

## Core Skills Analysis

### Physics

- The 5-year-old student learned about gravity and motion by observing how different objects roll down the ramps at various speeds.
- They understood the concept of slope and how it affects the speed of objects traveling down the ramp.
- The student explored potential and kinetic energy through the activity, seeing how objects accumulate speed as they roll down the ramp.
- By building ramps of different heights, the student also gained an understanding of how the potential energy increases with height and is converted into kinetic energy.

### Mathematics

- Through the activity, the student practiced measurements by comparing the lengths of different ramps they built.
- They engaged in simple addition and subtraction by calculating how the height of the ramp affects the distance an object travels.
- By exploring angles while setting up the ramps, the student had a hands-on experience with geometry concepts.
- The student also learned about speed and distance by observing how far different objects traveled on ramps of varying slopes.

### Tips

Engage the student in a discussion about the different types of ramps used in real-life scenarios such as wheelchair ramps, skateboarding ramps, or even the ramps on highways. Encourage them to build more complex ramps using household items like books, blocks, or cardboard. Introduce the concept of friction by experimenting with different surfaces for the ramps, such as sandpaper or a smooth sheet of paper.

### Book Recommendations

- [Ramps and Wedges](#) by David A. Adler: This book introduces simple machines like ramps and wedges in an easy-to-understand way for young readers.
- [Roll, Slope, and Slide: A Book About Ramps](#) by Michael Dahl: Follow the fun adventures of the characters in this book as they learn about ramps and how they work.
- [Ramps All Around](#) by Wendy Pfeffer: Join Bob and Marie as they explore different types of ramps in everyday life, sparking curiosity and learning.