Hang special rod from ceiling support on beam north of lecture table, being sure that the upper end is in groove in the support.

Set the vacuum system table near the ceiling support, orienting it so students can see the gauge, and connect Magdeburg hemispheres to pumping system with vacuum hose having a special fitting at either end.

Close valve to pump plate and the screw for letting air into the system, and evacuate the hemispheres. (No grease will be necessary on the gasket.) Hang hemispheres on rod, continuing to evacuate. Allow a student to hang from, but not jerk, the hemispheres. (Jerking might disengage the system from the ceiling support.)

Notes: (1) The special hose fittings, as well as the two valves and the screw for letting air into the system, all have O-ring seals. Very little pressure should therefore be used in tightening the screws. The O-ring in the special fitting must be centered, and held in place by turning the knurled nut very lightly against it, before attempting to slip the fitting onto the 1/2" connecting tube. (2) The 1/8" nylon rope avoids the possibility of the lower hemisphere falling to the floor if the vacuum should be lost. (3) The hemispheres are sufficiently tight that usually one can evacuate the hemispheres, close the stopcock, remove the hose connection, and hang from the rod. However, the procedure outlined above is more foolproof.