Cornell Guided Notes

Biotechnology for Health (Biomedical Innovations) | 2027-03-18

Name	Period	Date	Lesson
		2027-03-18	

Lesson focus

Environmental data lab

Key words and questions	Prepared details and student notes
Essential question **What is today's target?**	Analyze a public environmental dataset to estimate exposure dose and bioaccumulation risk. Big idea: Real environmental datasets let you calculate dose and compare it to safety thresholds. **My notes, examples, and questions**
Key words **What vocabulary unlocks the lesson?**	- toxin - exposure - dose - pollutant - bioaccumulation - risk **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?**	- Dose estimation requires knowing concentration, volume or mass intake, and body weight. - A safe threshold is a regulatory limit below which risk is considered acceptable. - Bioaccumulation occurs when a substance accumulates in tissue faster than it is eliminated. **My notes, examples, and questions**
Process notes **What happens during class?**	- 0-5 min: Warm-up: what does a parts-per-million concentration mean in practice? - 5-20 min: Open dataset; locate the pollutant concentration column and note units - 20-40 min: Compare values to published safe threshold; flag exceedances - 40-60 min: Estimate dose using concentration and assumed daily intake - 60-72 min: Identify any time-trend suggesting bioaccumulation; note your reasoning - 72-80 min: Exit ticket: report average concentration, threshold, and whether dose exceeds it **My notes, examples, and questions**

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Steps and evidence **What do I do and turn in?**	- Open the provided air or water quality dataset. - Identify the pollutant concentration column and its units. - Compare measured values to a published safe threshold. - Estimate dose using concentration and assumed intake. - Flag any values suggesting bioaccumulation over time. Evidence: Data table - Environmental dataset analysis showing pollutant concentrations, published threshold, dose estimate, threshold comparison, and bioaccumulation flag if applicable. **My notes, examples, and questions**
Checks for understanding **How do I know I got it?**	- You compared dataset values to a safety threshold. - You estimated a dose and flagged any bioaccumulation concern. **My notes, examples, and questions**

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Cornell Notes - Continued

Key words and questions | **Prepared details and student notes**

Lab or safety notes
What must I handle carefully?

Supplies:
- Computer with internet access
- Printed or digital environmental dataset
- Design notebook
- Graph paper or spreadsheet
- Calculator
- Colored pencils for pathway diagram

My notes, examples, and questions

Summary

Today's lesson focused on Environmental data lab. The main target was: Analyze a public environmental dataset to estimate exposure dose and bioaccumulation risk. The evidence of learning is Data table: Environmental dataset analysis showing pollutant concentrations, published threshold, dose estimate, threshold comparison, and bioaccumulation flag if applicable.. In my own words, the most important idea from today is:

My summary

My final question or connection