



## RAMP UP MECHA EXPERIMENT

WHICH RAMP MOVES THE BALL THE FARTHEST?



### LEARNING BENEFIT: EXPERIMENTS ARE NOT ONLY SUPER FUN, THEY ALSO BUILD STEM SUPERPOWERS AND PERSISTENCE!

Help your little superhero think critically about Science, Technology, Engineering, and Math like Mecha Builders Cookie, Abby and Elmo with this super science experiment!



### PLAN IT!

Help your STEM superhero gather all the materials: a hardcover picture book, a small ball (tennis ball or rubber ball), one spoon, a shoe, three paperclips and an unopened can of soup (or beans or corn!)

#### Try making the three different ramps:

**LOW RAMP:** Open the book to the center page, place it on the floor with the pages facing down, and then stick the spoon into the center page to lift it up a little to create a low ramp.

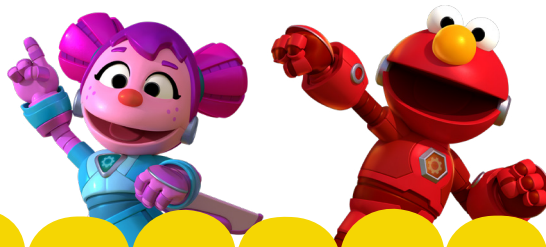
**MEDIUM RAMP:** Replace the spoon with a kids' sneaker, lifting up the ramp a little more to create a medium ramp.

**HIGH RAMP:** Replace the shoe with the can, lifting up the ramp even more to create a high ramp!

Explain the experiment: We're going to see which ramp makes the ball roll the farthest: the low ramp (book & spoon), the medium ramp (book & sneaker), or the high ramp (book & can)

Have your little one guess which ramp will make the ball roll the farthest.

I think the \_\_\_\_\_ will move the ball farther because \_\_\_\_\_.





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### TEST IT!

1. Assemble the low ramp with the book and spoon in a space that has a lot of room for the ball to roll.
2. Start the ball on the spine of the book and on the count of three, without pushing it, let it roll down the ramp and go as far as it can go on the ground.
3. Mark where it lands with one of the paperclips!
4. Keep the book in place as you carefully swap out the spoon for the kids' sneaker to create the medium ramp.
5. Start the ball on the spine of the book and on the count of three, without pushing it, let it roll down the ramp and go as far as it can go on the ground.
6. Mark where it lands with the second paperclip!
7. Keep the book in place as you carefully swap out the sneaker for the can to create the high ramp.
8. Start the ball on the spine of the book and on the count of three, without pushing it, let it roll down the ramp and go as far as it can go on the ground.
9. Mark where it lands with your last paperclip!



### SOLVE IT!

1. Ask your child what they observed...  
**The \_\_\_\_\_ ramp made the ball roll the farthest.**
2. Discuss what their results might mean:
  - A low ramp makes the ball move without pushing it.
  - A medium ramp makes the ball move farther without pushing it.
  - A high ramp makes the ball move the farthest without pushing it.