



earlySTEM™ Wooden Ball Maze Puzzle Cubes

Here's What You Get!

- 8 Wooden Puzzle Cubes
- 1 Ramp
- 1 Ball
- 5 Double-Sided Activity Cards

Introduction

As babies become toddlers, they engage in purposeful actions, explore how things fit together, and try different ways to solve problems. Their increasing attention span allows them to observe, predict, and experiment. The Environments® Wooden Ball Maze Puzzle Cubes provide opportunities for toddlers to make independent choices as they practice their problem-solving skills.

Use the Wooden Ball Maze Puzzle Cubes to address these Head Start Early Childhood Learning Outcomes:

- Goal IT-C 2 Child uses understanding of causal relationships to act on social and physical environments.
- Goal IT- 6 Child learns to use a variety of strategies in solving problems.
- Goal IT- 7 Child uses reasoning and planning ahead to solve problems.
- Goal P-SCI 4 Child asks a question, gathers information, and makes predictions.
- Goal P-SCI 5 Child plans and conducts investigations and experiments.
- Goal P-SCI 6 Child analyzes results, draws conclusions, and communicates results.
- Goal P-MATH 10 Child explores the positions of objects in space.

Suggested Activities

Follow My Lead

Select the 8 Puzzle Cubes. Allow the child to examine the straight and curved paths. Take four of the cubes and arrange them in a straight path. Encourage the child to arrange the other four in the same configuration. Feel the path with fingers, or roll the ball in the path. Turn the cubes over and arrange them to create a circle. Again, encourage the child to make the same configuration. Arrange the four cubes in different ways, each time encouraging the child to replicate your path.

Adding Pieces

Invite the child to explore the Ramp, noting that one side is higher than the other. What happens when you put the Ball on the Ramp? Place one straight Puzzle Cube at the low end of the Ramp and release the Ball at the high end. Take turns with the child, adding straight Puzzle Cubes to create a long ball run. Predict then observe what happens to the Ball each time you add a Cube. Give this activity a (literal!) twist by adding curved Cubes. Encourage vocabulary development by stating which cube you are adding, or ask the child to select a straight or curved Cube.

Solve This!

When the child is comfortable using the straight and curved Cubes to create paths, pose simple challenges and encourage the child to solve each. For example, how can you make the ball go straight? How can you make it go around and around? How can you make the ball stop?

earlySTEM™ Wooden Ball Maze Puzzle Cubes (continued)

Use the Activity Cards to introduce different challenges. Work together to replicate the configuration on the cards. Young children may be most successful if you model the process verbally. For example, "I can see that a straight piece is close to the Ramp, and then a curved piece is next." This modeling will help the child understand spatial relationships and organize his approach as he attempts to replicate all the paths shown on the Cards.

Experiment!

Directed activities and replicating pictures on cards may appeal to some children. Other children will be happiest - and learn just as much - if they are invited to experiment with the Ramp and Puzzle Cubes on their own. Encourage them to work independently or collaboratively to create a path of their own design.