

The Art of Making Mazes

Follow this author-illustrator's path to creating the perfect maze. **By Roxie Munro**

Once you start looking, you can find mazes everywhere—subway systems, shopping malls, airports, freeways, museums, even my publisher's floorwide sea of cubicles. I am not alone in my interest in mazes. They have been created throughout the world for thousands of years. The first recorded maze, the Egyptian labyrinth, was documented in the fifth century BCE by Herodotus, the Greek traveler and writer.

The terms *maze* and *labyrinth* are often used interchangeably, but I would say that a maze has choices—dead ends, cul-de-sacs, bottlenecks, false paths—while a labyrinth is unicursal; it has no branches and usually has only one path to its center. Labyrinths are common in churches and cathedrals, where they are set in floor tiles for people to walk while praying or meditating, and date as far back as the fourth century BCE. Ancient Cretan coins were decorated with geometric labyrinths, as were many ancient Roman labyrinths, often seen in floor tiles.

Mazes can be found in many cultures throughout history. You've certainly heard of the famous Minotaur maze. Mazes can also be found on pottery and rugs from India and Iran. Scandinavian fishermen walked mazes before sea voyages for good luck. Today, turf and hedge mazes remain popular in England, and corn mazes, which date back to the ancient Greeks, are common in the United States. Some games, such as chess and the video games Donkey Kong and Pac-Man, are mazes.

Educators can use mazes to encourage creative problem-solving, build math skills, improve concentration, and simply because they are challenging and fun.

Hooked on Mazes

I have always loved mazes. As a child I played with them whenever I could, drawing my own or solving mazes in children's magazines. I created a large spiral labyrinth in our backyard with bricks, trying to turn it into a giant floor plan for a circular house. (It didn't work.) Years later, as my illustration style developed, I became fascinated with architecture because of its detail, decorative elements, sculptural forms, and patterns.

My first book, *The Inside-Outside Book of New York City*, was a wonderful opportunity to indulge my fascination with a city, its buildings, little figures on sidewalks, and above all, patterns and details. One day, on a school visit, a fourth-grade boy asked about the Flatiron Building in the book—not the full-page illustration in the body of the book but the tiny inch-high drawing in the gutter of the title pages, a double-page spread of the buildings in lower Manhattan. When I mentioned this later at lunch, one of the

school librarians suggested I do a "Where's Waldo" sort of book, but I wasn't interested in cartoony or whimsical books. I wanted to do something more "real."

A few years later, *The Inside-Outside Book of Libraries* was published. For the title page, I illustrated a book-mobile traveling through a maze-like countryside, with villages, farms, highways, an airport, and a distant city. A couple years later, when I was asked to contribute a piece to *Purr: Children's Book Illustrators Brag about Their Cats*, I designed a maze based upon a true-life story—our lost cat Max finding his way nine miles back home through dog-infested farms, over highways, and across streams. These two projects and a maze I created for a small toy company were great fun. They involved everything I love to do—create a problem, solve it, execute it carefully in black and white, and then paint it with vivid color.

I began to wonder how a book of mazes would work. Not cartoons or schematic fantasy mazes, like those in paperback activity books, but

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something based upon real life. I started to sketch out towns, then landscapes. Readers would travel from one landscape to the other through the pages of the book. Each double-page spread would flow into the next and represent a setting: subdivision, airport, park, farm, factory, freeway, city. I had one maze going from page to page to the end of the book. One day, while working on the path, I made a mistake. Rechecking my work, I found that if you took a certain wrong turn, you looped back to the beginning. I decided to do this at the end of the book and looped the final maze back to the beginning. In the finished book, called *Mazescaples*, readers travel all the way through the book's 13 interconnected mazes and then return to the starting point a different way.

A-Mazing Solutions

It is important that each maze I create be different—not a formula. And the maze has to *look* complex, so that a child will feel a little thrill of challenge. It shouldn't be too hard or

Mazes in the Classroom

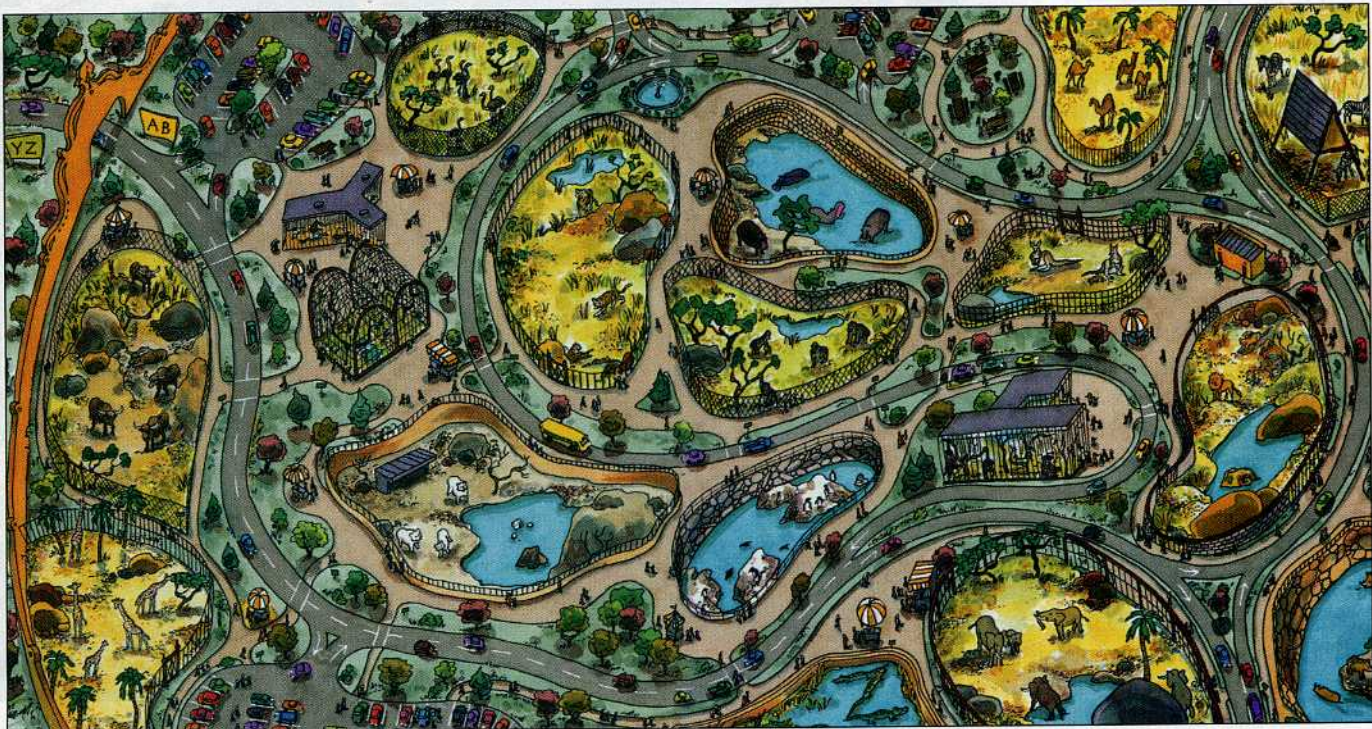
- Mazes help children learn decision-making and critical-thinking skills. They have to think ahead and plan steps to be taken later. They learn that there is more than one way to solve problems.
- Mazes help children learn to judge spatial relationships and develop map-reading skills.
- Children also practice revision by backtracking and trying another route when they hit a dead end.
- Mazes require concentration, visual discrimination, and focus.
- For the youngest children, mazes help develop fine motor skills. Research has shown that maneuvering through mazes helps improve children's handwriting.
- Working with mazes is particularly suited to boys and reluctant readers.

frustrating, but complicated enough to keep a child's interest and concentration. There are also things in all of my maze books to find, name, and count, and there is often an ABC component. At one point, I went through every page of the dictionary to find appropriate nouns to match ABC letters. (It took a couple days.)

One of the problems I run into is that all of the maze's items need to be a somewhat consistent size. If an item is too small, it's too hard to find (or draw!), and if it's too large, it's too easy to find (or out-of-scale

with the rest of the maze). To retain a sense of reality, there can be a slight shift in perspective (paths toward the top of the drawing get a little smaller and recede), but not a lot. On the other hand, I don't want it to be a strict aerial 'map view. I also don't want to do cutaways—to me, thinking as a child, that's cheating. You can't just lift a roof off a building.

I've done four maze books so far, and *Mazeways: A to Z* was the most fun. It developed out of a project I did for an American Library Association/Children's Book Council Auction



Readers navigate 13 interconnected mazes, including this bustling zoo scene, in Roxie Munro's *Mazescaples*.

WEB CONNECTIONS

To learn about the history and design of mazes, including step-by-step instructions for making a "Random Roxie" maze, visit the *Book Links Web site* at <http://www.ala.org/booklinks> and click on "Web Connections."

for Literacy, in which children's book illustrators were invited to create a letter. I did *M* for maze mountain. I started thinking about how an ABC maze book could work. Would it be possible to create a maze out of every letter of the alphabet, representing things found in real life? Turns out, it was! Some were easier than others: *A* for airport (certainly many airports are mazelike); *B* for boatyard; *G* for garden; *H* for highways (think Los Angeles freeways); *J* for jungle; *L* for library; *O* for orchard; *P* for parking lot (have you ever lost your car at a shopping mall?); *S* for ski resort (all those winding trails); *Z* for zoo. I had a little 5-by-7-inch clipboard with blank paper, and I would continue working on ideas on the subway home. I think I solved half the problems in the book waiting on the platform for the 6 train in Manhattan.

The Next Project

My next project is *EcoMazes*, to be published Earth Day 2010. The mazes will be based upon various ecosystems—rain forest, savannah, polar region, coral reef, grassland, and so forth. I'll define the ecosystems and create a maze activity for each one. Children will identify and count various flora and fauna and solve a maze. I'm already running into problems. Do I create a generic rain forest? Temperate or tropical? One in Africa or Indonesia, Hawaii or South America? I need to put fun critters in the rain

forest, but different rain forests have different creatures. (A sloth doesn't coexist with a gorilla.) What about monkeys, tapirs, anteaters, snakes, and parrots? It's hard to put insects in because they are too tiny in relation to the larger animals, and in order to keep it realistic, I need to adhere to an approximate scale. I can shift perspective more than in the other books (for example, using a foreground hill, if there are hills in the ecosystem, to show smaller creatures), but then I have to integrate that gracefully into the maze path, which must be complex and works best from a distance.


My mazes are a balancing act—a visual, spatial problem dictated by the necessity to keep it "real." I have to create a logical but interesting and challenging world for children to get lost in.

Sampling Munro

Amazement Park: 12 Wild Mazes. 2005. 40p. Chronicle, \$16.95 (9780811845816). K–Gr. 6.

Mazescapes. 2001. 36p. Chronicle, paper, \$6.95 (9780811847537). K–Gr. 6.

Mazeways: A to Z. 2007. 48p. Sterling, \$12.95 (9781402737749). K–Gr. 6.

Wild West Trail Ride Maze. 2006. 36p. Bright Sky, \$16.95 (9781931721677). K–Gr. 6. 

Roxie Munro is a fine artist and the creator of more than 30 books for children.



J is for jungle: Roxie Munro challenged herself to create a maze for each letter of the alphabet in *Mazeways: A to Z*.