# Cornell Guided Notes

Human Anatomy & Physiology (Human Body Systems) | 2026-11-30

| Name | Period | Date | Lesson |
|---|---|---|---|
| | | 2026-11-30 | |

**Lesson focus**

Spirometry lab

| Key words and questions | Prepared details and student notes |
|---|---|
| **Essential question**<br>**What is today's target?** | Students will measure lung volumes with a spirometer and record oxygen saturation. Big idea: Spirometry translates the structural features of the respiratory system into measurable physiological data used to diagnose lung disease.<br><br>**My notes, examples, and questions** |
| **Key words**<br>**What vocabulary unlocks the lesson?** | - alveolus<br>- gas exchange<br>- tidal volume<br>- vital capacity<br>- spirometry<br>- oxygen saturation<br><br>**My notes, examples, and questions** |

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## Cornell Notes - Continued

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| --- | --- |
| **Must-know ideas**<br>**What should I understand by the end?** | - Tidal volume (TV) is approximately 0.5 L at rest; vital capacity (VC) varies by height, age, and sex.<br>- Oxygen saturation (SpO2) of 95-100% is normal; below 90% indicates hypoxemia.<br>- Spirometry is a diagnostic tool used to distinguish obstructive from restrictive lung diseases.<br><br>**My notes, examples, and questions** |
| **Process notes**<br>**What happens during class?** | - 0-10: Safety and hygiene review: mouthpiece handling, nose clip use, spirometer care<br>- 10-20: Demo: teacher demonstrates correct tidal-volume and vital-capacity technique<br>- 20-40: Students measure tidal volume (3 trials, average) and vital capacity (3 trials, best)<br>- 40-50: Record oxygen saturation with pulse oximeter; note resting heart rate<br>- 50-65: Look up predicted values using height/age table; tabulate measured vs. predicted<br>- 65-80: Cleanup; submit completed data table<br><br>**My notes, examples, and questions** |

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| **Steps and evidence**<br>**What do I do and turn in?** | - Review safe and hygienic spirometer use.<br>- Measure tidal volume during normal breathing.<br>- Measure vital capacity with a full forced exhale.<br>- Record oxygen saturation with a pulse oximeter.<br>- Tabulate your volumes and compare to predicted values.<br><br>Evidence: Data table - Completed spirometry data table: tidal volume (3 trials, average), vital capacity (3 trials, best), oxygen saturation, resting heart rate, and predicted vs. measured comparison.<br><br>**My notes, examples, and questions** |
| **Checks for understanding**<br>**How do I know I got it?** | - Tidal volume and vital capacity are both recorded.<br>- Oxygen saturation is logged and compared to normal.<br><br>**My notes, examples, and questions** |

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**Lab or safety notes**
**What must I handle carefully?**

Safety:
- Use a fresh disposable mouthpiece; never share mouthpieces between students.
- Inform the teacher before participating if you have asthma, a respiratory condition, or recent respiratory illness.
- Do not force-exhale to the point of dizziness; stop and rest if you feel lightheaded.
- Dispose of used mouthpieces in the designated waste container immediately after use.
- Wash hands before and after handling shared equipment.

Supplies:
- Spirometer (handheld or digital)
- Disposable mouthpieces (one per student)
- Nose clips
- Pulse oximeter
- Predicted lung-volume reference table (teacher-provided)
- Lab notebook or printed data table
- Measuring tape (for height measurement if needed)

**My notes, examples, and questions**

## Summary

Today's lesson focused on Spirometry lab. The main target was: Students will measure lung volumes with a spirometer and record oxygen saturation. The evidence of learning is Data table: Completed spirometry data table: tidal volume (3 trials, average), vital capacity (3 trials, best), oxygen saturation, resting heart rate, and predicted vs. measured comparison.. In my own words, the most important idea from today is:

**My summary**

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### My final question or connection