

HOMEWORK 14

This assignment is due at the start of the class band on _____.

- A. Watch the following online video: “BrainPOP: Cellular Respiration” (see your teachers for password)
<https://www.brainpop.com/science/cellularlifeandgenetics/cellularrespiration>
- B. Read Miller & Levine (textbook) pp. 212–215 and answer the following question in **complete sentences** on a **separate sheet of paper**. You may type or neatly handwrite your answers.

Respiration is a life function required by all living things. Discuss the process of respiration. Be sure to:

- define the term *respiration*
- identify the organelle where respiration occurs in cells
- write the chemical reaction for respiration
- identify *two* raw materials necessary for respiration
- identify *two* products that result from respiration
- identify *one* energy-rich molecule that is produced during respiration
- state how organisms use the energy-rich molecule that is produced
- state how a gas produced by this process is recycled in nature

HOMEWORK 15

This assignment is due at the start of the class band on _____.

- A. Watch the following online video: “BrainPOP: Passive Transport” (see your teachers for password)
<https://www.brainpop.com/science/cellularlifeandgenetics/passivetransport>
- B. Read Miller & Levine (textbook) pp. 729–732, 799–801 and answer the following question in **complete sentences** on a **separate sheet of paper**. You may type or neatly handwrite your answers.

Describe *one* example of diffusion in the human body. In your answer, be sure to:

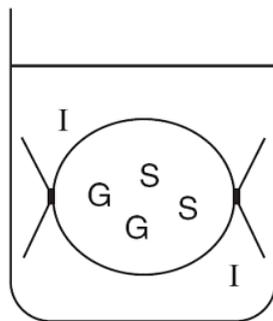
- identify the place where diffusion takes place
- identify a substance that diffuses there
- identify where that substance diffuses from and where it diffuses to

[*Hint: you may describe any place in the body we have learned about so far where diffusion takes place, but you must name a specific place. Simply saying “the cell” or “the cell membrane” is too vague.*]

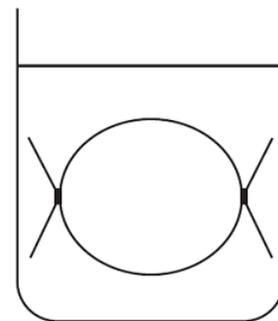
HOMEWORK 16

This assignment is due at the start of the class band on _____.

- A. Watch the following online video: “Diffusion Lab Review”
<https://www.youtube.com/watch?v=cyN3CmtFVNg>
- B. Reread Miller & Levine (textbook) pp. 176–178 and answer the following questions in **complete sentences** on a **separate sheet of paper**. You may type or neatly handwrite your answers.
 1. Draw a plant cell, then redraw the plant cell showing what it would look like after being placed in a 15% salt solution for 20 minutes. Be sure to label the cell wall, cell membrane, and cytoplasm in both diagrams.
 2. The “initial state” diagram below shows the setup from the diffusion lab. The letters *S*, *G*, and *I* represent starch, glucose, and Lugol’s iodine solution, respectively.



Initial State



Final State

Complete the “final state” diagram, by adding the letters *S*, *G*, and *I* to show where starch, glucose, and iodine were found at the end of the lab. *Redraw the diagram with your answer on a separate sheet of paper.*

HOMEWORK 17

This assignment is due at the start of the class band on _____.

- A. Watch the following online video: “Amoeba Sisters: Enzymes: The Proteins that Remind Us of Pac-Man”
<https://www.youtube.com/watch?v=qgVFkRn8f10>
- B. Read Miller & Levine (textbook) pp. 44–45, 720–722 and answer the following question in **complete sentences** on a **separate sheet of paper**. You may type or neatly handwrite your answers.
 1. Discuss how environmental factors may interfere with the ability of an enzyme to function. In your answer:
 - describe the role of enzymes in the human digestive system
 - explain how enzymes maintain homeostasis
 - identify *two* environmental factors that directly influence the rate of enzyme action
 - explain why changing the shape of an enzyme could affect the ability of the enzyme to function
 2. Copy the following chart and fill in the missing information.

Nutrient Group	Basic Building Block	Function in the Body
Carbohydrates		
Lipids		
Proteins		