

Move It! Will It Roll? Will It Slide?

Remember: In order to effectively build science understanding, *young children need opportunities for sustained engagement with materials and conversations that focus on the same set of ideas over weeks, months, and years* (National Research Council, 2007). This means you should plan to do the same programs with different materials and books over and over again...or a series of programs focused on the same STEM content and experiences.

In this program: Children will explore ramps by making their own ramps and testing various objects to see whether an object rolls or slides. They will explore their ideas, observing how ramps help things move while using STEM inquiry practices: they will raise questions; explore materials; engage in simple investigations; observe, describe and compare; share and discuss ideas; and represent their ideas.

What's needed: Several pieces of cardboard or flat boards and blocks or books to raise and lower. Objects to roll or slide down a ramp (balls, blocks, pencils, toy cars, large buttons, straws, paperclips, piece of sponge, crayons, a spoon, etc.).

Books for story time and explorations:

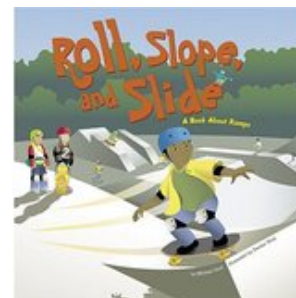
Roll, Slope and Slide: A Book About Ramps by Michael Dahl. Pictures and information about ramps, good for discussions.

Roller Coaster by Marlee Frazee

Mama Zooms by Jane Cowen Fletcher

The Great Fuzz Frenzy by Janet Stevens

[More books for story time](#)



First: Conduct your usual story time routine, just like you normally would, while introducing the concepts of *force and motion* as well as *rolling and sliding*.

Exploration: Introduce children to the ramps and materials. Talk with children about what a ramp is: a flat surface with one end higher than the other. An object placed on a ramp will roll, slide or stay put. Ramps help objects move.

Allow time for observing, exploring and talking about the attributes of the objects children will test. Depending on the size of the group set several ramp stations up around the room. Ramps do not have to be large—table top ramps work well for this activity. Have baskets set out containing both objects that will roll and objects that will slide.

Prompts/questions you can ask:

What did you notice about the objects that rolled down the ramp?

What did you notice about the objects that were sliders?

Can some objects both roll and slide?

Try it out/challenges:

How can you make objects roll or slide faster?

What happens when you push the object down the ramp?

Data representation: This activity is a great opportunity for children to *represent* their data. Here are some directions for making a child's recording sheet:

<http://www.prekinders.com/science-ramps/>

After all the children have had an opportunity to experiment and record their data, gather the group together to discuss what they discovered.

Also try: This Peep and the Big World activity is an excellent ramp activity resource:

<http://www.peepandthebigwideworld.com/en/educators/curriculum/family-child-care-educators/ramps/activity/guided-activity/244/roll-or-slide-indoors/>

Take-home ideas:

Send home baggies filled with craft sticks that can be leaned against stacked books to make small ramps at home. Kids can roll grapes, marbles (ages 5-7), ping pong balls etc.

Display ideas: Books about force and motion.

STEM Discovery Center: Set up a passive program area. Display ramp making materials, definition of a ramp and laminated directions and prompts/questions for learning about ramps. Roll-and-slide objects in zip-lock bags may be kept at the circulation desk to be borrowed for in-library use.

Instructions here: <http://www.prekinders.com/ramps-in-the-science-center/>

Community resources: A walk to a local playground with a slide could be an educational trip to test various larger objects to see if they slide or roll. (Basketball, Frisbee, etc.)

Promotion opportunities: Local newspapers, social media, library website, Front Porch Forum, Make a [Documentation Panel](#) of your Move It! programs.

