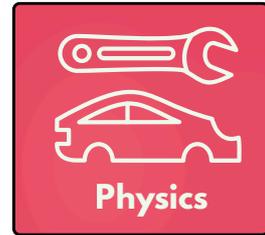


BRAIN PRO : MISSION PHYSICS

Project Level 2 : The Efficiency Expert



1. THE BIG CONCEPT : ENERGY EFFICIENCY AND FRICTION

- Friction is the "Motion Resister."
- It always acts like an invisible brake that tries to reduce the speed of a moving object.
- Smooth Floor (Low Friction)
- Cardboard Box (Medium Friction)
- Carpet or Rug (High Friction)

2. Check List

- HISS TEST: Listen for leaks. (No hiss = Max Thrust)
- RUB CHECK: Wheels wobble? (No rub = Low Friction)
- STANCE : Axle Parallel (Straight is efficiency)

If any issue use trouble shoot guide t

3. The Research Lab (Test your car!)

Test Run Surface	No. Of Air Puffs	Distance (cm)	Observation
Floor	5		
Cardboard Box	5		
Carpet	5		

4. CRITICAL THINKING: THE BRAIN PRO CHALLENGE

- Surface Duel: If you race on a smooth mirror vs. rough sandpaper, which one is the stronger "Motion Resister"?
- The Wheel Audit: What happens to your speed if you wrap the wheels in fuzzy wool?

5. The Redesign - Idea Mission Balance:

Tape a small coin to the front, then move it to the back. Which spot keeps your car traveling in a perfectly straight line?



