

## Skills Worksheet

**Active Reading****Section: Cell Transport**

Read the passage below. Notice that the sentences are numbered. Then answer the questions that follow.

<sup>1</sup> The diffusion of water through a selectively permeable membrane is called **osmosis**. <sup>2</sup> Like other forms of diffusion, osmosis involves the movement of a substance—water—down its concentration gradient. <sup>3</sup> Osmosis is a type of passive transport.

<sup>4</sup> If the solutions on either side of the cell membrane have different concentrations of dissolved particles, they will also have different concentrations of free water molecules. <sup>5</sup> That is because some of the dissolved particles, which are ions or polar substances, will bind with some of the water molecules. <sup>6</sup> Osmosis will occur as water molecules diffuse into the solution with the lower concentration of free water molecules.

<sup>7</sup> Water molecules cannot move directly across the cell membrane. <sup>8</sup> That is because they are polar and repelled by the nonpolar interior of the cell membrane. <sup>9</sup> Water crosses the cell membrane by facilitated diffusion. <sup>10</sup> The cell membrane has channel proteins for water. <sup>11</sup> These channel proteins let only water molecules through.

**SKILL: READING EFFECTIVELY**

Read each question, and write your answer in the space provided.

1. What Key Term is defined in this passage? What does this term mean?

---

---

2. How are diffusion and osmosis related?

---

---

3. What does the word *water* in Sentence 2 tell you about osmosis?

---

---

4. What happens to the concentration of free water molecules when a substance dissolves in the water?

---

**Active Reading** *continued*

---

5. Which sentence explains why dissolving substances affects water concentration? Summarize the reason in your own words.

---

---

---

---

6. Why can't water move freely across a cell membrane? Which sentence gives the explanation for this?

---

---

---

---

7. What facilitates the diffusion of water across the cell membrane?

---

**In the space provided, write the letter of the response that best answers the question.**

- \_\_\_\_\_ 8. What happens when a substance dissolves in the watery solution outside of a cell and equilibrium is disrupted?
- a. Water from the cell will move into the solution.
  - b. Water from the solution will move into the cell.
  - c. The pores in the cell membrane will become clogged with the dissolved substance.
  - d. Nothing will happen until equilibrium is reestablished.