

CHAPTER

3

SCIENCE PUZZLERS, TWISTERS & TEASERS

States of Matter

Mystery Jars

1. The labels have fallen off three jars in the chemistry lab. Jill, Jess, and Juan are each holding a jar. One jar contains a solid, another jar contains a liquid, and the third jar contains a gas. They know that the substances contained in the jars are nitrogen monoxide, silicon dioxide, and hydrogen hydroxide. Use the clues provided below to match the jars with their contents and the students holding them. Then, in the space provided below, write the new label that describes the contents and identifies who last handled the jar. The grid provided below may help you organize the information and solve the puzzle.

Clues:

- Juan is not holding jar C, nor does he have the solid.
- Silicon dioxide is not a liquid, and it is not in jar B.
- Nitrogen monoxide is a gas.
- Jar A does not contain a gas, and it is not being held by Jill.
- The jar Jess is holding is not marked with a C, nor does it contain hydrogen hydroxide.
- The liquid is not in jar A.
- Neither Jess nor Jill have the gas.

Place an X in the box if the descriptions belong to the same jar.
Place an O in the box if the descriptions belong to different jars.

	A	B	C	Jill	Jess	Juan	solid	liquid	gas
nitrogen monoxide									
silicon dioxide									
hydrogen hydroxide									
solid									
liquid									
gas									
Jill									
Jess									
Juan									

Labels:

- a. Jar A _____
- b. Jar B _____
- c. Jar C _____