

Activity Lesson Opener

For use with pages 87–95

SET UP: Work with a partner.**YOU WILL NEED:** • index cards

Consider the following statements.

Statement A: The student is a boy.

Statement B: The student is a girl.

1. Write Statement A on one index card, Statement B on another, the word "not" on each of two index cards, and an arrow, \rightarrow , on another index card. The arrow, \rightarrow , means "implies."
2. Arrange the cards to make as many conditional statements as you can. After you arrange a statement, record it using symbols. For example, the following arrangement is recorded as $A \rightarrow B$.

Statement A:
The student
is a boy.



Statement B:
The student
is a girl.

Then decide whether the statement is *true* or *false*.

3. Did you create any statements that could be combined to form a biconditional statement? If so, give the pair(s) of statements that compose the biconditional(s).
4. How do you think a double arrow, \leftrightarrow , could be used to write a biconditional using symbolic notation? Use your answer to write the biconditional statement(s) using symbols. Decide whether each statement you created is *true* or *false* and explain your answer.