Cornell Guided Notes

Human Anatomy & Physiology (Human Body Systems) | 2026-11-24

Name	Period	Date	Lesson
		2026-11-24	

Lesson focus

Alveoli and gas exchange

Key words and questions	Prepared details and student notes
Essential question **What is today's target?**	Students will explain gas exchange at the alveolus using teacher notes and the PLTW online task. Big idea: Gas exchange at the alveolus is driven by partial-pressure gradients; any structural change that reduces surface area or increases diffusion distance impairs oxygenation. **My notes, examples, and questions**
Key words **What vocabulary unlocks the lesson?**	- alveolus - gas exchange - tidal volume - vital capacity - spirometry - oxygen saturation **My notes, examples, and questions**

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Cornell Notes - Continued

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Must-know ideas **What should I understand by the end?**	- Oxygen diffuses from alveolus into blood; carbon dioxide diffuses from blood into alveolus, both down partial-pressure gradients. - Tidal volume is the air moved in a normal breath; vital capacity is the maximum air moved in a forced breath. - Pathologies like emphysema (reduced surface area) and pulmonary fibrosis (thickened membrane) impair diffusion. **My notes, examples, and questions**
Process notes **What happens during class?**	- 0-10: Warm-up: sketch the alveolus and capillary from memory - 10-28: Guided notes: alveolar structure, diffusion direction, tidal volume vs. vital capacity - 28-45: PLTW online gas-exchange activity - 45-58: Draw and annotate diffusion diagram: O2 and CO2 arrows with partial-pressure labels - 58-70: Write one question about gas exchange; peer-answer - 70-80: Submit diagram and PLTW completion confirmation **My notes, examples, and questions**

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Steps and evidence **What do I do and turn in?**	- Take notes on alveolar structure and diffusion. - Define tidal volume and vital capacity. - Complete the PLTW online gas-exchange activity. - Diagram oxygen and carbon dioxide movement at the alveolus. - Write one question about gas exchange. Evidence: Notebook check - Annotated gas-exchange diagram showing oxygen and carbon dioxide diffusion directions at the alveolus with partial-pressure labels, plus definitions of tidal volume and vital capacity. **My notes, examples, and questions**
Checks for understanding **How do I know I got it?**	- Diagram shows correct direction of gas diffusion. - PLTW online task is submitted complete. **My notes, examples, and questions**

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Lab or safety notes
What must I handle carefully?

Supplies:
- Spirometer or spirometry sensor
- Disposable mouthpieces
- Respiratory system diagram
- Pulse oximeter
- Data table for lung volumes
- Lab notebook

My notes, examples, and questions

Summary

Today's lesson focused on Alveoli and gas exchange. The main target was: Students will explain gas exchange at the alveolus using teacher notes and the PLTW online task. The evidence of learning is Notebook check: Annotated gas-exchange diagram showing oxygen and carbon dioxide diffusion directions at the alveolus with partial-pressure labels, plus definitions of tidal volume and vital capacity.. In my own words, the most important idea from today is:

My summary

My final question or connection