1. **WHAT IS DRY FRICTION?**
   1. Dry friction is a force that opposes the relative lateral motion of two solid surfaces in contact. Dry friction is subdivided into *static friction* between non-moving surfaces, and *kinetic friction* between moving surfaces. With the exception of atomic or molecular friction, dry friction generally arises from the interaction of surface features, known as asperities
   2. **WHAT IS FLUID FRICTION?**

Fluid friction describes the friction between layers of a viscous fluid that are moving relative to each other. Fluid friction occurs between fluid layers that are moving relative to each other. This internal resistance to flow is named *viscosity*. In everyday terms, the viscosity of a fluid is described as its "thickness". Thus, water is "thin", having a lower viscosity, while honey is thick, having a higher viscosity. The less viscous the fluid, the greater its ease of deformation or movement. All real fluids offer some resistance to shearing and therefore are viscous. For teaching and explanatory purposes it is helpful to use the concept of an inviscid fluid or an ideal fluid which offers no resistance to shearing and so is not viscous.

**WEDGES**

1. Wedge, in mechanics, device that tapers to a thin edge, usually made of metal or wood, and used for splitting, lifting, or tightening, as to secure a hammer head onto its handle. Along with the lever, wheel and axle, pulley, and screw, the wedge is considered one of the five simple machines.

**SQUARE-THREADED SCREWS**

The square thread form is a common screw thread form, used in high load applications such lead screws and jackscrews. It gets its name from the square cross-section of the thread. It is the lowest friction and most efficient thread form, but it is difficult to fabricate. The greatest advantage of square threads is that they have a much higher intrinsic efficiency than trapezoidal threads. Due to the lack of a thread angle there is no radial pressure, or bursting pressure, on the nut.

**JOURNAL BEARINGS**

Journal or sleeve bearings make use of a pressure wedge of fluid that forms between the rotating shaft and the bearing. The portion of the shaft supported by the bearing is called the journal and is usually hardened for wear-resistance.