Cornell Guided Notes

Biotechnology for Health (Biomedical Innovations) | 2027-03-05

Name	Period	Date	Lesson
		2027-03-05	

Lesson focus

Statistics lab analysis

Key words and questions	Prepared details and student notes

Essential question
What is today's target?

Analyze your physiology dataset using descriptive statistics and a comparison test. Big idea: A statistical analysis is only as trustworthy as the steps you took to produce it -- reproducibility is not optional in scientific reporting.

My notes, examples, and questions

Key words
What vocabulary unlocks the lesson?

- bias
- limitation
- replication
- statistical significance
- evidence

My notes, examples, and questions

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Cornell Notes - Continued

Key words and questions	Prepared details and student notes
Must-know ideas **What should I understand by the end?**	- How to compute summary statistics for each condition in a spreadsheet and interpret what they mean. - How to run or interpret a t-test and state whether the result is statistically meaningful. - Why recording every analysis step enables someone else to reproduce your result. **My notes, examples, and questions**
Process notes **What happens during class?**	- 0-10: Open the spreadsheet dataset and verify it matches your submitted data table - 10-30: Compute summary statistics for each condition: mean, SD, and count - 30-55: Run or interpret a t-test comparing the two conditions; record the result and what it means - 55-65: State whether the difference is statistically meaningful and explain in plain language - 65-77: Record all analysis steps so they are reproducible; submit the completed analysis - 77-80: Exit check: what would change in your conclusion if your sample size had been twice as large? **My notes, examples, and questions**

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Steps and evidence **What do I do and turn in?**	- Compute summary statistics for each condition in a spreadsheet. - Run or interpret a t-test comparing your conditions. - Determine whether the difference is statistically meaningful. - Record the analysis steps so they are reproducible. - Submit your completed statistical analysis. Evidence: Lab report - Spreadsheet statistical analysis: summary statistics per condition, t-test result with interpretation, and reproducible step documentation. **My notes, examples, and questions**
Checks for understanding **How do I know I got it?**	- Your analysis reports statistics and a comparison result. - You can state whether a difference is statistically meaningful. **My notes, examples, and questions**

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Cornell Notes - Continued

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Lab or safety notes **What must I handle carefully?**	Supplies: - Lab computers with spreadsheet software - Saved physiology dataset from prior week - Graphing or charting tool - CER conclusion template - Calculator - Projector for sharing graphs **My notes, examples, and questions**

Summary

Today's lesson focused on Statistics lab analysis. The main target was: Analyze your physiology dataset using descriptive statistics and a comparison test. The evidence of learning is Lab report: Spreadsheet statistical analysis: summary statistics per condition, t-test result with interpretation, and reproducible step documentation.. In my own words, the most important idea from today is:

My summary

My final question or connection