

Cornell Guided Notes

Human Anatomy & Physiology (Human Body Systems) | 2026-11-09

Name

Period

Date

Lesson

Lesson focus

Hypothesis and protocol

Key words and questions

Prepared details and student notes

Essential question
What is today's target?

Students will write a hypothesis and protocol for a *C. elegans* heavy-metal investigation using teacher notes and the PLTW online task. Big idea: A hypothesis is a specific, testable prediction that drives the design of every step in an experiment.

My notes, examples, and questions

Key words
What vocabulary unlocks the lesson?

- heavy metal
- toxicology
- hypothesis
- data table
- graph
- limitation
- conclusion

My notes, examples, and questions

Cornell Guided Notes

Human Anatomy & Physiology (Human Body Systems) | 2026-11-09

Cornell Notes - Continued

Key words and questions

Prepared details and student notes

Must-know ideas
What should I understand by the end?

- An if-then hypothesis names the independent variable, predicts the direction of change, and identifies the dependent variable.
- A protocol lists materials, step-by-step procedure, and safety precautions in enough detail to be replicated.
- Heavy-metal exposures require careful handling protocols to protect the experimenter and prevent contamination.

My notes, examples, and questions

Process notes
What happens during class?

- 0-10: Notes: if-then hypothesis structure and common mistakes
- 10-25: Write your if-then hypothesis for the heavy-metal *C. elegans* investigation
- 25-42: PLTW online protocol-planning activity
- 42-58: Draft complete materials list and step-by-step procedure
- 58-70: Add one safety consideration with a rationale for each precaution
- 70-80: Partner review of hypothesis and protocol; submit pre-lab

My notes, examples, and questions

Cornell Guided Notes

Human Anatomy & Physiology (Human Body Systems) | 2026-11-09

Cornell Notes - Continued

Key words and questions

Prepared details and student notes

Steps and evidence What do I do and turn in?

- Take notes on hypothesis structure and prediction.
- Write an if-then hypothesis for your investigation.
- Complete the PLTW online protocol-planning activity.
- List the materials and steps for your procedure.
- Note one safety consideration for heavy-metal handling.

Evidence: Pre-lab - Written if-then hypothesis, complete materials list, step-by-step procedure, and at least one safety consideration with rationale for the *C. elegans* heavy-metal investigation.

My notes, examples, and questions

Checks for understanding How do I know I got it?

- Hypothesis is testable and written in if-then form.
- PLTW online task is submitted with a complete protocol.

My notes, examples, and questions

Cornell Guided Notes

Human Anatomy & Physiology (Human Body Systems) | 2026-11-09

Cornell Notes - Continued

Key words and questions

Prepared details and student notes

Lab or safety notes
What must I handle carefully?

Supplies:

- C. elegans plates or validated heavy-metal simulation
- Heavy-metal solution or simulated treatment cards
- Stereo microscope or simulation device
- Data table and graph paper or graphing app
- Gloves and goggles
- Lab notebook

My notes, examples, and questions

Summary

Today's lesson focused on Hypothesis and protocol. The main target was: Students will write a hypothesis and protocol for a C. elegans heavy-metal investigation using teacher notes and the PLTW online task. The evidence of learning is Pre-lab: Written if-then hypothesis, complete materials list, step-by-step procedure, and at least one safety consideration with rationale for the C. elegans heavy-metal investigation.. In my own words, the most important idea from today is:

My summary

My final question or connection