Objective

By the end of this lesson, you will be able to understand the science behind how cars work and the principles of motion.

Materials and Prep

- Toy cars or images of different car parts
- Paper and pen for notes
- No prior knowledge needed, just bring your curiosity!

Activities

- **Exploring Car Parts:** Take a look at different toy cars or images of car parts. Identify and learn the names of key components like engine, wheels, and transmission.
- **Build a Balloon Car:** Create a simple balloon-powered car using materials at home. Experiment with different designs to see which one goes the farthest.
- **Race and Measure:** Set up a race track and use a stopwatch to time toy cars of varying weights. Discuss how weight affects speed and distance traveled.

Talking Points

- **How do cars move?** "Cars move by converting fuel into energy that powers the engine, which then turns the wheels."
- **What is friction?** "Friction is the force that resists the motion between two surfaces. Less friction means faster movement."
- **Why do cars need brakes?** "Brakes help cars stop by applying friction to the wheels, converting the car's kinetic energy into heat."
- **What is aerodynamics?** "Aerodynamics is the science of how air flows around objects. Car designers use aerodynamics to reduce drag and improve fuel efficiency."
- **How does a car engine work?** "A car engine burns fuel to create small explosions that push pistons up and down, ultimately turning the wheels."