

“In the Construction Zone”

Module 11, Balls and Ramps

The logo for "EXPLORE IT" is enclosed in a black rectangular border. The word "EXPLORE" is in a bold, sans-serif font, with the letter "O" highlighted in green, the letter "P" in blue, and the letter "R" in purple. The word "IT" is in a smaller, regular sans-serif font.

Prompt:

Experiment with gravity! Build ramps and test them out. What will roll down the ramp? What will get stuck? Figure out ways to make your toys roll fast or slow.

Materials:

- Scrap cardboard
- Paper towel, wrapping paper, or toilet paper tubes
- A towel
- Blocks
- Plastic cups
- Small toy cars
- Small balls
- Other round items from your home: cotton balls, food cans, etc.
 - Note: if you choose to use empty food cans, make sure that any sharp edges are removed or covered. It can also be fun to try cans with food in them!
- Masking tape

Instructions:

1. Read the prompt with your child.
2. Examine the materials-- what can be used for a ramp? What might roll down a ramp?
3. Encourage your child to experiment by making lots of ramps out of the different materials. Invite them to test and manipulate the materials. What happens if they bend or fold the cardboard pieces? What happens if they make a tower with blocks to elevate one of their ramps?
4. Use furniture and a towel to create longer and wider ramps. Place one end of the towel on the seat of a chair or couch. Put something heavy over this end to hold it in place. Roll something down the ramp that is created-- what happens?
5. Use cups to try to catch balls at the end of the ramps.
6. Encourage your child to test out all of the things you gathered that might roll on each ramp (balls, cans, cotton balls, and more). Which roll better than others?
7. Once your child feels comfortable building and testing, encourage them to connect

multiple ramps together and see what happens. They can imagine their creation is a mini roller coaster!

Resources:

The Museum's Child Development Specialist, Laura, made a great video demonstrating this activity-- take a look and get inspired: <https://www.youtube.com/watch?v=Awra4b7o1ns>.

Laura used a towel, cardboard, tubes, canned food, a toy bus, cotton balls, a cup, and a yoga block as materials to experiment with balls and ramps. Here are some photos from the video:



Extensions:

If your child needs more challenges to go along with this activity:

- Challenge them to build a jump for their ball-- their ball will need to leave the ramp, go in the air, and return to a ramp or a cup.
- Challenge your child to build a ramp that makes their ball go as slowly as possible, while still reaching the end.

Together with your child, go to the “In the Construction Zone ” topic on Flipgrid and demonstrate their ramp creations.