

Section  
**20-1**

HOLT PHYSICS

# Diagram Skills

## *Schematic Diagrams and Circuits*

- Use the symbols listed in Table 20-1 of the textbook to draw a schematic diagram of an electric circuit that contains one battery, two light bulbs, two resistors, and two switches.

- Label the switches  $S1$  and  $S2$ . Does either cause a short circuit when closed? Explain.

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- Add a switch to your diagram, and connect it so that it causes a short circuit when closed. Label it  $S3$ .

- A battery, two bulbs, and one switch are placed as shown below. Draw lines representing the wires for connecting these circuit elements so that the following statements will be true.

- Both bulbs  $A$  and  $B$  are on when the switch is closed.
- Only bulb  $B$  is on when the switch is closed.
- Bulb  $A$  is always on regardless of the switch, and bulb  $B$  is on only when the switch is closed.

