Cornell Guided Notes

Genetics of Disease (Medical Interventions) | 2026-10-15

Name	Period	Date	Lesson
		2026-10-15	

Lesson focus

SNP and PTC case

Key words and questions	Prepared details and student notes

Essential question
What is today's target?

Connect a single-nucleotide polymorphism to a phenotype using the PTC-tasting genotype dataset. Big idea: How does a single DNA letter change determine whether you taste bitterness or not?

My notes, examples, and questions

Key words
What vocabulary unlocks the lesson?

- allele
- genotype
- phenotype
- pedigree
- SNP
- carrier
- genetic counseling

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?**	- A SNP is a single base-pair variation at a specific locus; millions exist across the human genome. - The TAS2R38 gene has a common SNP that distinguishes tasters from non-tasters of phenylthiocarbamide (PTC). - Homozygous dominant and heterozygous individuals express the taster phenotype; homozygous recessive individuals do not. **My notes, examples, and questions**
Process notes **What happens during class?**	- 0-8: Hook: PTC tasting demo or description; introduce SNP vocabulary - 8-25: Open dataset; locate SNP column; record genotype and phenotype for three individuals - 25-40: Mark each as homozygous or heterozygous; decide if tasting allele tracks phenotype - 40-55: Write one evidence sentence; predict carrier status for one labeled person - 55-70: Partner check: verify allele language and carrier logic - 70-80: Submit table and prediction to course shell **My notes, examples, and questions**

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Steps and evidence **What do I do and turn in?**	- Open the teacher genotype dataset in the shell and find the SNP column for the PTC-tasting gene. - For three people, write their genotype next to their phenotype and mark homozygous or heterozygous. - Decide whether the tasting allele tracks with the trait and write one sentence of evidence. - Predict the carrier status of one labeled person using allele language. - Submit your genotype-to-phenotype table and prediction as your daily evidence. Evidence: Data table - Genotype-to-phenotype table for three individuals (homozygous/heterozygous labeled) and a written carrier prediction. **My notes, examples, and questions**
Checks for understanding **How do I know I got it?**	- You'll be able to read a SNP genotype and pair it to a phenotype. - You'll be able to predict carrier status from genotype data. **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 SNP and PTC case. The main target was: Connect a single-nucleotide polymorphism to a phenotype using the PTC-tasting genotype dataset. The evidence of learning is Data table: Genotype-to-phenotype table for three individuals (homozygous/heterozygous labeled) and a written carrier prediction.. In my own words, the most important idea from today is:

My summary

My final question or connection