Cornell Guided Notes

Genetics of Disease (Medical Interventions) | 2026-10-01

Name	Period	Date	Lesson
		2026-10-01	

Lesson focus

Bioethics debate: research vs risk

Key words and questions	Prepared details and student notes
Essential question **What is today's target?**	Debate whether growing and studying dangerous bacteria is worth the risk it carries to researchers and the public. Big idea: How do scientists and society decide when the potential benefits of dangerous research justify the risks it creates? **My notes, examples, and questions**
Key words **What vocabulary unlocks the lesson?**	- aseptic technique - culture - colony - inhibition - mutation - horizontal gene transfer **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?**	- Biosafety levels (BSL-1 through BSL-4) define required containment procedures for different classes of pathogens. - Dual-use research of concern (DURC) refers to research that could be misused to threaten public health or national security. - Benefit-risk analysis in research ethics weighs scientific and medical gain against probability and magnitude of harm. **My notes, examples, and questions**
Process notes **What happens during class?**	- 0-10 min: Read scenario; define biosafety level and dual-use research in notebook - 10-25 min: Draft CER: claim (proceed or not, and with what safeguards), reason, evidence from the scenario - 25-40 min: Partner exchange: find someone who weights the risk differently; record their strongest counterpoint - 40-55 min: Write rebuttal; revise safeguard requirement if the counterpoint identified a real gap - 55-68 min: Post CER to the discussion board - 68-80 min: Read two classmates' CERs; leave a one-sentence response to each **My notes, examples, and questions**

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Steps and evidence **What do I do and turn in?**	- Read the scenario: studying superbugs helps treatment but requires growing risky cultures. - Write your Claim: should this research proceed, and with what safeguards? - Add a Reason and Evidence weighing benefit against containment risk. - Trade with a partner who weighs the risk differently and note their point. - Write a Rebuttal answering it. - Post your CER and read two classmates' positions on safeguards. Evidence: CER - Written CER on risky pathogen research: position with specific safeguards, evidence about benefit and containment risk, reasoning, and rebuttal. **My notes, examples, and questions**
Checks for understanding **How do I know I got it?**	- You will be able to argue a position on risky pathogen research. - You will be able to weigh research benefit against safety risk. - You will be able to rebut an opposing view. **My notes, examples, and questions**

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Lab or safety notes
What must I handle carefully?

Supplies:
- Agar plates (or culturing simulation)
- Inoculating loop
- Bunsen burner or sterile single-use loops
- Bacterial sample or broth
- Incubator
- Labeling marker and tape

My notes, examples, and questions

Summary

Today's lesson focused on Bioethics debate: research vs risk. The main target was: Debate whether growing and studying dangerous bacteria is worth the risk it carries to researchers and the public. The evidence of learning is CER: Written CER on risky pathogen research: position with specific safeguards, evidence about benefit and containment risk, reasoning, and rebuttal.. In my own words, the most important idea from today is:

My summary

My final question or connection