

# STEM

*starts now*

## Rolling and Racing

**Recommended Age:** 25–30 Months

**STEM concepts:** Science (physical science), technology (simple machines, simple tools), engineering (engineering), math (measurement, mathematical reasoning)

**Materials:** 1-inch-diameter foam pipe insulation, 4–5-inch diameter drain coupler, or cardboard or plastic tubes, 4 inches or larger in diameter, scissors, small balls or toy cars, masking tape, beanbags or small pillows, paper towel cardboard tube

**What to do:** Create the ramps by using cardboard or plastic tubes, foam pipe insulation, or drain couplers. If using foam pipe insulation, cut each 6-foot piece in half lengthwise using a scissors or box cutter. This will create 6 feet of open ramps for the children to roll items down. Start by placing the end of one of the ramp pieces on a low table or on the back of a chair. Model how to drop the small ball or toy from the top of the piece and let your child roll the balls down the ramp. Next, tape two pieces of foam pipe insulation together to make a 12-foot ramp. Place the top of the ramp on a higher area and have your child drop a ball down the ramp. Insert small bean bags or pillows under the ramp to add bumps and have your child drop a ball down the ramp. Measure how far the ball rolls each time it is rolled down the ramp.

**Language and Communication:** Talk with your child about engineering a ramp to race their balls or cars. Talk about how you are measuring the distance the ball or cars go. Have your child measure with their own feet to see how many “feet” the ball has gone. Encourage your child to decide how high the ramp should start or where the hills or bumps in the path should go. Compare what the ball did before the bumps and after the bumps were added.

**Expand the Activity:** Use two ramps and race cars down the ramps to see which one goes the furthest.

