

How Slow Can You Go?

Compete in a slow race!
Investigate how a toy car moves over different surfaces. Find the texture that creates the most friction and causes the toy car to travel the slowest down a ramp. This activity helps children learn flexibility and creative thinking skills.



Materials Required

- Piles of books
- Planks of wood (about 2-3 feet each)
- Textured materials to create different surfaces such as satin fabric, sandpaper, Legos, fleece, rubber, and towels
- Glue
- Scissors
- Toy cars

Instructions

1. Create ramps for the toy cars using the planks of wood. Cover the planks of wood with various materials to create different textures on the ramp. Try satin fabric, sandpaper, Legos, fleece, rubber, towels, or any other items with unique textures. Glue the materials onto the planks and let dry.
2. Create a pile of books for each ramp. Make sure all the piles are the same height.
3. Lean each ramp against a pile of books, making sure all ramps are at the same angle.
4. Take a toy car and release it down the ramp. Try to let it go (and not push it) so it goes as slow as possible.
5. As you explore the different ramps, consider:
6. Which car traveled farthest? Why?
7. What did you notice about the car when it traveled on the sandpaper ramp? What did you notice

when the car traveled on the Lego ramp? What about the other ramps?

- Which surface slowed down the cars the most? Why?
- Which surface caused the most friction? Why?
- Which surface caused the least friction? Why?

Additional Tips

Instead of using toy cars and wooden planks, try this activity with balls and paper towel rolls (cut in half lengthwise) covered in different textures.

Links to Creativity

The concept of a “slow race” is definitely paradoxical. Janusian thinking, or the ability to consider contradictory ideas simultaneously, is essential for this challenge. Bringing together seemingly unrelated ideas is an effective creative thinking strategy, and many eminent creative individuals such as Einstein and Mozart demonstrated this ability. In order to consider the idea of slow race, children must remain flexible and open to newness. In short, they must be comfortable with the unfamiliar—such openness to experience is essential for creative thinking.

Supporting research includes:

Kaufman, S. B. (2013). Opening up Openness to Experience: A Four-Factor Model and Relations to Creative Achievement in the Arts and Sciences. *Journal Of Creative Behavior*, 47(4), 233-255.

Rothenberg, A. (1971). The process of Janusian thinking in creativity. *Archives Of General Psychiatry*, 24(3), 195-205.

Contributor

This activity was contributed by the Center for Childhood Creativity at the Bay Area Discovery Museum. ©2015 Bay Area Discovery Museum. For more information and resources see CenterforChildhoodCreativity.org.

SCOPE OF ACTIVITY

- Ages: 2–5 Years, 6–9 Years
- Topics: Making, Building, & Tinkering, Science, Sports & Games
- Difficulty: Moderate Difficulty
- Durations: 15 Minutes–2 Hours, 15 Minutes or Less
- Participants: 1 Participant, 2-4 Participants, 5+ Participants

CREATIVITY SKILLS USED

- Action & Movement
- Communication & Self-Expression
- Flexibility
- Motivation