

THE MIRROR MAZE: DISORIENTATION IN SPACE

Background Information

When a person is not sure which is right or left or up or down, it is called disorientation. Perhaps you have felt this when you were underwater turning somersaults with your eyes closed. Disorientation will slow performance of even simple tasks.

Objective

Upon completion of this activity, students will be able to:

- provide a description of how his/her brain and hand react by being disoriented.
- apply this understanding to space shuttle missions.

Instructional Time

45 Minutes

Materials

“The Mirror Maze” Student Worksheet

Mirror

Vision Screen (9X12 paper folded in half)

Stopwatch

Pencil/Pen

Procedure

1. Discuss with students how the vestibular system helps us keep our balance on Earth. The vestibular system, located within the inner ear, helps us keep our balance, know up from down, and left from right when in motion.
2. In space there is no up and down and the human vestibular system can quickly go array.
3. Have the students work with a partner to complete the activity.
4. Results should show students working quickly through Maze A. When the mirror is introduced for Maze B, times should slow and more mistakes will be made.
5. Allow students to share their results with the class and their explanations for these results.

Student Name _____ Date _____

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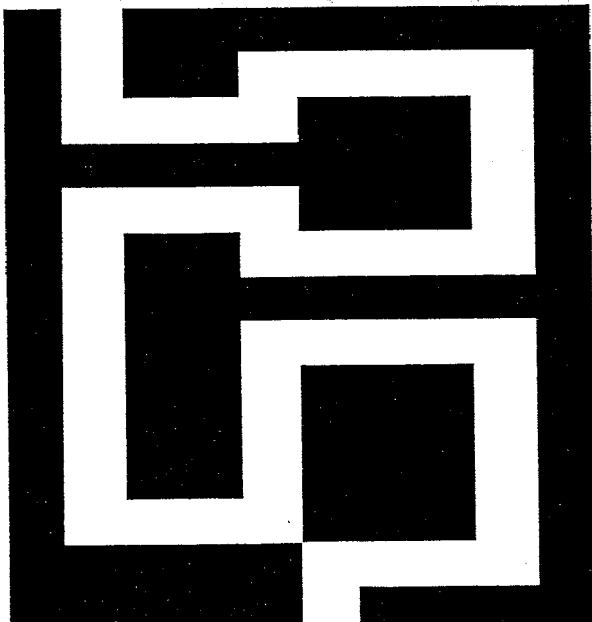
DIRECTIONS. Follow the directions to make your way through the mazes below. When finished, answer the questions on the next page.

Procedures

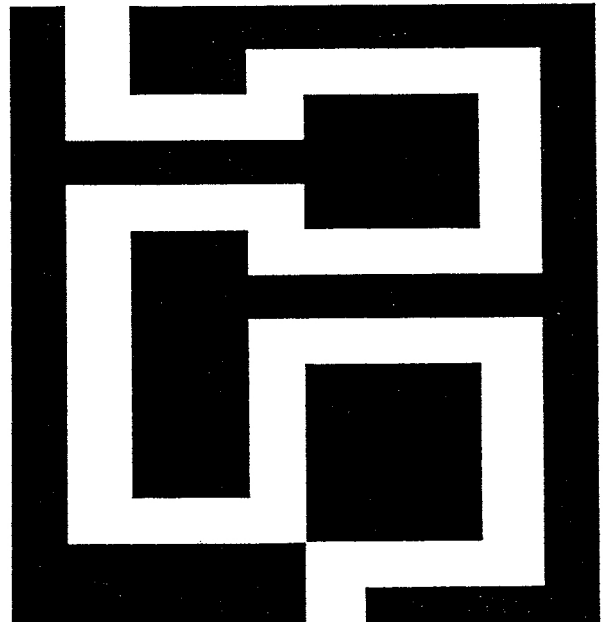
1. Have your partner time the number of seconds it takes to go from start to finish.
2. Take a pencil and trace a path through Maze A. Do not touch the sides of the maze and do not erase anything if you make a mistake.
3. Record your time and the number of times you touched the sides or went out of the lines on the table below.
4. Have your partner ready to time the number of seconds for Maze B.
5. Take a moment to predict the outcome and results for Maze B.
6. Using a mirror, trace a path through Maze B. Do not look directly at the maze. Only look at the maze through the mirror. Do not erase anything if you make a mistake.
7. Record the time and the number of times you touched the sides or went out of the lines on the table below.

	MAZE A (w/o mirror)	MAZE B (w/ mirror)
TIME (SECONDS)		
TOUCHED SIDE		

Maze A



Maze B



Student Name _____ Date _____

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1. What was your prediction for the results from Maze B?
2. Was your prediction correct? Explain.
3. If you repeated Maze B with the mirror, ten more times, would the time recorded increase or decrease? Explain.
4. How would your results from Maze B be affected if the maze was smaller, or larger?
5. Why would it be important for astronauts to practice for space walks and experiments before their mission?