Cornell Guided Notes

Genetics of Disease (Medical Interventions) | 2026-11-04

Name	Period	Date	Lesson
		2026-11-04	

Lesson focus

Viral vector chart

Key words and questions	Prepared details and student notes

Essential question
What is today's target?

Chart how viral vectors deliver a therapeutic gene and distinguish somatic from germline targets. Big idea: How does a virus, reprogrammed to carry a therapeutic gene, become medicine instead of a threat?

My notes, examples, and questions

Key words
What vocabulary unlocks the lesson?

- gene therapy
- vector
- CRISPR-Cas9
- somatic
- germline
- off-target
- informed consent

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?**	- Viral vectors are engineered to remove disease-causing genes and replace them with a therapeutic payload; they retain their ability to enter and deliver DNA to cells. - Adeno-associated virus (AAV) is a common vector: small payload capacity, low immune response, non-integrating; retroviruses integrate but carry higher insertion-mutation risk. - Somatic gene therapy targets differentiated cells (liver, lung, blood); effects are not heritable. **My notes, examples, and questions**
Process notes **What happens during class?**	- 0-8: Hook cartoon; introduce viral vector concept and engineering rationale - 8-25: Draw vector-to-cell delivery diagram with labeled vector, payload, and target cell - 25-40: Mark edit as somatic or germline; write one-line explanation of the difference - 40-58: Add comparison row: two vector types, capacity and safety from case notes - 58-72: Write one sentence on why vector choice determines which cells are treated - 72-80: Submit vector chart to course shell; note Wednesday is no school **My notes, examples, and questions**

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Steps and evidence **What do I do and turn in?**	- Draw a viral vector carrying a healthy gene into a target cell, labeling vector and payload. - Mark whether the edit is somatic or germline and explain the difference in one line. - Add a row comparing two vector types on capacity and safety from the case notes. - Write one sentence on why vector choice affects which cells are treated. - Submit your vector chart as your daily evidence. Evidence: Notebook check - Viral vector delivery diagram with labeled components, somatic vs. germline distinction, two-vector comparison row, and one sentence on vector-cell targeting. **My notes, examples, and questions**
Checks for understanding **How do I know I got it?**	- You'll be able to diagram viral vector gene delivery. - You'll be able to distinguish somatic from germline edits. **My notes, examples, and questions**
Lab or safety notes **What must I handle carefully?**	No special lab safety notes today. Follow normal classroom and digital-work expectations. **My notes, examples, and questions**

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Summary

Today's lesson focused on Viral vector chart. The main target was: Chart how viral vectors deliver a therapeutic gene and distinguish somatic from germline targets. The evidence of learning is Notebook check: Viral vector delivery diagram with labeled components, somatic vs. germline distinction, two-vector comparison row, and one sentence on vector-cell targeting.. In my own words, the most important idea from today is:

My summary

My final question or connection