What Is Friction?Vehicle Traction and Braking: Friction between tires and roads provides traction, allowing vehicles to grip the road.For example, when you push a heavy box on the floor, static friction prevents it from moving until you apply enough force to overcome it. Sliding Friction: Occurs when two objects slide against each other.Factors Affecting Friction: Nature of the Surfaces in Contact: Friction depends on the smoothness or roughness of the surfaces in contact.For example, snow-covered surfaces offer very little friction, while tires with high irregularity (grip) enhance friction for cyclists1.Sports and Balance: Athletes rely on friction to maintain balance during activities like running, cycling, and rock climbing.Remember, friction is both our friend (providing traction and stability) and our foe (opposing motion).Smooth surfaces experience less friction because there is minimal interlocking of irregularities.Force Acting on the Surfaces: Friction increases when a force is applied along with the surface irregularities.Design of Objects: Friction exists not only between solid surfaces but also in liquids and gases.Streamlined designs are chosen to reduce fluid friction (e.g., dolphins' streamlined bodies in water).Fluid Friction: Acts in fluids (liquids or gases).Practical Applications of Friction: Matchsticks Ignition: Friction ignites matchsticks when you strike them against a rough surface.Rough surfaces result in increased friction due to greater irregularities.