

**SECTION 5-1 REVIEW****PASSIVE TRANSPORT**

**VOCABULARY REVIEW** Explain the relationship between the terms in each of the following pairs of terms.

1. concentration gradient, diffusion \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. osmosis, turgor pressure \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. hypertonic, plasmolysis \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**MULTIPLE CHOICE** Write the correct letter in the blank.

- \_\_\_\_\_ 1. Substances that can pass through cell membranes by diffusion include  
a.  $\text{Na}^+$  ions.                      b.  $\text{Cl}^-$  ions.                      c. glucose.                      d. oxygen.
- \_\_\_\_\_ 2. The contractile vacuole of a paramecium should be active when the paramecium is in  
a. an isotonic environment.                      c. a hypertonic environment.  
b. a hypotonic environment.                      d. any environment.
- \_\_\_\_\_ 3. When a human red blood cell is placed in a hypotonic environment, it will  
a. undergo cytolysis.                      c. experience a decrease in turgor pressure.  
b. undergo plasmolysis.                      d. be at equilibrium.
- \_\_\_\_\_ 4. Facilitated diffusion is often used to transport  
a. ions.                      c. molecules that are not soluble in lipids.  
b. water.                      d. molecules that are too small to diffuse across the membrane.
- \_\_\_\_\_ 5.  $\text{Na}^+$  ions enter cells by  
a. diffusing across the lipid bilayer without assistance.                      c. binding to  $\text{Na}^+$  carrier proteins.  
b. diffusing through  $\text{Na}^+$  ion channels.                      d. binding to  $\text{Cl}^-$  ions.

**SHORT ANSWER** Answer the questions in the space provided.

1. What happens to the movement of molecules at equilibrium? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. How do carrier proteins transport substances across cell membranes? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. What types of stimuli can cause the gates on ion channels to open or close? \_\_\_\_\_

\_\_\_\_\_

4. **Critical Thinking** How does the interaction between a carrier protein and the substance it transports resemble the interaction between an enzyme and its substrate? \_\_\_\_\_

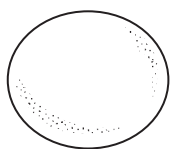
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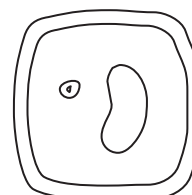
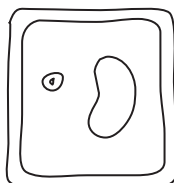
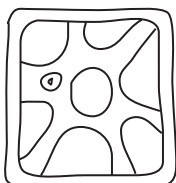
**STRUCTURES AND FUNCTIONS** The drawings below show the appearance of a red blood cell and a plant cell in isotonic, hypotonic, and hypertonic environments. Label each environment in the spaces provided.

**RED BLOOD CELL**



**a** \_\_\_\_\_ **b** \_\_\_\_\_ **c** \_\_\_\_\_

**PLANT CELL**



**d** \_\_\_\_\_ **e** \_\_\_\_\_ **f** \_\_\_\_\_