the measurements and relationships in circuits.**

1.If you build this circuit with real equipment, how would you determine the resistance of the resistor?



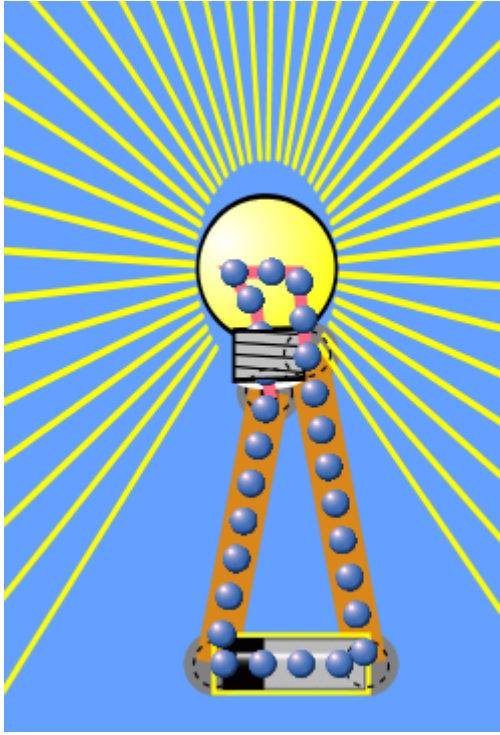
A. Use the ohmmeter after connecting the battery.
B. Use the ohmmeter before connecting the battery.
C. Measure the current and voltage, then use Ohm's law
D. Two of the above.

2.If you increase the voltage of the battery, how will the light bulb change?



A. It will be look brighter because the yellow lines are brighter and longer
B. It will be less bright because the yellow lines are less bright and shorter
C. There is no change because the bulb just uses the extra energy without changing brightness

3.If you increase the voltage of the battery, how will the electron display change?

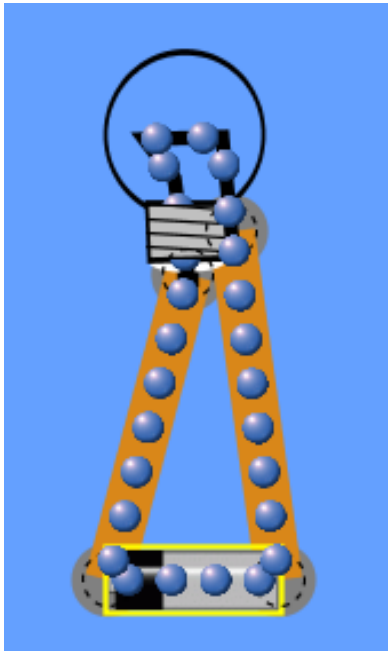


A. The blue dots will get bigger to show more energy is being used

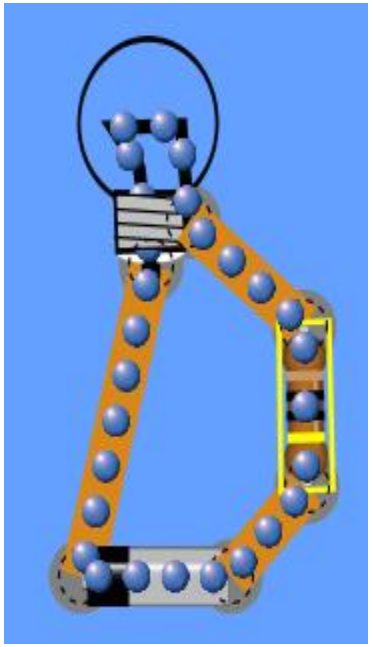
B. The blue dots will move faster to show more energy is being used

C. There is no change

4. If you build circuit A and then add a resistor as in circuit B, the light will



A



B

A. Look brighter

B. Look less bright

C. There will no change in brightness