1. Making of a "Fluid Mosaic Model"

The idea of the fluid mosaic model can be demonstrated using a model (Fig.1) made of simple materials: ping-pong balls, drinking straws, a plastic container, oil and water.

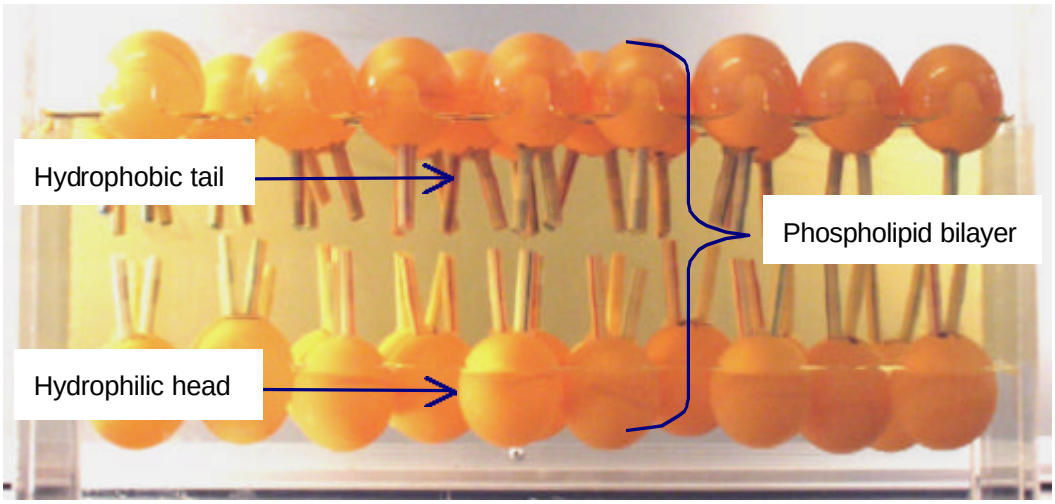

Fig.1

1. Cut the drinking straws into 2-3cm long segments.
2. Use a glue gun to stick each ping-pong with 2 drinking straw segments. (Fig.2 and 3)
3. Divide the ping-pong balls into 2 groups. One group serves as the phospholipids of the upper layer, the other group serves as the phospholipids of the lower layer. (The number of ping-pong ball used depends on the size of container used.)
4. For the upper group of ping-pong balls, stick some weights (plasticine) at the open end of the drinking straws.

Fig.2

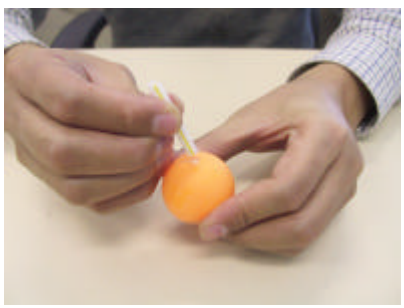

Fig.3

5. For the lower group of ping-pong balls, drill a small hole at the ping-pong ball (Fig.4). Fill the ping-pong ball up with water (Fig.5), and seal it with the glue gun (Fig.6). Then seal the open end of the drinking straw with the glue gun (Fig.7), so that each drinking straw is trapped with air.

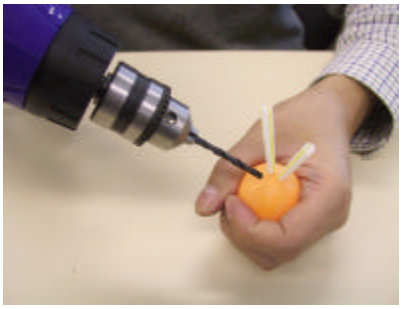

Fig.4

6. Add the followings according to the sequence below: salt water, lower group of ping pong balls, oil and upper group of ping pong balls.

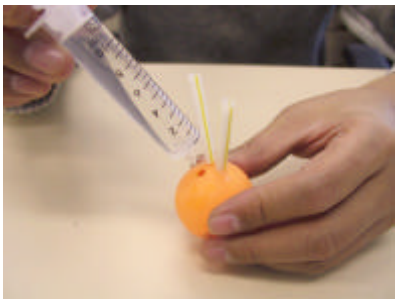

Fig.5

Fig.6

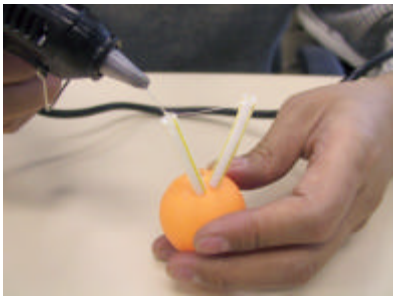

Fig.7

Note

1. Ask students to observe and compare the model constructed with the concept of fluid mosaic model.
2. The movement of molecule across the membrane can be simulated by moving a magnet with another magnet.