Cornell Guided Notes

Human Anatomy & Physiology (Human Body Systems) | 2027-02-03

Name	Period	Date	Lesson
		2027-02-03	

Lesson focus

Bone cells and bone structure

Key words and questions	Prepared details and student notes

Essential question
What is today's target?

Describe the major bone cells and contrast compact and spongy bone. Big idea: Bone is living tissue maintained by three specialized cell types; its two structural forms match the mechanical demands of their locations.

My notes, examples, and questions

Key words
What vocabulary unlocks the lesson?

- osteoblast
- osteoclast
- compact bone
- spongy bone
- fracture
- joint
- ligament

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?**	- Osteoblasts build bone matrix, osteocytes maintain it, and osteoclasts resorb it. All three are required for healthy remodeling. - Compact bone contains osteons (Haversian systems) and bears compressive load; spongy bone contains trabeculae and is found at bone ends. - Disease processes such as osteoporosis result from an imbalance between osteoblast and osteoclast activity. **My notes, examples, and questions**
Process notes **What happens during class?**	- 0-8: Intro: bone as living connective tissue - 8-25: Notes: three bone cells and their functions - 25-45: PLTW online task: bone tissue structure - 45-62: Build two-column chart: compact vs spongy bone - 62-75: Write explanation of spongy bone location and structural advantage - 75-80: Submit chart; preview Wednesday fracture lab **My notes, examples, and questions**

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Steps and evidence **What do I do and turn in?**	- Read the notes on osteoblasts, osteocytes, and osteoclasts and their jobs. - Compare compact bone (osteons) with spongy bone (trabeculae) in a two-column chart. - Complete the PLTW online task on bone tissue structure. - Explain where spongy bone is found and why its structure suits that location. - Submit your bone-cell roles chart and compact-vs-spongy comparison. Evidence: Vocabulary task - Bone-cell roles summary (osteoblast/osteocyte/osteoclast) plus two-column compact-vs-spongy bone comparison chart. **My notes, examples, and questions**
Checks for understanding **How do I know I got it?**	- You can match each bone cell to its function. - You can contrast compact and spongy bone structure and location. **My notes, examples, and questions**

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Lab or safety notes
What must I handle carefully?

Supplies:
- Articulated skeleton or bone model
- Cross-section bone sample or image set
- Fracture radiograph image set
- Metric ruler
- Lab notebook
- Safety goggles

My notes, examples, and questions

Summary

Today's lesson focused on Bone cells and bone structure. The main target was: Describe the major bone cells and contrast compact and spongy bone. The evidence of learning is Vocabulary task: Bone-cell roles summary (osteoblast/osteocyte/osteoclast) plus two-column compact-vs-spongy bone comparison chart.. In my own words, the most important idea from today is:

My summary

My final question or connection