


Chapter 3 Section 2

SPI 0707.1.5 Explain how materials move through simple diffusion.

What you'll learn:

- 🌐 Describe the function of a selectively permeable membrane.
- 🌐 Explain how the processes of diffusion and osmosis move molecules in living cells.
- 🌐 Explain how passive transport and active transport differ.

Why it's important:

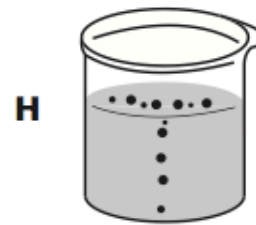
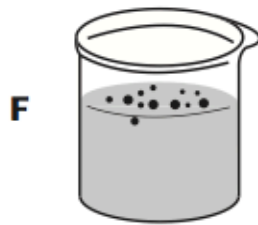
-  Cell membranes control the substances that enter and leave the cells of your body.

If you can answer this question, you're on your way to mastering the objective.

A student adds drops of dye to a beaker of room-temperature water, as shown in the diagram below.



Which diagram best shows the end result of diffusion?










If you can answer this question, you're on your way to mastering the objective.

64 Which statement best describes particle movement during simple diffusion?

- F** Particles move out of a cell when the cell becomes full.
- G** Particles move in and out of a cell at a constant rate.
- H** Particles move from an area of high concentration to an area of low concentration.
- J** Particles move in a way that keeps them as close to each other as possible.

Vocabulary

-  **Passive transport**
-  **Diffusion**
-  **Equilibrium**
-  **Osmosis**
-  **Active transport**
-  **Endocytosis**
-  **Exocytosis**

Brain Pop



<http://www.brainpop.com/science/cellularlifeandgenetics/passivetransport/>

Group

- 🌐 With your group, come up with a definition for the word “passive” based on the video.
- 🌐 When you work in groups, if you ever just sit there and do nothing, you’re being passive.

Passive Transport

*Key points from BP

- 🌐 Passive Transport – a cell doesn't have to use _____ to let something in or out
- 🌐 Selectively Permeable – lets some things come in while keeping others _____ (Cell Membranes are selectively permeable.)
- 🌐 Diffusion – Passive transport works through diffusion

Open your book!

 Chapter 3 Section 2

Passive Transport

*Key points from book



- 🌐 Cells take in _____, _____, and other substances from their environments.
- 🌐 Cells also release _____ materials into their environments.
- 🌐 A cell's membrane is selectively _____.

Group

- 🌐 With your group, think of something you have seen in real life that could be considered selectively permeable. Be ready to give me one group answer in one minute.

Passive Transport

*Key points from book

-  The way things move through a cell membrane depends on the size of the molecules or particles.
-  If movement through membrane happens without energy, it is called passive transport.

Diffusion

*Key points from book

- 🌐 Molecules in _____, _____, and _____ move constantly and randomly.
- 🌐 The random movement of molecules from an area where there is relatively more of them into an area where there is relatively fewer of them is called _____.
- 🌐 Molecules of a substance will continue to move from one area into another until the relative number of these molecules is equal in the two areas.
- 🌐 This is known as _____. At this point, diffusion stops.

Exit Ticket

- 🌐 Draw a picture that illustrates the following concept.
 - 🌐 Molecules of a substance will continue to move from one area into another until the relative number of these molecules is equal in the two areas.