

## Core Skills Analysis

### Mathematics & Logic

- Leo practiced strategic thinking by planning moves ahead to win or block the opponent in tic tac toe.
- He engaged in pattern recognition, identifying winning three-in-a-row combinations.
- Leo developed an understanding of spatial awareness by placing Xs and Os in the grid effectively.
- He explored basic probability and outcome prediction through observing possible game states.

### Tips

Playing tic tac toe offers a foundational chance to build logical reasoning and strategic planning skills. To deepen Leo's understanding, encourage him to play the game with different partners to experience varied strategies and outcomes. Introduce variations such as enlarging the grid size or changing winning conditions to challenge flexible thinking. Discuss the concept of draws and ties to expand thinking about fairness and game theory. Finally, ask Leo to explain his strategy before each move to enhance verbalization of reasoning skills.

### Book Recommendations

- [Math for All Seasons: Mind-Stretching Math Riddles](#) by Greg Tang: Engages children with puzzles and games to develop problem-solving and critical thinking.
- [Games for Math](#) by Peg Bracken: Introduces simple games that promote mathematical thinking and strategies for young learners.
- [The Art of Tinkering](#) by Karen Wilkinson and Mike Petrich: Encourages creative problem solving and experimentation through hands-on activities and games.

### Learning Standards

- CCSS.MATH.PRACTICE.MP1: Make sense of problems and persevere in solving them.
- CCSS.MATH.PRACTICE.MP7: Look for and make use of structure.
- CCSS.MATH.CONTENT.1.OA.D.8: Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.
- CCSS.ELA-LITERACY.SL.1.1: Participate in collaborative conversations with peers about grade 1 topics and texts with peers and adults in small and larger groups.

### Try This Next

- Create a worksheet with tic tac toe puzzles where Leo must find the winning move.
- Draw a larger tic tac toe grid (e.g., 4x4) and challenge Leo to develop new strategies to win.

### Growth Beyond Academics

This activity promotes patience and turn-taking, as well as confidence in decision-making when selecting moves. Leo might experience excitement in winning or practice graceful acceptance when the game ends in a draw, supporting emotional regulation and good sportsmanship.