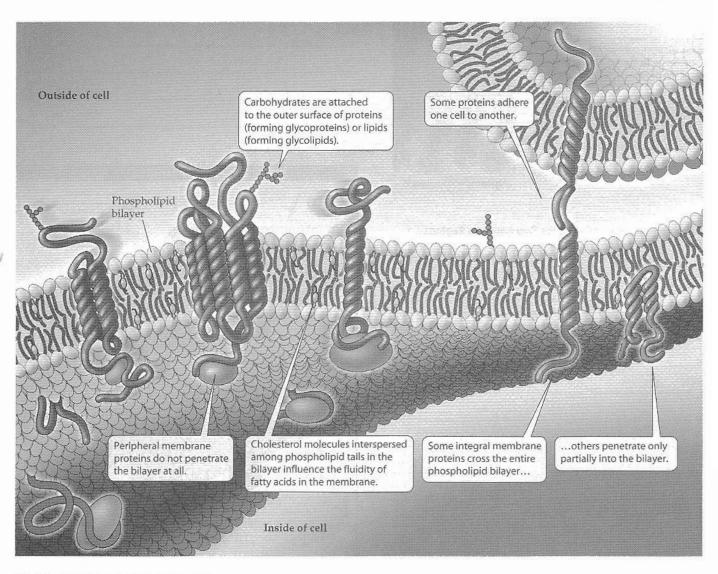
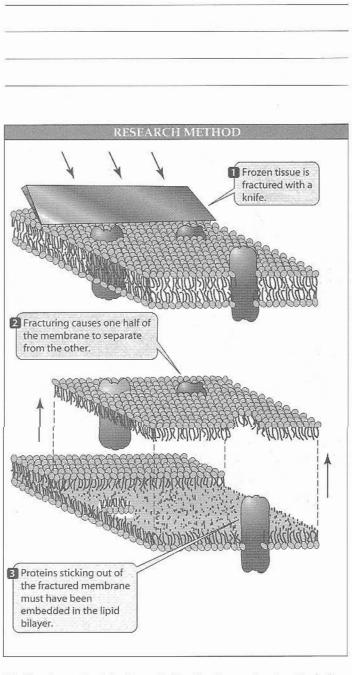
5 Cellular Membranes



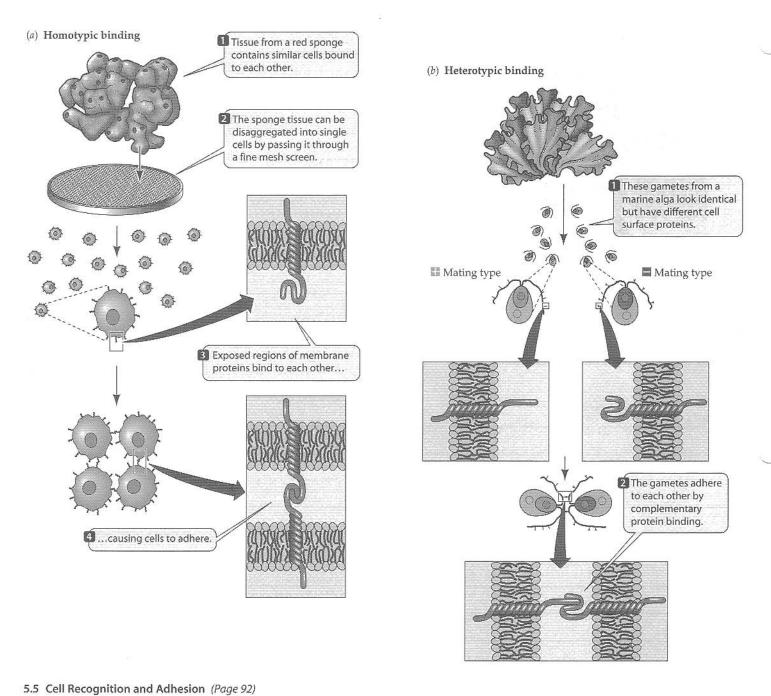
5.1 The Fluid Mosaic Model (Page 88)

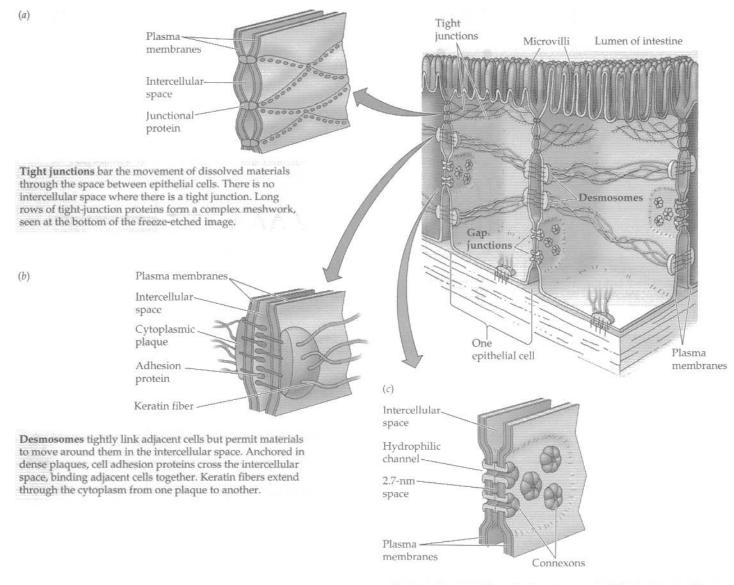
-	Aqueous environment
.	an 683 an 68
	6H3 8D 6H3 8
Billion and a second	5 6 6 6
KY WELL CHARLE	A 40 40 40
	\$ 30 A 30
	26 336 336 33
	62.64 BB 64
	355555
The nonpolar, hydrophobic fatty acid	30 30 35
"tails" interact with one another in the interior of the bilayer.	30 35 35 35
Control of the state of the sta	36 66 66
The charged, or polar, hydrophilic	
"head" portions interact with polar water.	8 8 8 6
polal water.	
	820 als 820 al
	Aqueous environment
(Page 89)	
	II.



5.3 Membrane Proteins Revealed by the Freeze-Fracture Technique (Page 90)

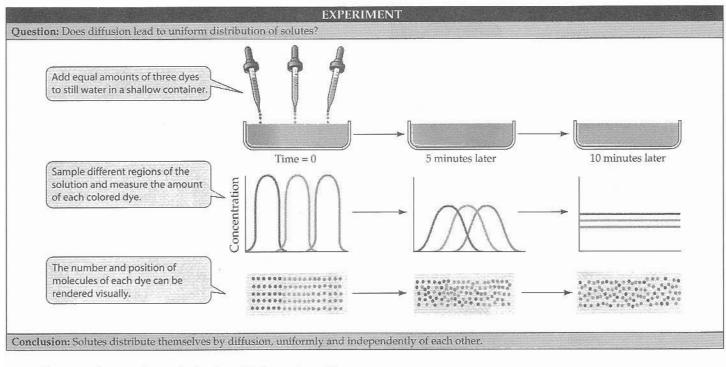
the describility Described in exposed	
Hydrophilic R groups in exposed parts of the protein interact with	
parts of the protein interact with	
water.	
water.	
Outside Aqueous environment	
of cell (extracellular)	
2000000	120000000000000000000000000000000000000
HILL WALL STATE OF THE STATE OF	
Hydrophobic	
interior of bilayer	
MUZUHX WAALAUHA)	
YYXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
10000401	
// Aqueous environment	
Inside of cell (cytoplasmic)	
Hydrophobic R groups in this	
in a spiritual in the same of the	
part of the protein interact with	
the hydrophobic core of the	
membrane, away from water.	
membrane, away norm waters	
5.4 Interactions of Integral Membrane Proteins (Page 90)	



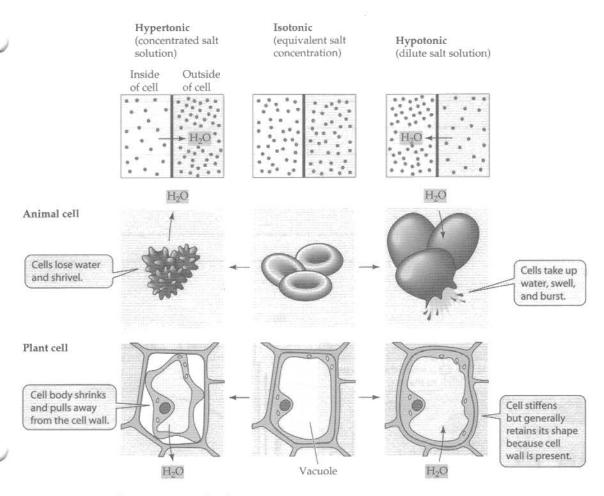


Gap junctions let adjacent cells communicate. Dissolved molecules and electric signals may pass from one cell to the other through the channel formed by two connexons extending from adjacent cells.

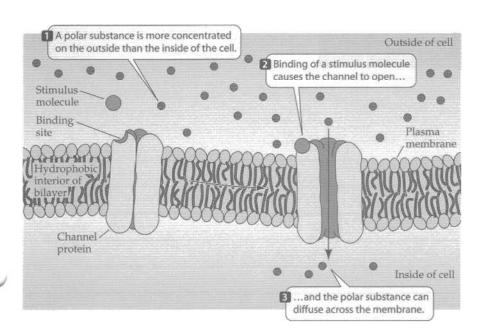
5.6 Junctions Link Animal Cells Together (Page 93)



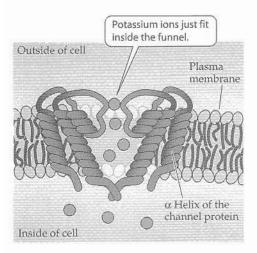
5.7	Diffusion Leads to Uniform Distribution of Solutes (Page 95)
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5.8 Osmosis Modifies the Shapes of Cells (Page 96)

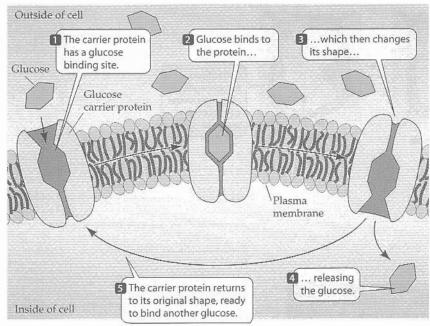


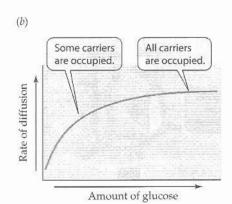
5.9 A Gated Channel Protein Opens in Response to a Stimulus (Page 97)

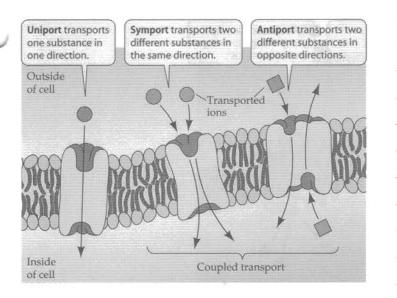


5.10 The K+ Channel (Page 98)







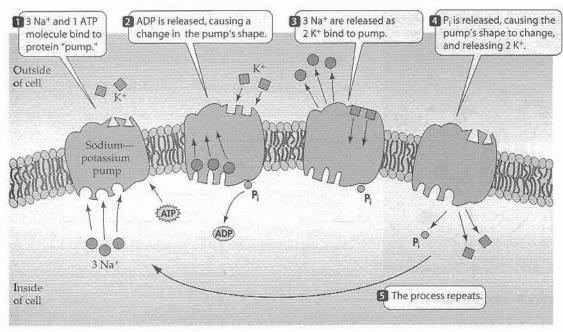


5.12 Three Types of Proteins for Active Transport (Page 99)

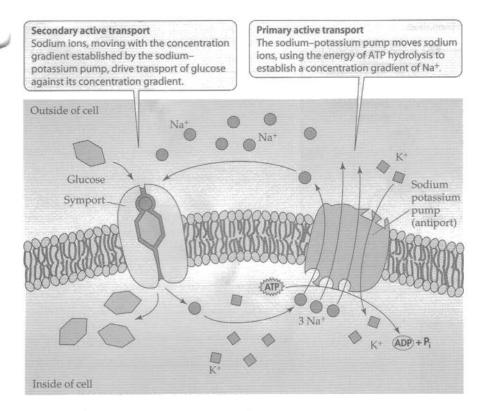
Membrane Transport Mechanisms

TRANSPORT	EXTERNAL ENERGY		MEMBRANE PROTEIN	
MECHANISM	REQUIRED?	DRIVING FORCE	REQUIRED?	SPECIFICITY
Simple diffusion	No	With concentration gradient	No	Not specific
Facilitated diffusion	No	With concentration gradient	Yes	Specific
Active transport	Yes	ATP hydrolysis (primary) (against concentration gradient)	Yes	Specific

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5.13 Primary Active Transport: The Sodium-Potassium Pump (Page 101)				
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5.14 Secondary Active Transport (Page 101)

(a) Endocytosis	Plasma membrane	
The plasma membrane surrounds a part of the exterior environment and buds off as a vesicle.	Vesicle	
A vesicle fuses with the plasma membrane. The contents of the vesicle are released, and its membrane becomes part of the plasma membrane.	Secretory vesicle	
5.15 Endocytosis and Exocytosis (Pa	ge 101)	

(a) Information processing (b) Energy transformation Outside of cell Signal binding induces A membrane pigment Outside of cell a change in the absorbs energy. Signal Outside receptor protein... molecule energy source Signal (such as light) Energy-rich binding pigment site $\bigcirc P_i + \widehat{ADP}$ Inside of cell Inside of cell 2 ...causing some effect The membrane pigment transfers the inside the cell. energy to ADP to form ATP, which the cell can use as an energy source. (c) Organizing chemical reactions Outside of cell Each protein carries out a single chemical reaction. Inside of cell 3 The membrane organizes The product of the first reaction the two reactions so that must diffuse to reach the site of they occur at the same the second reaction. time and place. 5.17 More Membrane Functions (Page 103)