



Concept:

The apparatus provides a good model of a semi-permeable membrane, where after beginning with all the differently sized balls on one side of the holed-barrier, only the smaller sized balls migrate to the other side. This process is known as osmosis. Details of the application of osmosis in living cells can be found at <http://en.wikipedia.org/wiki/Osmosis>.

Equipment:

1. Small Magnet
2. Box of 10 Small, 10 Medium, 3 Large Balls
3. Divider Attachment
4. Molecular Motion Demonstrator
5. Overhead Projector (not pictured)

Procedure:

1. Place all balls on one side of the divider attachment in the demonstrator's field and fully extend the adjustable feet to tilt the demonstrator as much as possible.
2. Turn on the overhead projector and toggle the power switch on the side of the demonstrator to turn it on.
3. Slowly rotate the black knob clockwise to adjust the speed of the agitator bars to full power.
4. Wait about 10 seconds for the balls to reach equilibrium.
5. Notice that many of the small balls have moved to the other side of the divider while the medium and large balls have not.