

Static and Kinetic Friction

Purpose: To study static and kinetic friction.

Materials: Spring scales, wood, various surfaces

Part I – Overcoming Static Friction

- Obtain two surfaces and attach a spring scale to one of them.
- Record the normal force.
- Slowly pull the spring scale, watching the value carefully as you pull.
- Record the force just as the surface begins to move.
- Calculate the coefficient of static friction.
- Repeat two more times with different normal forces.
- Calculate the average coefficient of static friction.

Part II – Kinetic Friction

- Record the normal force of an object.
- Slide the object along a surface at a constant speed (the scale should read a constant value; you can use the surfaces from Part I).
- Calculate the coefficient of kinetic friction.
- Repeat two more times with different normal forces.
- Calculate the average coefficient of kinetic friction.