



## To Roll or Not to Roll

Predict, observe, and solve problems as you work with your budding engineer figure out what objects roll on a variety of surfaces.

### Activity Instructions

Gather a variety of small objects from around your home. These could include: coins, toy cars, pencils, crumpled paper, marbles, balled up socks, magnets, cookie cutters, and curtain rings.

Find an area of your floor with a straight pathway for rolling. Lay the objects in front of your child and explore them together. How does the object feel, sound, smell, look? What shape is it? Do you think this will roll on the floor? Will it roll fast or slow?

Test out each object by rolling it along the floor. If the object did not roll, figure out together how to make it do so, if possible.

Make comparisons between differing objects. How does the slowest object compare to the fastest? How does the object that went farthest compare to the one that didn't roll?

As your child is interested, repeat the activity on a surface made of a different material, like a rug, a blanket, or a countertop.

### Activity Extensions



#### Tubes & Tunnels

Cut a paper towel, toilet paper, or mailing tube (or a few) in half lengthwise to create a ramp. Lay the ramp on a flat surface and test one object. Then lift one end of the tube so that the ramp is tilted. Repeat the rolling test with the same object, increasing the tilt each time. Talk with your child about their predictions and observations.

#### Race Track

Race two objects along the floor, ramp, or other surface. Mark off their distance traveled and/or time how long each took to reach their end point.

#### Scale it Up

Repeat the activities above but with large objects from around your home. These could include: pillows, shoes, basketballs, plastic bowls, rolling pins, and stuffed animals.

See more at-home activities at [nbm.org/learn/families/](http://nbm.org/learn/families/)