

Student worksheet 1: membranes with invisible holes

Materials

- Iodine solution (approximately 0.05 M)
- Starch solution (approximately 0.12% w/v)
- A selection of different plastic films

Procedure

Investigate the movement of iodine particles through different membranes. Make a small bag out of each membrane and place it in a tube of starch solution, as shown in Figure 1. Pour some iodine solution into each bag and observe what happens.

1. Record your observations in Table 2.
2. Can you explain what is happening?
3. Can you match each of your tubes (1-4) to one of the diagrams (A-D) in Figure 2?
4. What would happen in each tube if the solutions were reversed: if at the start, the solution of smaller molecules was in the tube and the solution of larger molecules was in the membrane (Figure 3)? Enter your predictions in Table 3.

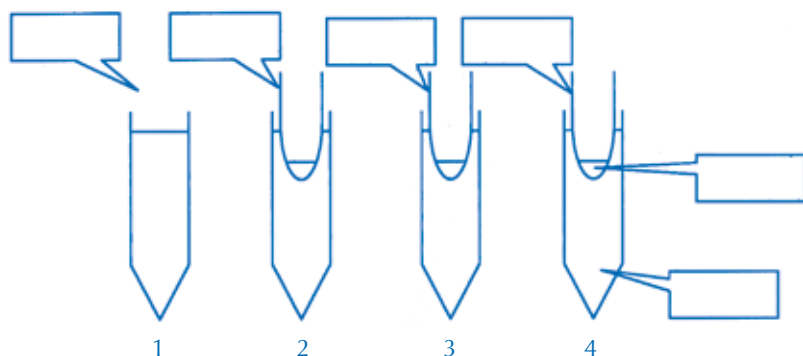


Figure 1: Experimental set-up

		1	2	3	4
Colour at start	In small bag				
	In tube				
Colour at end	In small bag				
	In tube				

Table 2: Results of your experiment

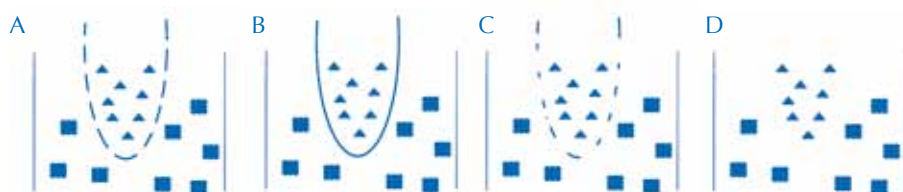


Figure 2: Which situation corresponds to each of your test tubes?



Figure 3: What would happen if the solutions were reversed?

		1	2	3	4
Colour at start	In small bag				
	In tube				
Colour at end	In small bag				
	In tube				

Table 3: Your expectations if the solutions were reversed