

**Mazes**

Mazes are often found in unusual places: the menus in restaurants, the gardens in Williamsburg, and even POW! After receiving requests to do a problem on mazes, we checked the archives and found that this subject had been explored in 1999 in a problem that focused on a particular type of maze, the Cretan maze. Let's take a look at that maze and others and hope that we don't get lost as we explore this problem.

1) Some conversation starters and writing prompts to get us going: *What is a maze? What different types of mazes are there? Is a labyrinth a maze or is it something else? What makes a maze good? Must a maze be solvable in order to be considered a maze?*

2) Create a simple maze. You may use graph, lined, or blank paper. Make sure your maze has a clear start and end point and a possible solution. Try to make your maze as neat as possible so that it could be done by others. When you have completed your maze, ask to make a photocopy and see if your friends can solve it.

--	--	--	--	--	--	--	--	--

<p><b>1.</b> Draw a cross and four dots.</p>		<p><b>2.</b> Draw a line from the top of the cross, round the top-right dot, to the top-left dot.</p>		<p><b>3.</b> Draw a line from the top-right dot, between the lines, round the top-left dot, and then back round the top to the right of the cross.</p>		<p><b>4.</b> Draw a line from the left of the cross, round what you have drawn so far, round the bottom-right dot, then back round the other way to the bottom-right dot.</p>		<p><b>5.</b> Draw a line from the bottom-right dot, between the lines until you've gone round the bottom-left dot, and then back round the top until you reach the bottom of the cross.</p>
--	--	---	--	--	--	---	--	---

3) Let's learn about Cretan Mazes. Some mazes are created from scratch, but others begin with a pattern or formula. The Cretan maze begins with a simple design and grows from there, following a pattern. Try to follow this pattern to create a Cretan maze.

4) Can you modify the Cretan method to create a different type of maze?

5) Mazes are often mixed with images to create something both challenging and inspiring or entertaining. Can you select or create an image in which to generate a maze? Try to make the design of the maze complimentary to the image you select. Often there is a short story to go with these types of mazes, such as a dog finding his buried bone or a car getting to its destination. If it makes sense for your maze, write a short paragraph giving instructions and telling your story.

6) When mazes are mixed with landscaping and horticulture, they can become beautiful labrynth for people to explore and use for meditation. Do some research on such

labrynth and how the Cretan maze is often used for these purposes. Design such a maze for a location you know: the school, your house, or a local park. If you're feeling really ambitious, ask permission to create such a maze (temporarily) here on campus for the community to enjoy.

7) Do you have a favorite type of maze that wasn't discussed here? Write a short presentation on it and present it to your class or design one of your own to challenge your friends. If we get enough examples of other types of mazes, we might create a "Mazes Part 2" for a future POW. Have fun exploring these mazes!

Special thanks to <http://gwydir.demon.co.uk/jo/maze/cretan/index.htm> for the images used to explain how to draw a maze. For those having trouble with understanding the Cretan maze, this site is a good resource for this and many other mazes.