

Mazes

Companion Text: *The Jakry Kids: Curiosity Shop*, by Lin Jakary & illustrated by Ryan Olson

Subject Area & Grade Level: Mathematics, 4th Grade

Materials: Crayons or markers, graph paper, Internet access (optional)

Objectives

After this lesson, students will be able to:

- Describe the relative position of locations from a fixed position
- Use cardinal directions to describe locations

Activity

Read the story once through without stopping. Then, pass out graph paper, and tell students to quickly sketch the Jakry Kids' school on one edge of their paper, and their house on another edge. Then, tell them that they have 15 minutes to create a simple maze between the two locations by darkening in a path, and creating misleading "spin-offs." Tell students not to make the paths in their maze too dark, just press lightly with the pencil. (If necessary, reiterate that the path will be dark, not white, which will make it easier to create quickly.)

Then, have students switch papers around so they have someone else's maze. First, give students a minute to solve their mazes by deducing the correct route on their papers with their fingers. Then, tell them to trace over the route with a crayon or marker that shows up well. Lastly, have students draw a 4-pronged N-S-E-W arrow on the maze they solved, with N on the top, S on the bottom, W on the left, and E on the right.

Arrange students in groups of four (or three if necessary), and have each foursome sit in a square, facing each other. Together, have them choose one of the mazes they solved, and tape it in the center of their square (so that it becomes fixed). Give each student a blank piece of paper, and have them fold it in half lengthwise, making two long columns. Tell students that in the left column they should write out the steps in the Jakry kids' path from school to home using the words right, left, up, and down, *from the position at which they are looking at the maze*. Then, in the right column, tell them to write out the path's steps using the cardinal directions of north, south, east, and west, according to the arrow drawn on the maze.

Reflection

When all students are complete, give them a few minutes to share their observations with others in their group. Ask, "What did you learn about cardinal directions?" (They are the same from any perspective.) Ask, "When could it still be useful to use the terms 'right' and 'left' when giving someone directions?" (When you know the direction he or she is facing at the starting position.)

You and your students may enjoy following up this lesson by playing "The Jakry Kids: School's Out!," a flash animation game based on the companion text, at www.wocto.com.

