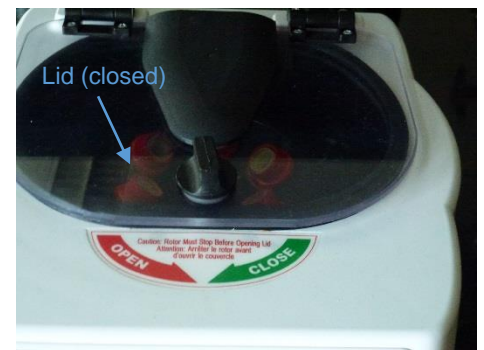
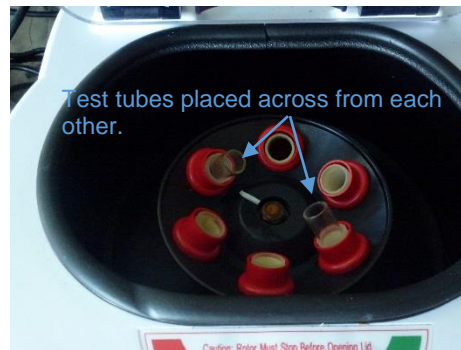


## The Centrifuge

The centrifuge is used to accelerate the settling of suspended solid (precipitate) in a liquid. The centrifuge consists of a motor that turns a shaft several thousand revolutions per minute. Four or six ports are attached to the shaft by crossbars. The ports can accommodate various sized test tubes; the centrifuges found in lab nicely accommodate a 10-cm test tube. Centrifuging causes precipitate to collect as a well-packed mass at the base of the test tube. This not only facilitates your ability to inspect the precipitate, it also allows efficient separation of the precipitate from the liquid with which it is in contact—the supernatant.



Centrifuge operation is easy. A timer or toggle switch turns the centrifuge on and off, but make certain it is plugged in. Samples to be centrifuged, in 10-cm test tubes, are placed in the sample ports. To prevent unnecessary wear on the shaft and bearings, always load the centrifuge with an even number of tubes. If you have only one sample to centrifuge, fill a second test tube with water to the same level as the sample tube, and place it in the port opposite (180°) the sample tube. Two samples can be loaded simultaneously; just place them in opposite ports. Three samples require the use of a water tube, and so forth. Ports are usually marked or numbered for easy sample identification; if you and another person are centrifuging individual samples together, it's a good idea to record whose tubes are in what ports; otherwise, chaos might reign.

Once the tubes are properly set, close and lock the lid (if equipped), then turn the centrifuge on. It takes about 10 s for it to reach full speed. Allow the centrifuge to run for an additional 30-60 s then turn it off. It takes about a minute or so for it to come to a near halt. Once the centrifuge has come to a complete stop, open the lid (if necessary) and remove your samples. That's it!

Caution: Do not operate centrifuges equipped with a lid with the lid open (up).