

# Resistance in Wires Worksheet

## Observations

*“Simple circuit” lightbulb brightness*

*Long thick wire (2 m) lightbulb brightness*

*Short thin wire lightbulb brightness*

*Thin wire (1 m) lightbulb brightness*

*Heated thin wire (1 m) lightbulb brightness*

*Cooled (room temperature) thin wire (1 m) lightbulb brightness*

## Post-Lab Questions *(Answer on a separate sheet of paper.)*

1. What is the general relationship between the amount of resistance in a circuit and the brightness of the lightbulb?
2. How did the length of the thin wire affect the brightness of the lightbulb? What does this mean in terms of the resistance in the circuit?
3. How did the thickness of the wire affect the brightness of the lightbulb? What does this mean in terms of the resistance in the circuit?
4. What are the two physical dimensions that affect the resistance in a wire? How do these physical dimensions affect the resistance in a wire?
5. How did the temperature of the wire affect the electrical resistance of the wire? Explain why the resistance changed.