

Windshield Wiper

Applicable Age Group 5-6 year-old toddlers

- Activity Objectives**
- ☑ Further understand gear meshing and gear transmission.
 - ☑ Be able to flexibly use gear combinations and design structures according to needs.

Activity Description On rainy days, children observe how windshield wipers work when taking a car. The two wipers swing back and forth to wipe off all the rainwater on the glass. Guide them to use the mechanical principles they have learned to design a windshield wiper that can complete this work. The most commonly used method is gear meshing and transmission—let them try to find suitable gears to connect the wipers so that the wipers can make reciprocating movements.

STEAM Literacy Development Indicators

Method Indicator	Situation-based introduction: Understand the movement of windshield wipers	Design windshield wipers using gear transmission	Test the operation of the windshield wipers	Knowledge expansion: Optimize functions
Curiosity and Imagination	●			
Flexibility and Adaptability		●		
Verbal and Written Communication Skills				
Cross-boundary Cooperation and Exemplary Leadership				
Critical Thinking and Problem-solving Skills			●	
Proactive and Pioneering Spirit				●
Ability to Evaluate and Analyze Information				



Interactive Tips

- This activity requires children to flexibly apply the knowledge they have mastered, which reflects their abilities. Therefore, encourage children to give full play to their creativity.
- The final goal of the windshield wiper is to make the two wipers perform reciprocating movements. There is no restriction on the principles used as long as this goal is achieved.
- Fixing the wiper structure is a difficulty. Encourage children to identify and solve problems by themselves. The most common way to fix long beams is to use two-point fixation with cranks.

- Gear combinations can be adjusted multiple times until a stable and suitable gear combination is found.

Find These Blocks



Select Appropriate Gear Combinations, Connect the Wipers and Fix Them

