Cornell Guided Notes

Principles of Biomedical Technology (Principles of Biomedical Science) | 2026-12-11

Name	Period	Date	Lesson
		2026-12-11	

Lesson focus

Engineering design notes

Key words and questions	Prepared details and student notes
Essential question **What is today's target?**	Students take notes on the engineering design process and CAD modeling, then complete the PLTW online task. Big idea: Engineering design is a disciplined loop, not a straight line: every test generates data that feeds the next iteration. **My notes, examples, and questions**
Key words **What vocabulary unlocks the lesson?**	- prototype - constraint - criterion - CAD - iteration - stent - prevention - test plan **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?**	- The engineering design process stages are: define the problem, research, brainstorm, prototype, test, evaluate, iterate. - CAD (computer-aided design) translates a concept sketch into a precise, testable model specification. - Iteration is evidence-driven redesign: you change one variable at a time and measure the effect. **My notes, examples, and questions**
Process notes **What happens during class?**	- 0-5 min: Warm-up: list the steps you would take to design a better water bottle. - 5-28 min: Teacher-led notes: engineering design process stages, define through iterate. - 28-45 min: Notes: CAD overview and how it converts a concept to a testable model; connect vessel or device design to a disease-prevention goal. - 45-55 min: Define iteration with a worked example: identify what changed and why in a two-iteration sequence. - 55-75 min: PLTW online activity on engineering design (individual, self-paced). - 75-80 min: Exit check: list the seven engineering design stages in order from memory. **My notes, examples, and questions**

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Steps and evidence **What do I do and turn in?**	- Annotate the stages of the engineering design process from problem to test. - Describe how CAD turns a concept into a testable model. - Connect device or vessel design to a disease-prevention goal. - Define iteration as redesign driven by test data. - Complete the assigned PLTW online activity on engineering design. Evidence: Notebook check - Annotated engineering design process diagram with all seven stages labeled, a CAD description, an iteration worked example, and a disease-prevention connection note. **My notes, examples, and questions**
Checks for understanding **How do I know I got it?**	- Order the engineering design stages correctly. - Submit the PLTW online task fully completed. **My notes, examples, and questions**

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Lab or safety notes **What must I handle carefully?**	Supplies: - Prototype materials such as tubing, mesh, or modeling clay - Ruler or calipers - Stopwatch or timer - Pressure or flow test setup - Safety goggles - Data recording sheet - Design notebook **My notes, examples, and questions**

Summary

Today's lesson focused on Engineering design notes. The main target was: Students take notes on the engineering design process and CAD modeling, then complete the PLTW online task. The evidence of learning is Notebook check: Annotated engineering design process diagram with all seven stages labeled, a CAD description, an iteration worked example, and a disease-prevention connection note.. In my own words, the most important idea from today is:

My summary

My final question or connection