# Friction Notes

- Friction

    o What is it? _____

    _____

    o How does is affect the net force? _____

    _____

    o What affects the amount of friction?

        ▪ _____

        ▪ _____

    o Equation:


- Types of Friction

    o Static Friction

    ▭

        ▪ What does it do? _____

        ▪ How does it compare to the applied force? _____

        ▪ Maximum Static Friction Force _____

        _____

    o Kinetic Friction

    ▭

        ▪ What does it do? _____

        ▪ How does the force of kinetic friction compare the to the force of static friction?

        _____

        ▪ How does it compare to the applied force? _____

        ▪ What happens when the applied force is equal to the kinetic friction force?

        _____

- Sample Problem 1

  o A 29 kg crate is initially at rest on a horizontal surface requires 75 N to set it in motion and 65 N to keep it in motion at a constant velocity. Find the coefficients of static and kinetic friction.

- Sample Problem 2

  o A 5.0 kg mass is pulled across the table, to the right, with a force of 40 N. This causes the mass to accelerate at a rate of 6.0 m/s$^2$.

    - What is the net force on the mass?

    - What is the force of friction between the mass and the table?

    - What is the coefficient of friction between the table and the mass?

- Sample Problem 3

  o An applied force of 21 N accelerates a 9.0 kg wagon at 2.0 m/s$^2$ along the sidewalk.

    - How large is the friction force?

    - What is the coefficient of friction?

- Sample Problem 4

  o A 2.0 kg brick has a sliding coefficient of friction of 0.38.  What force must be applied to the brick for it to move at a constant velocity?