

LESSON
2-3

Challenge

Analyze Clues with Deductive Reasoning

Jake, Anna, and Ling are each originally from different states: California, Texas, and New Jersey. One of the students is on Student Council, one is on the swim team, and one is in the math club. The following statements are true.

- a. Ling is not involved with student government this year, and she has never been to Texas.
- b. Anna rides the bus with the person from New Jersey.
- c. Jake is not from California.
- d. Jake likes to go to his friend's swim meets.
- e. The person from California is Ling's neighbor. It is the person she goes to for math questions.
- f. The person on Student Council was born in the same month as Anna.

Use the information to answer each question.

1. Use statement b to formulate a conditional statement that is helpful in solving this puzzle.

2. Determine whether or not each conjecture is valid. Explain.

- a. If a person is not involved with student government, then he or she is not on Student Council. Ling is not involved with student government. So Ling is not on Student Council.

- b. If a person is not from the West Coast, then he or she is not from California. Jake is not from California. Therefore, Jake is not from the West Coast.

3. Use one of the statements listed above to write a conditional statement and make a valid conjecture. Describe how it is helpful in solving the puzzle.

4. Apply what you know about deductive reasoning to tell where Jake, Anna, and Ling are from and in which activity they are involved.
