Table 1-1 Diffusion times in water

	Diffusion coefficient	Typical time taken to diffuse indicated distance		
	cm^2/sec	1 µm	10 µm	1 mm
small molecule	5×10^{-6}	1 msec	0.1 sec	15 min
protein molecule	5×10^{-7}	10 msec	1 sec	3 hr
virus particle	5×10^{-8}	0.1 sec	10 sec	1 day
bacterial cell	5×10^{-9}	1 sec	100 sec	10 days
animal cell	5×10^{-10}	10 sec	20 min	100 days

Approximate values are given solely to indicate the magnitudes involved. The times are calculated for three-dimensional diffusion and represent the average, or root mean square displacement, of the population (see Figure 1-2). For sources see Hille (1992), Berg (1993), and Atkins (1994).