

1.) Dry friction is the force that opposes one solid surface sliding across another solid surface. Dry friction always opposes the surfaces sliding relative to one another and can have the effect of either opposing motion or causing motion in bodies. An example of dry friction is when a person is riding a bicycle and presses the brakes, the rough edges on the brake pads rub against the bicycle rim and it ends up slowing down the rim and when a sled slides down a smooth ice surface which causes less friction to the sled and the ice surface.

Fluid friction is where the friction between layers within a liquid that are moving relative to each other. Fluid friction can act on water and gases, like air. Examples of fluid friction is when a person swims, their skin and the water rubs together and it makes it difficult for the swimmer to move in water and air resistance caused by particles that make up air

(2i) A wedge is simply a triangular tool, often made of metal, wood, stone or plastic. It is thick on one end and tapers to a thin or sharp edge on the other end. Technically it is an inclined plane (or two inclined planes put together to form a triangle) that moves. A wedge may be attached to a handle to make it easier to use.

(2ii) The square thread is used to transmit force and motion since it offers less resistance to motion than Acme thread forms. This thread is widely used on lathes and is sometimes slightly modified by adding a small taper of about  $5^\circ$  to the sides as an aid to production.

(2iii) Journal bearings are one of the most common types of hydrodynamic bearings. Their primary purpose is to support a rotating shaft. They are used in various subsystems in engines and power trains