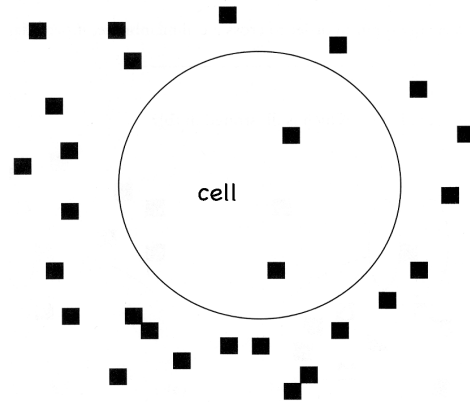


Conceptual Biology

Chapter 4: How Cells Work

Diffusion and Osmosis

1. The molecules represented by squares move across the cell membrane through diffusion in the diagram on the right.



Will there be a net movement of these molecules into the cell or out of the cell? Why?

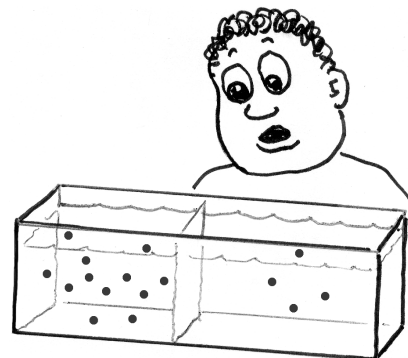
Remember that these molecules move across the cell membrane through diffusion.



2. The diffusion of water has a special name.

It is called _____.

In the figure on the right, a membrane allows water to move freely between two compartments. The dark circles represent solute molecules, which are not able to move between the two compartments. Will water flow to the left or to the right? Why?



In diffusion, molecules move from where they are more crowded to where they are less crowded.



Conceptual Biology

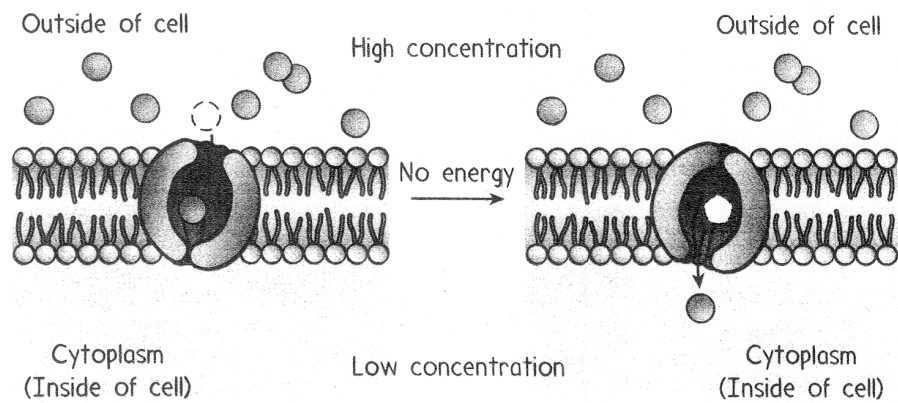
Chapter 4: How Cells Work

Facilitated Diffusion and Active Transport

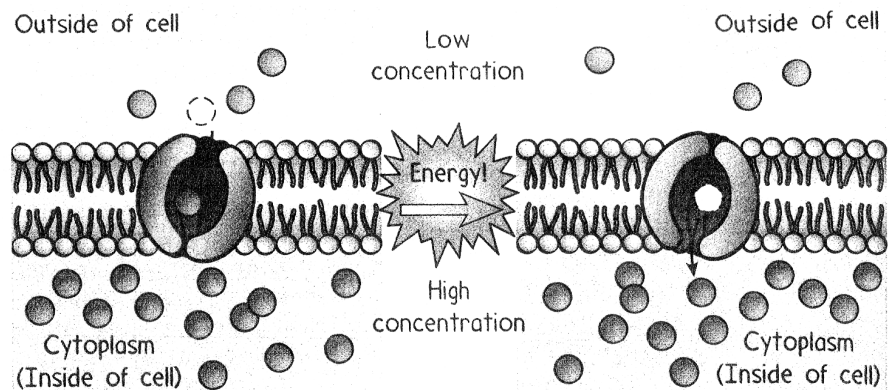
1. Which of these describes _____, and which describes _____?
 - a. Does not require energy from the cell? _____
 - b. Requires energy from the cell? _____
 - c. Moves molecules from a region of low concentration to a region of high concentration?

 - d. Moves molecules from a region of high concentration to a region of low concentration?

2. Which of the following shows _____, and which shows _____?



a. _____



b. _____

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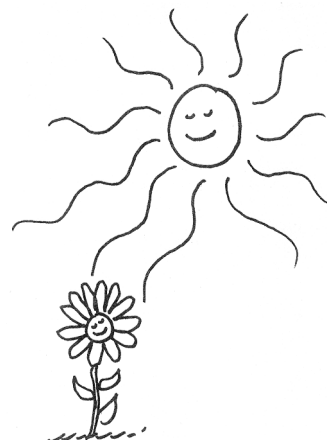
Chapter 4: How Cells Work

Photosynthesis

1. During photosynthesis, one kind of energy, _____
is converted to _____.

2. The chemical reaction for photosynthesis is:

_____ + _____ + _____ →
_____ + _____



3. In what part of a plant cell does photosynthesis take place? _____

4. Why are plants green?

When we look at a plant, we see this reflected green light—this is why plants are

5. Explain why life as we know it would be impossible without photosynthesis.

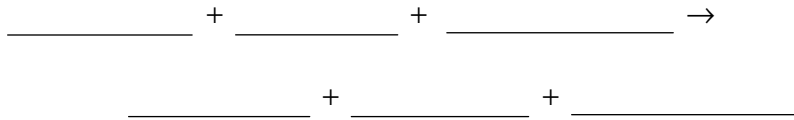


Conceptual Biology

Chapter 4: How Cells Work

Cellular Respiration

1. The chemical reaction for cellular respiration is



2. Cells use cellular respiration to produce ATP. How do cells obtain energy from ATP?

Circle the correct answers:

3. Which of the processes requires oxygen?

[Glycolysis]

[Krebs cycle and electron transport]

[Alcoholic fermentation]

[Lactic acid fermentation].



4. During cellular respiration, most of the ATP is made during

[glycolysis] [Krebs cycle] [electron transport].